



## WETLAND INSPECTION

July 9, 2023

APT Project No.: CT14113830

**Client:** Verizon Wireless  
20 Alexander Drive  
Wallingford, CT 06492

**Site Name:** Broadbrook RELO CT

**Site Address:** 11 Chamberlain Road, East Windsor, Connecticut

**Date of Investigation:** 3/27/2023

**Project Description:** Client proposes to install a new 120' tall monopole tower with 50' x 50' fenced compound to replace an existing on-Site water tank facility.

**Field Conditions:** **Weather:** sunny, mid 50's **Soil Moisture:** dry to moist

**Wetland/Watercourse Delineation Methodology<sup>1</sup>:**

Connecticut Inland Wetlands and Watercourses

**Municipal Upland Review Area:**

**Wetlands:** 150 feet

**Watercourses:** 150 feet

The wetlands inspection was performed by<sup>2</sup>:

Matthew Gustafson, Registered Soil Scientist

Enclosures: Wetland Delineation Field Form & Wetland Inspection Map

*This report is provided as a brief summary of findings from APT's wetland investigation of the referenced Study Area that consists of proposed development activities and areas generally within 200 feet.<sup>3</sup> If applicable, APT is available to provide a more comprehensive wetland impact analysis upon receipt of site plans depicting the proposed development activities and surveyed location of identified wetland and watercourse resources.*

<sup>1</sup> Wetlands and watercourses were delineated in accordance with applicable local, state and federal statutes, regulations and guidance.

<sup>2</sup> All established wetlands boundary lines are subject to change until officially adopted by local, state, or federal regulatory agencies.

<sup>3</sup> APT has relied upon the accuracy of information provided by Verizon Wireless and its contractors regarding proposed lease area and access road/utility easement locations for identifying wetlands and watercourses within the study area.

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# Attachments

- Wetland Delineation Field Form
- Wetland Inspection Map

**Wetland Delineation Field Form**

|                       |   |   |
|-----------------------|---|---|
| Wetland I.D.:         | Wetland 1                                       |   |
| Flag #'s:             | WF 1-01 to 1-09 (closed loop)                   |   |
| Flag Location Method: | Site Sketch <input checked="" type="checkbox"/> | GPS (sub-meter) located <input checked="" type="checkbox"/> |

**WETLAND HYDROLOGY:**

**NONTIDAL**

|   |  |   |
|---|--|---|
| Intermittently Flooded <input type="checkbox"/>   | Artificially Flooded <input type="checkbox"/>                    | Permanently Flooded <input type="checkbox"/>          |
| Semipermanently Flooded <input checked="" type="checkbox"/>   | Seasonally Flooded <input type="checkbox"/>                      | Temporarily Flooded <input type="checkbox"/>          |
| Permanently Saturated <input type="checkbox"/>  | Seasonally Saturated/seepage <input checked="" type="checkbox"/> | Seasonally Saturated/perched <input type="checkbox"/> |
| Comments: Historic farm pond located within a natural topographic low position on the landscape, deepened by former excavation has resulted in a semi permanently flooded feature with minimal areas of bordering saturation. |  |   |

**TIDAL**

|  |  |  |
|--|--|--|
| Subtidal <input type="checkbox"/>            | Regularly Flooded <input type="checkbox"/> | Irregularly Flooded <input type="checkbox"/> |
| Irregularly Flooded <input type="checkbox"/> |  |  |
| Comments: None                               |  |  |

**WETLAND TYPE:**

**SYSTEM:**

|                                     |                                   |  |
|-------------------------------------|-----------------------------------|--|
| Estuarine <input type="checkbox"/>  | Riverine <input type="checkbox"/> | Palustrine <input checked="" type="checkbox"/> |
| Lacustrine <input type="checkbox"/> | Marine <input type="checkbox"/>   |  |
| Comments: None                      |                                   |  |

**CLASS:**

|   |   |  |
|---|---|--|
| Emergent <input type="checkbox"/>   | Scrub-shrub <input type="checkbox"/>          | Forested <input checked="" type="checkbox"/> |
| Open Water <input type="checkbox"/>   | Disturbed <input checked="" type="checkbox"/> | Wet Meadow <input type="checkbox"/>          |
| Comments: Located in a forested setting with areas of historic alteration as evident by surrounding fill mounds from former excavation. |   |  |

**WATERCOURSE TYPE:**

|                                    |                                       |                                |
|------------------------------------|---------------------------------------|--------------------------------|
| Perennial <input type="checkbox"/> | Intermittent <input type="checkbox"/> | Tidal <input type="checkbox"/> |
| Watercourse Name: None             |                                       |                                |
| Comments: None                     |                                       |                                |

