Appendix 22-5:

Vernal Pool Memo

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# Memorandum

| | |
|---|---|
| **To:** | Excelsior Energy Center, LLC |
| **From:** | TRC |
| **Subject:** | Vernal Pool Survey Notes – Excelsior Energy Center, LLC.<br>Excelsior Energy Center Project |
| **Date:** | April 2020 |

On March 30 and 31, 2020, two biologists from TRC visited the proposed Excelsior Energy Center Project (Project) Area, located in the Town of Byron, Genesee County, New York. (Attachment A – Figure 1). The Project Area consists of 60 separate tax parcels totaling approximately 3,418 acres. The team reviewed current ground conditions and conducted a vernal pool survey within the forested portion of the defined project area (Attachment A – Figure 2).

This memorandum summarizes the results of vernal pool survey conducted for the Project. The vernal pool survey was conducted on the forested portion of the Project Area totaling approximately 305-acres (Attachment A – Figure 2). Land use within the Project Area consists primarily of active agricultural land, with some undeveloped forested lots and forested perennial stream buffer zones.

**General Project Site Conditions**

The weather at the time of the survey was mild with temperatures generally between 40° and 46° Fahrenheit. The Project Site experienced intermittent precipitation during the two-day survey-event totaling 0.18 inches over the 48-hour period.

The Project Area contains primarily agricultural land with areas of successional old field, successional shrubland, and successional forest communities both upland and wetland. Forested habitat within the Project Area consists of tree lines between agricultural fields, segmented forested blocks, and some forested riparian buffer zones. Upland forests included tree species such as sugar maple, red maple (*Acer rubrum*), shagbark hickory (*Carya ovata*) eastern hop-hornbeam (*Ostrya virginiana*), bitternut hickory (*Carya cordiformis*), and American beech (*Fagus grandifolia*). Several forested wetlands exist throughout the Project Area and were typically dominated by red maple, American elm (*Ulmus americana*), swamp white oak (*Quercus bicolor*), green ash (*Fraxinus pennsylvanica*), and silver maple (*acer saccharinum*).

**Survey Methodology**

Prior to initiating field investigations, TRC conducted a desktop review of publicly available data and orthoimagery to determine the forestland containing potential vernal pools within the Project Site. TRC biologists subsequently performed field investigations to identify vernal pool features within the Project Area. A survey protocol and data collection method was developed based off several sources including the U.S. Army Corps of Engineers (USACE) New England District Vernal Pool Assessment Draft (USACE 2013); Maine Association of Wetland Scientists Vernal Pool Technical Committee (MAWS VPTC 2014); the

Vermont Department of Environmental Conservation (VTDEC 2003); and existing TRC vernal pool methodologies implemented in various New England states.

Based on the ephemeral nature of vernal pools and their inhabitants, the proper timing of vernal pool surveys is critical. Surveys too early in the season risk observing pools before amphibians have started breeding; too late and the eggs may have all hatched and matured. Vernal pool indicator species begin breeding after the snow melt and last from April to late May, depending on local conditions and seasonally variability. A survey start date in one region of the state may not be suitable for another; therefore, each survey start date is determined on a case by case basis after monitoring local weather patterns, in field checks for vocalizations, and local reports of amphibian activity. TRC biologists monitored temperatures and climactic condition in the Project Area in order to determine when average temperatures rose above 40 degrees Fahrenheit (~40ºF nights) and warm spring rains occurred (MAWS VPTC 2014). These conditions typically mark the beginning of amphibian breeding season. These conditions were met earlier than they have been in past years as a result of a relatively mild March. The sustained warmer conditions resulted in the decision to start the survey on March 30th, 2020.

Vernal pools are usually found within an upland forest or as part of a forested wetland complex. For this reason, forested portions of the Project Area were specifically targeted. Due to the size of vernal pools on the landscape, a strict transect survey was not necessary; instead surveyors employed a "wandering transect" method to ensure visual coverage of the entirety of forested areas.

Data for features were recorded on an existing TRC vernal pool data form based of the New Hampshire Vernal Pool Documentation Form (NHDES Wetlands Bureau 2015), and USACE New England District Draft Vernal Pool Characterization Form (USACE 2016). The high-water mark of each feature was recorded with a sub-meter accuracy, handheld global positioning system unit (GPS). Data gathered includes general site characterization, identification and abundance of indicator species observed, and characterization of the surrounding area.

The goal of this survey was to identify, and map features associated with amphibian breeding throughout the Project Area. For the purpose of this survey, vernal pools are defined as any woodland pool or non-manmade water filled depression that hosts egg masses of indicator species. Indicator species in the Project Area and surrounding region include the following obligate vernal pool breeding amphibians: spotted salamander (*Ambystoma maculatum*), blue spotted salamander (*Ambystoma laterale*), Jefferson salamander (*Ambystoma jeffersonianum*), and wood frog (*Lithobates sylvaticus*) (USACE 2013). These species require vernal pool habitat or similar features in order to reproduce. Potential vernal pools are woodland depressions that exhibit physical characteristics of vernal pools but lack indicator species egg masses. These features may be actual vernal pools observed at a time when water levels are not conducive to amphibian breeding. Amphibian breeding areas are areas of anthropogenic origin such as ditches, tire ruts, and skidder tracks that contain amphibian egg masses. These features are not considered vernal pools although they can support indicator species.