**Wetland Delineation Field Form (Cont.)**

**SPECIAL AQUATIC HABITAT:**

|   |                                |
|---|--------------------------------|
| Vernal Pool Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Potential <input type="checkbox"/>  | Other <input type="checkbox"/> |
| Vernal Pool Habitat Type: 'Classic'   |                                |
| Comments: During the site investigation over 40 wood frog ( <i>Lithobates sylvaticus</i> ) egg masses were observed from the perimeter of the pool, a vernal pool indicator species. A follow-up survey was performed on April 18, 2023 to properly evaluate the pools breeding activity by obligate vernal pool species. Approximately 40 wood frog egg masses were observed within Wetland 1. |                                |

**SOILS:**

|   |                              |  |
|---|------------------------------|--|
| Are field identified soils consistent with NRCS mapped soils?   | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| Excavated areas within Wetland 1 resulted in the formation of wetland soils: Aqueuts<br>Remaining upland soils are generally consistent with mapping, upland soils: Hinckley gravelly sandy loam (soil unit 38E); Haven and Enfield soils (soil unit 704B); Agawam fine sandy loam (soil unit 29B); Udorthents-Urban land complex (soil unit 307) |                              |  |

**DOMINANT PLANTS:**

|                                      |   |
|--------------------------------------|---|
| Red Maple ( <i>Acer rubrum</i> )     | Greenbrier ( <i>Smilax rotundifolia</i> ) |
| Spicebush ( <i>Lindera benzoin</i> ) | Winterberry ( <i>Ilex verticillata</i> )  |

\* denotes Connecticut Invasive Species Council invasive plant species

**GENERAL COMMENTS:**

|   |
|---|
| <p>Wetland 1, consists of a red maple dominant forested wetland system located in the northwestern portion of the subject property ±260 feet northwest of the proposed Verizon Wireless facility. Wetland hydrology results from historic excavation into the native soil to a depth interfacing with the seasonally high groundwater table. Seepage from surrounding hillsides further contributes to the active and seasonal hydrology of this isolated wetland feature. A dominance of hydrophytic (wetland) vegetation within the herbaceous and shrub layers is comprised mainly of spicebush and winterberry with green briar throughout the edges of the delineated wetland. During the site investigation approximately two feet of water was present within the flooded wetland and approximately 40 wood frog (<i>Lithobates sylvaticus</i>) egg masses were observed from the perimeter, a vernal pool indicator species. The presence and abundance of these species categorize this wetland as a Tier I vernal pool. A formal evaluation of this vernal pool habitat is recommended to assess potential impacts associated with the proposed tower facility.</p> <p>Although not delineated due to its off-Site location, a second wetland is located along the southern side of Chamberlain Road ±65 feet southeast of the proposed facility's access road.</p> |
|---|



**Legend**

- Proposed Verizon Wireless Monopole
- Proposed Verizon Wireless Site Layout
- Subject Property
- Approximate Parcel Boundary
- 150' Upland Review Area
- Approximate Wetland Boundary
- Delineated Wetland Boundary
- Approximate Wetland Area
- Vernal Pool
- Culvert

**Wetland Inspection Map**

Proposed Wireless  
Telecommunications Facility  
Broadbrook RELO CT  
11 Chamberlain Road  
East Windsor, Connecticut







## **WETLAND AND VERNAL POOL ASSESSMENT**

September 28, 2023

Verizon Wireless  
20 Alexander Drive  
Wallingford, Connecticut 06492

Re: Proposed Verizon Wireless Broadbrook Relo CT Telecommunications Facility  
11 Chamberlain Road, East Windsor, Connecticut  
APT Project No. CT14113830

On behalf of Verizon Wireless ("Verizon"), All-Points Technology Corporation, P.C. ("APT") performed an evaluation of wetland and vernal pool impacts associated with the proposed referenced telecommunication facility on a partially developed parcel located on the north side of Chamberlain Road beginning at the intersection with Apothecaries Hall Road in East Windsor, Connecticut.

### **Introduction**

APT understands that Verizon proposes to construct a new wireless telecommunications facility at 11 Chamberlain Road in East Windsor, Connecticut (the "Property"). The Property consists of an approximately 10.9-acre commercially developed parcel. The area proposed for the facility is located in the northern portion of the Property in an area that is currently comprised of early successional upland forest. Verizon proposes to install a 120-foot tall monopole tower and ground equipment enclosure within a 50-foot by 50-foot gravel compound area surrounded with an 8-foot tall chain link fence (the "Facility"). A proposed 12-foot wide gravel access road within a 20-foot wide access/utility easement would be located off Chamberlain Road in order to gain access and provide electric and telco services to the proposed Facility.

This wetland and vernal pool impact evaluation is based on field inspections performed on March 27 and April 18, 2023 by APT wetland scientists along with a review of site plans prepared by Centek Engineering, latest revision date 09/13/23. The attached Vernal Pool Analysis Map depicts the location of wetland and vernal pool resources.

APT wetland scientists conducted an initial inspection of the Property on March 27, 2023 to determine the presence and extent of wetlands and watercourses within and proximate to the proposed Facility. A forested, seasonally saturated and semi-permanently flooded isolated wetland system (identified as Wetland 1) was located in the northwestern portion of the Property within an undeveloped and forested area. Wetland 1, located  $\pm$ 238 feet northwest of the proposed Facility, was confirmed to also support vernal pool breeding habitat (identified as Vernal Pool 1). This wetland consists of a red maple dominant forested wetland system with hydrology resulting from historic excavation into the native soils to a depth that intercepts the seasonal high groundwater table. Seepage from surrounding hillsides further contributes to the active and seasonal hydrology of

this isolated wetland feature. A dominance of hydrophytic (wetland) vegetation within the understory is comprised mainly of spicebush and winterberry with green briar throughout the edges of the delineated wetland.

During the March 27, 2023 inspection 40+ wood frog egg masses were observed and during the April 18, 2023 investigation numerous wood frog tadpoles were observed within areas of inundation. A moderate duff layer and numerous attachment sites were also observed within the pool, suitable characteristics for this obligate species to lay eggs and find cover during its metamorphosis phase.

### ***Wetland Impact Evaluation***

No direct or secondary impacts are proposed to Wetland 1 with development of this Facility. Construction activities will occur a minimum of  $\pm 238$  feet from Wetland 1/Vernal Pool 1. To promote protection of this resource during construction, safeguards are proposed to avoid unintentional impacts including construction phase protection measures and the installation and maintenance of erosion controls in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. By implementing these protective techniques throughout the duration of construction, potential adverse impacts to this wetland and vernal pool resource will be avoided. In addition, a wetland protection plan will be implemented during construction that will include an environmental monitor to ensure proper protective measures are installed and maintained throughout the duration of construction and the contractor is aware of the environmentally sensitive nature of the Project. Please refer to the attached Resource Protection Plan for additional details. By implementing these protective measures during construction, potential secondary impacts to wetland resources will be avoided.

Potential long-term secondary impacts to wetland resources associated with the operation of this Facility are minimized due to its unstaffed nature and negligible traffic for maintenance requiring approximately one visit per month. The level of human activity associated with the operation of the Facility is significantly less than the existing commercial use of the Property. As such, operation of the Facility will not result in a likely adverse impact to wetland resources.

Considering the location of the proposed development and significant buffer from this wetland resource and implementation of wetland protection measures during construction, the proposed Facility will not result in a likely adverse impact to wetland resources.

### ***Physical Impact to Vernal Pool and Surrounding Terrestrial Habitat***

This section details a recognized scientific method for analyzing the potential impact a project may have on a particular vernal pool and its surrounding upland habitat.

Construction and operation of the Facility would not result in direct physical impact to vernal pool habitat; Vernal Pool 1 is  $\pm 238$  feet northwest of the Facility. It is widely documented that vernal pool dependent amphibians are not solely reliant upon the actual vernal pool, which is limited to use for breeding and egg/larval development; they require surrounding upland forest habitat for most of their adult lives. Accepted studies recognized by various local, state, and federal agencies recommend conservation of the majority of adjacent terrestrial habitat (optimally forested) up to

750 feet from the vernal pool edge for obligate pool-breeding amphibians (Calhoun, Klemens, 2002; "BDP").<sup>1</sup>

In order to evaluate potential impacts to Vernal Pool 1 and its surrounding upland habitat, the vernal pool occupying the Property was assessed using methodologies developed by Calhoun and Klemens (2002) in combination with the U.S. Army Corps of Engineers New England District's *Vernal Pool Best Management Practices* ("BMPs") (January 2015)<sup>2</sup>. Collectively, these methodologies assess vernal pool ecological significance based on two (2) parameters: 1) biological value of the vernal pool and, 2) conditions of the critical terrestrial habitat. The biological rating is based on the presence of state-listed species and the abundance and diversity of vernal pool obligate indicator species. The terrestrial habitat is assessed based on the integrity of the vernal pool's two conservation zones: vernal pool envelope ("VPE" - within 100 feet of the pool's edge) and the critical terrestrial habitat ("CTH" - 100-750 feet of the pool's edge). Intact forest represents the highest value or suitable non-breeding habitat within both of these conservation zones to support breeding opportunities for the various obligate vernal pool indicator species that rely on forested habitat (e.g., wood frog and spotted salamander).

In addition, the BMPs establish the concept of "directional corridors" (identified herein as "Migratory Corridors"). Identification of Migratory Corridors allows a project to evaluate potential impacts to optimal non-breeding amphibian habitat that focuses on conserving the most essential habitats that link breeding pools, forested uplands, and forested wetlands. These interrelated habitats between the pool and forested areas form essential landscape-scale Migratory Corridors that are generally confined within the CTH. The location of Migratory Corridors is established through an evaluation of both wetland and terrestrial habitat structure qualities (e.g., vegetative cover types, width of vegetated buffer, soil surface moisture, thickness of duff layer, abundance of cover objects, etc.) that determines the locations of "Suitable Non-Breeding Habitat" and "Non-Habitat" in proximity to the vernal pool. Migratory Corridors occur in areas that link vernal pools and Suitable Non-Breeding Habitat (both forested upland and wetland habitats). Non-habitat areas such as developed areas, maintained lawn, and agricultural fields do not support Migratory Corridors due to the lack of sufficient vegetative conditions that are often associated with higher levels of predation and human activity, which can result in direct mortality.

Based on observations of a singular obligate species breeding (wood frog), intactness of the VPE, and greater than 50% of the CTH developed/non-habitat in the existing condition, Vernal Pool 1 meets the biological criteria as a Tier II pool, considered to represent moderate ecological value. With developed/non-habitat dominating the CTH to the south of the vernal pool and to the west, which includes a railroad track, and the presence of intact forested uplands to the northeast, the principal Migratory Corridor associated with Vernal Pool 1 is limited to the northeast.

The condition of the vernal pool conservation zones was then evaluated to determine the pre-versus post-Project development condition of the Suitable Non-Breeding Habitat and Non-Habitat areas within both the VPE and CTH. When assessing potential impacts on a vernal pool's CTH and as discussed previously, the BMPs' guidance relies on preserving principal Migratory Corridors that link the vernal pool, forested aquatic habitats and forested terrestrial uplands (Suitable Non-Breeding Habitat) that cover vernal pool indicator species' breeding, foraging, cover, and hibernation habitats.

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<sup>1</sup> Calhoun, A.J.K. and M.W. Klemens. 2002. Best Development Practices (BDPs): Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States. WCS/MCA Technical Paper No. 5.  
<sup>2</sup> <https://www.nae.usace.army.mil/Portals/74/docs/regulatory/VernalPools/VPBMPsJan2015.pdf>



In contrast, Non-Habitat areas located within the CTH that typically consist of active agricultural fields, roadways, and developments, all of which experience a high level of human activity and routine disturbance to the landscape.

The results of this analysis support that the Project would comply with the BMPs by avoiding any direct impact to the identified vernal pool and VPE and would not result in a reduction in the tier rating of the pool. Approximately 0.4 acre of Suitable Non-Breeding habitat within the CTH will be impacted with the proposed development, located  $\pm 238$  feet southeast of Vernal Pool 1. The de minimis increase of development within the CTH would not substantially change Vernal Pool 1's existing non-development condition as an increase of only 1% would occur. Additionally, the principal Migratory Corridor will not be impeded by the proposed development; the higher quality interior upland forest habitat northeast of Vernal Pool 1 and north of the proposed development will remain undisturbed.

Once constructed the Facility will have minimal vehicular activity due to the unmanned nature of the development, requiring a visit on average of approximately once per month. Those regular maintenance inspections would also occur during normal business hours and would typically avoid inspections during the evening hours when the majority of migration by obligate vernal pool species would occur. As a result of these factors, the proposed Facility would not result in a likely adverse impact to the local population of wood frogs that rely on this pool and the surrounding forested habitat.

The potential exists for possible short-term impact to herpetofauna (i.e., wood frog, salamanders, turtles, etc.) associated with the nearby vernal pool habitat due to possible encounters with migrating and basking individuals that may intercept the proposed development footprint during construction. Short-term impacts associated with the proposed development within the terrestrial habitat proximate to the vernal pool would be minimized by the proper installation and maintenance of erosion and sedimentation controls in accordance with *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. A vernal pool protection program proposed during construction is discussed in a subsequent section of this document to avoid/minimize the potential for short-term impact to herpetofauna.

### ***Hydraulic Alterations***

Land-use changes such as clearing and increases in impervious surface can increase surface runoff in the watershed of a vernal pool and alter water chemistry and change its hydroperiod. Direct inputs of stormwater flows into a pool may produce sudden water level increases in a short period of time and may lengthen the duration of flooding (hydroperiod). Diversion of stormwater flows past a pool may have the opposite effect of decreasing water levels and shortening the pool's hydroperiod. In addition, stormwater features that create temporary pools of water can result in a biological "sink" as breeding amphibians deposit eggs into a water body without the necessary hydraulic period, detritus, vegetative cover, and water chemistry to allow for successful development of the eggs into juveniles.

The proposed development will not alter existing surface or subsurface flow conditions or directions and will not create any stormwater ponds or decoy pools. Site clearing and grading activities will not de-water or alter surface water drainage patterns associated with Vernal Pool 1. Impervious surfaces associated with the proposed Project have been minimized with the use of a gravel surface within the Facility compound to support infiltration and local groundwater recharge. Therefore, the

proposed development will not alter the hydrology of the nearby vernal pool. In addition, no stormwater management features (temporary or permanent) are proposed that would result in creation of a temporary "decoy" pool or "sink" features, which could potentially affect breeding amphibians intercepted on their migration to the nearby vernal pool.

### ***Vernal Pool Recommended Best Management Practices***

As a result of the proposed development's location in the vernal pool's CTH, BMPs are recommended to both protect the nearby wetland resources and to avoid unintentional impact or mortality to vernal pool herpetofauna during construction activities. The vernal pool BMPs would be implemented during peak amphibian movement periods (early spring breeding [March 1st to May 15th] and late summer dispersal [July 15th to September 15th]) while the wetland BMPs would be implemented regardless of time of year. Please refer to the attached Resource Protection Measures for complete details.

Therefore, it is APT's opinion the Facility will not result in a likely adverse impact to wetland or vernal pool resources. If you have any questions regarding the above-referenced information, please feel free to contact me by telephone at (860) 552-2033 or via email at [dgustafson@allpointstech.com](mailto:dgustafson@allpointstech.com).

Sincerely,

All-Points Technology Corporation, P.C.

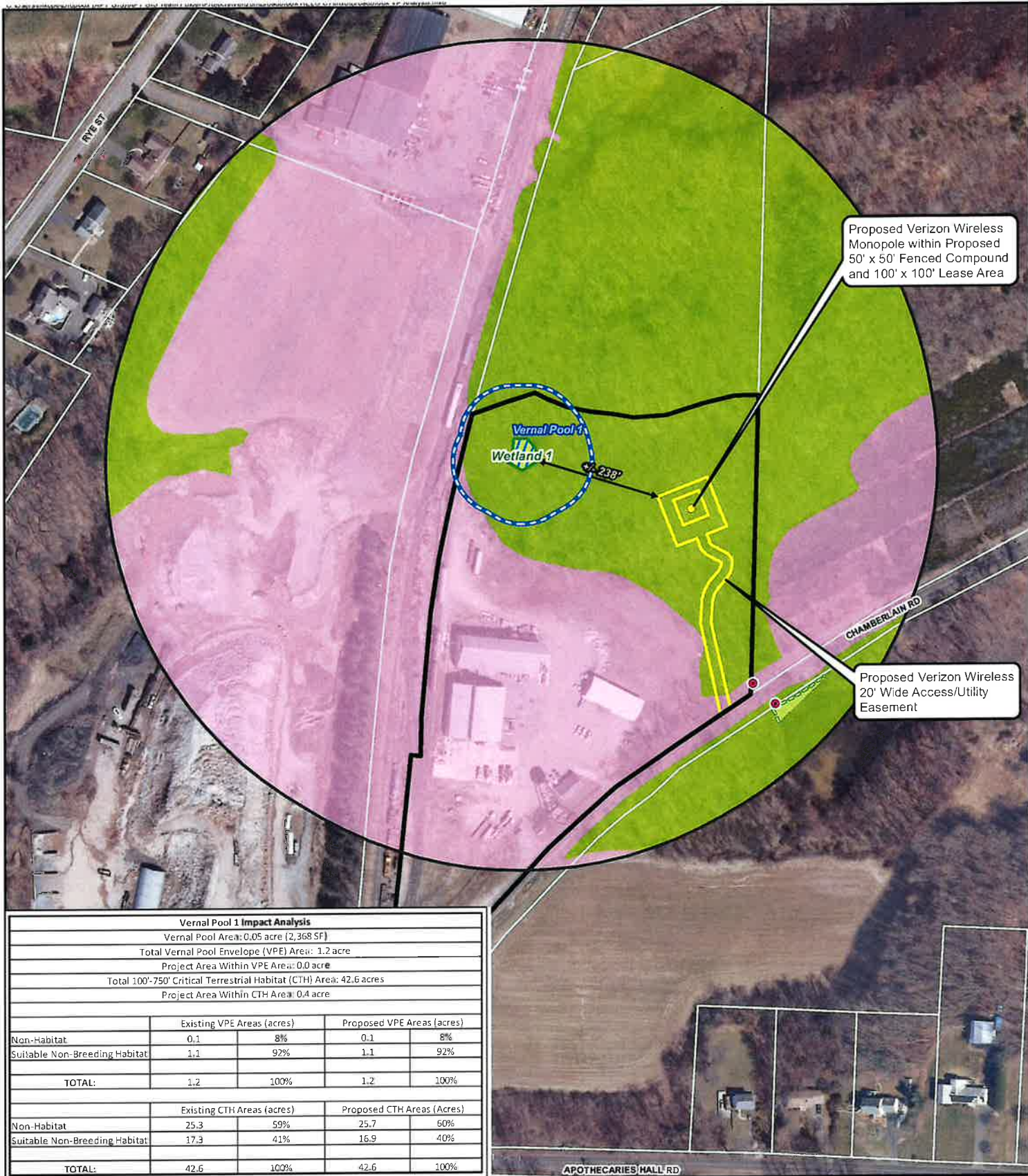


Dean Gustafson  
Senior Wetland Scientist

Enclosures

# Vernal Pool Analysis Map

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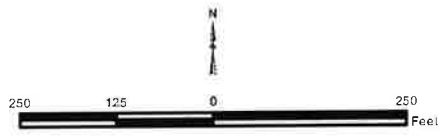
| Vernal Pool 1 Impact Analysis                                       |                            |             |                            |             |
|---|----------------------------|-------------|----------------------------|-------------|
| Vernal Pool Area: 0.05 acre (2,368 SF)                              |                            |             |                            |             |
| Total Vernal Pool Envelope (VPE) Area: 1.2 acre                     |                            |             |                            |             |
| Project Area Within VPE Area: 0.0 acre                              |                            |             |                            |             |
| Total 100'-750' Critical Terrestrial Habitat (CTH) Area: 42.6 acres |                            |             |                            |             |
| Project Area Within CTH Area: 0.4 acre                              |                            |             |                            |             |
|   | Existing VPE Areas (acres) |             | Proposed VPE Areas (acres) |             |
| Non-Habitat   | 0.1                        | 8%          | 0.1                        | 8%          |
| Suitable Non-Breeding Habitat                                       | 1.1                        | 92%         | 1.1                        | 92%         |
| <b>TOTAL:</b>   | <b>1.2</b>                 | <b>100%</b> | <b>1.2</b>                 | <b>100%</b> |
|   | Existing CTH Areas (acres) |             | Proposed CTH Areas (Acres) |             |
| Non-Habitat   | 25.3                       | 59%         | 25.7                       | 60%         |
| Suitable Non-Breeding Habitat                                       | 17.3                       | 41%         | 16.9                       | 40%         |
| <b>TOTAL:</b>   | <b>42.6</b>                | <b>100%</b> | <b>42.6</b>                | <b>100%</b> |

- Legend**
- Proposed Verizon Wireless Monopole
  - Proposed Verizon Wireless Site Layout
  - 100' Vernal Pool Envelope (VPE)
  - 100'-750' Critical Terrestrial Habitat (CTH)
  - Subject Property
  - Approximate Parcel Boundary
  - Approximate Wetland Boundary
  - Delineated Wetland Boundary
  - Approximate Wetland Area
  - Vernal Pool
  - Culvert
  - Habitat Areas**
  - Non-Habitat
  - Suitable Non-Breeding Habitat

**Vernal Pool Analysis Map**

Proposed Wireless Telecommunications Facility  
 Broadbrook RELO CT  
 11 Chamberlain Road  
 East Windsor, Connecticut

Map Notes:  
 Base Map Source: 2019 Aerial Photograph (CTECO)  
 Map Scale: 1 inch = 249 feet  
 Map Date: August 2023



# Resource Protection Measures

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## **ENVIRONMENTAL NOTES - RESOURCES PROTECTION MEASURES**

### **WETLAND AND VERNAL POOL PROTECTION PROGRAM**

As a result of the project's location in the vicinity of sensitive wetland resources that include a vernal pool, the following Protection Program shall be implemented by the Contractor to avoid unintentional impacts to proximate wetland resources, vernal pool, or mortality to vernal pool herpetofauna (i.e., wood frog, salamanders, turtles, etc.) during construction activities.

It is of the utmost importance that the Contractor complies with the requirement for the installation of protective measures and the education of its employees and subcontractors performing work on the project site. The wetland protection measures shall be implemented and maintained throughout the duration of construction activities until permanent stabilization of site soils has occurred. Vernal pool protection measures should also be implemented throughout the duration of construction activities with a particular focus during peak amphibian movement periods (early spring breeding [March 1st to May 15th] and late summer dispersal [July 15th to September 15th]).

All-Points Technology Corporation, P.C. ("APT") will serve as the Environmental Monitor for this project to ensure that these protection measures are implemented properly and will provide an education session on the project's proximity to sensitive wetland and vernal pool resources prior to the start of construction activities and typical amphibians and reptiles associated with these habitats that may be encountered during construction. The Contractor shall contact Dean Gustafson, Senior Wetland Scientist at APT, at least 5 business days prior to the pre-construction meeting. Mr. Gustafson can be reached by phone at (860) 552-2033 or via email at [dgustafson@allpointstech.com](mailto:dgustafson@allpointstech.com).

This resources protection program consists of several components including: education of all contractors and sub-contractors prior to initiation of work on the site; installation of erosion controls; petroleum materials storage and spill prevention; protective measures; rare species protection measures; herbicide, pesticide, and salt restrictions; and, reporting.

#### **1. Contractor Education:**

- a. Prior to work on site and initial deployment/mobilization of equipment and materials, the Contractor shall attend an educational session at the pre-construction meeting with APT. This orientation and educational session will consist of information such as, but not limited to: identification of wetland and vernal pool resources proximate to work areas, representative photographs of typical herpetofauna that may be encountered, typical species behavior, and proper procedures if species are encountered, and the environmentally sensitive nature of the development site.
- b. The meeting will further emphasize the non-aggressive nature of the rare species, the absence of need to destroy such animals and the need to follow Protective Measures as described in following sections. The Contractor will designate one of its workers as the "Project Monitor", who will receive more intense training on the identification and protection of herpetofauna.

- c. The Contractor will designate a member of its crew as the Project Monitor to be responsible for the periodic "sweeps" for herpetofauna (and other possible wildlife) within the construction zone each morning and for any ground disturbance work. This individual will receive more intense training from APT on the identification and protection of herpetofauna in order to perform sweeps. Any herpetofauna (or other wildlife) discovered would be translocated outside the work zone in the general direction the animal was oriented.
- d. The Contractor's Project Monitor will be provided with cell phone and email contacts for APT personnel to immediately report any encounters with herpetofauna. Educational poster materials will be provided by APT and displayed on the job site to maintain worker awareness as the project progresses.
- e. APT will also post Caution Signs throughout the project site for the duration of the construction project providing notice of the environmentally sensitive nature of the work area, the potential for encountering various amphibians and reptiles and precautions to be taken to avoid injury to or mortality of these animals.

## **2. Erosion and Sedimentation Controls/Isolation Barriers**

- a. Plastic netting used in a variety of erosion control products (i.e., erosion control blankets, fiber rolls [wattles], reinforced silt fence) has been found to entangle wildlife, including reptiles, amphibians, birds and small mammals. No permanent erosion control products or reinforced silt fence will be used on the project. Temporary erosion control products that will be exposed at the ground surface and represent a potential for wildlife entanglement will use either erosion control blankets and fiber rolls composed of processed fibers mechanically bound together to form a continuous matrix (netless) or netting composed of planar woven natural biodegradable fiber to avoid/minimize wildlife entanglement.
- b. The extent of the erosion controls will be as shown on the site plans. The Contractor shall have additional sedimentation and erosion controls stockpiled on site should field or construction conditions warrant extending devices. In addition to the Contractor making these determinations, requests for additional controls will also be at the discretion of the Environmental Monitor.
- c. Installation of erosion and sedimentation controls, required for erosion control compliance and creation of a barrier to possible migrating/dispersing wildlife, shall be performed by the Contractor if any soil disturbance occurs or heavy machinery is anticipated to be used on slopes. The Environmental Monitor will inspect the work zone area prior to and following erosion control barrier installation. In addition, work zones will be inspected prior to and following erosion control barrier installation to ensure the area is free of herpetofauna and other wildlife and satisfactorily installed. The intent of the barrier is to segregate the majority of the work zone from possible herpetofauna and other wildlife species, in addition to serving as an erosion control device. Oftentimes complete isolation of a work zone is not feasible due to accessibility needs and locations of staging/material storage areas, etc. In those circumstances,

the barriers will be positioned to deflect migrating/dispersal routes away from the work zone to minimize potential encounters with herpetofauna/wildlife at the discretion of the Environmental Monitor.

- d. The Contractor shall be responsible for daily inspections of the sedimentation and erosion controls for tears or breaches and accumulation levels of sediment, particularly following storm events that generate a discharge, as defined by and in accordance with applicable local, state and federal regulations. The Contractor shall notify the APT Environmental Monitor within 24 hours of any breaches of the sedimentation and erosion controls and any sediment releases beyond the perimeter controls that impact wetlands, the vernal pool, or areas within 100 feet of wetlands. The APT Environmental Monitor will provide periodic inspections of the sedimentation and erosion controls throughout the duration of construction activities only as it pertains to their function to protect nearby wetlands. Such inspections will generally occur once per month. The frequency of monitoring may increase depending upon site conditions, level of construction activities in proximity to sensitive receptors, or at the request of regulatory agencies. If the Environmental Monitor is notified by the Contractor of a sediment release, an inspection will be scheduled specifically to investigate and evaluate possible impacts to wetland resources.
- e. Third party monitoring of sedimentation and erosion controls will be performed by other parties, as necessary, under applicable local, state and/or federal regulations and permit conditions.
- f. No equipment, vehicles or construction materials shall be stored within 100 feet of wetland or vernal pool resources.
- g. All silt fencing and other erosion control devices shall be removed within 30 days of completion of work and permanent stabilization of site soils. If fiber rolls/wattles, straw bales, or other natural material erosion control products are used, such devices will not be left in place to biodegrade and shall be promptly removed after soils are stable so as not to create a barrier to wildlife movement. Seed from seeding of soils should not spread over fiber rolls/wattles as it makes them harder to remove once soils are stabilized by vegetation.

### **3. Petroleum Materials Storage and Spill Prevention**

- a. Certain precautions are necessary to store petroleum materials, refuel and contain and properly clean up any inadvertent fuel or petroleum (i.e., oil, hydraulic fluid, etc.) spill due to the project's location in proximity to wetland and vernal pool resources.
- b. A spill containment kit consisting of a sufficient supply of absorbent pads and absorbent material will be maintained by the Contractor at the construction site throughout the duration of the project. In addition, a waste drum will be kept on site to contain any used absorbent pads/material for proper and timely disposal off site in accordance with applicable local, state and federal laws.
- c. Servicing of machinery shall not occur within 100 feet of wetlands.

- d. At a minimum, the following petroleum and hazardous materials storage and refueling restrictions and spill response procedures will be adhered to by the Contractor.
  - i. Petroleum and Hazardous Materials Storage and Refueling
    - 1. Refueling of vehicles or machinery shall occur a minimum of 100 feet from wetlands and shall take place on an impervious pad with secondary containment designed to contain fuels.
    - 2. Any fuel or hazardous materials that must be kept on site shall be stored on an impervious surface utilizing secondary containment a minimum of 100 feet from wetlands.
  - ii. Initial Spill Response Procedures
    - 1. Stop operations and shut off equipment.
    - 2. Remove any sources of spark or flame.
    - 3. Contain the source of the spill.
    - 4. Determine the approximate volume of the spill.
    - 5. Identify the location of natural flow paths to prevent the release of the spill to sensitive nearby wetlands and vernal pool.
    - 6. Ensure that fellow workers are notified of the spill.
  - iii. Spill Clean Up & Containment
    - 1. Obtain spill response materials from the on-site spill response kit. Place absorbent materials directly on the release area.
    - 2. Limit the spread of the spill by placing absorbent materials around the perimeter of the spill.
    - 3. Isolate and eliminate the spill source.
    - 4. Contact appropriate local, state and/or federal agencies, as necessary.
    - 5. Contact a disposal company to properly dispose of contaminated materials.
  - iv. Reporting
    - 1. Complete an incident report.
    - 2. Submit a completed incident report to local, state and federal agencies, as necessary, including the Connecticut Siting Council.

#### **4. Wetland and Vernal Pool Protective Measures**

- a. A thorough cover search of the construction area will be performed by APT's Environmental Monitor prior to and following installation of the silt fencing barrier to remove any wildlife from the work zone prior to the initiation of construction activities. Any wildlife discovered would be translocated outside the work zone in the general direction the animal was oriented. Periodic inspections will be performed by APT's Environmental Monitor throughout the duration of the construction, generally on a monthly basis.
- b. Any stormwater management features, ruts or artificial depressions that could hold water created intentionally or unintentionally by site

clearing/construction activities will be properly filled in and permanently stabilized with vegetation to avoid the creation of "decoy pools" that could intercept amphibians potentially moving through the project area. Stormwater management features such as level spreaders will be carefully reviewed in the field to ensure that standing water does not endure for more than a 24-hour period to avoid creation of decoy pools and may be subject to field design changes. Any such proposed design changes will be reviewed by the design engineer to ensure stormwater management functions are maintained.

- c. Erosion control measures will be removed no later than 30 days following final site stabilization so as not to impede wildlife movements.

#### **5. Herbicide, Pesticide, and Salt Restrictions**

- a. The use of herbicides and pesticides at the Facility shall be minimized. If herbicides and/or pesticides are required at the Facility, their use will be used in accordance with current Integrated Pest Management ("IPM") principles with particular attention to avoid/minimize applications within 100 feet of wetland and vernal pool resources.
- b. Maintenance of the facility during the winter months shall not include the application of salt or similar products for melting snow or ice.

#### **6. Reporting**

- a. Compliance Monitoring Reports (brief narrative and applicable photos) documenting each APT inspection will be submitted by APT to the Permittee and its Contractor for compliance verification of these protection measures. These reports are not to be used to document compliance with any other permit agency approval conditions (i.e., DEEP Stormwater Permit monitoring, etc.). Any non-compliance observations of erosion control measures or evidence of erosion or sediment release will be immediately reported to the Permittee and its Contractor and included in the reports along with any observations of vernal pool herpetofauna.
- b. Following completion of the construction project, APT will provide a final Compliance Monitoring Report to the Permittee documenting implementation of the wetland and vernal pool protection program and monitoring observations. The Permittee is responsible for providing a copy of the final Compliance Monitoring Report to the Connecticut Siting Council for compliance verification.
- c. Any observations of rare species will be reported to CTDEEP by APT, with photo-documentation (if possible) and with specific information on the location and disposition of the animal.