**Vernal Pool Survey Results**

TRC had initially anticipated that the vernal pool survey would require 3 days of survey, and due to the nature of the survey being dependent on amphibian breeding activity TRC was not able to begin the survey process until March 30th, 2020. As a consequence of the ongoing COVID-19 pandemic Governor Andrew Cuomo issued Executive Order 202.8, a directive requiring businesses in New York State to reduce the number of employees working at individual locations to help combat the outbreak. As a consequence of this decision it New York State Empire State Development (NYS ESD) released a FAQ on March 31, 2020 clarifying that this work was not defined as essential under Executive Order 202.8. TRC stopped work and was unable to complete vernal pool surveys on approximately 6.8 acres (2.2%) of forested land identified for survey within the Project Area (Attachment A – Figure 2).

TRC biologists did not identify any vernal pool features within the portion of the Project Area surveyed. TRC biologists did not observe any amphibian species egg masses of any indicator or non-indicator species.

Several potential vernal pools were identified in the Project Area (Attachment A – Figure 2). These features were documented (Attachment B), and thoroughly investigated; no egg masses were identified in these potential vernal pools. These potential vernal pools were predominantly co-located with forested wetland complexes previously delineated during the wetland and stream delineation surveys.

No amphibian breeding areas were identified in the Project Area.

## REFERENCES


Maine Association of Wetland Scientists – Vernal Pool Technical Committee (MAWS VPTC). (2014) *Vernal Pool Survey Protocol*. http://mainewetlands.org/vptc (Accessed March, 2020.)

New Hampshire Department of Environmental Service – Wetlands Bureau (NHDES Wetlands Bureau). (2015). *New Hampshire Vernal Pool Documentation Form*. https://www.wildlife.state.nh.us/nongame/documents/vernal-pool-manual-form.pdf (Accessed March, 2020.)

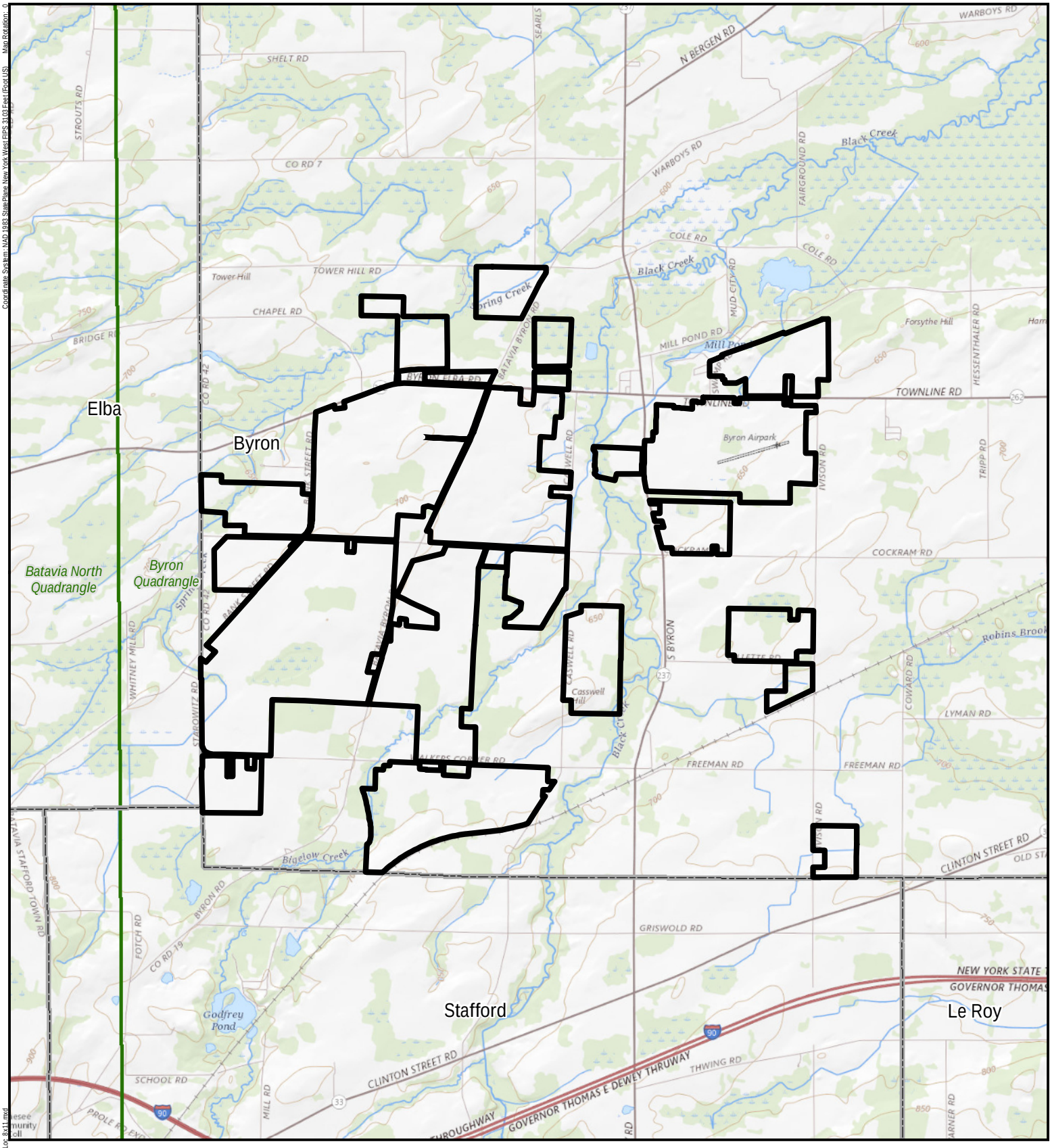
United States Army Corps of Engineers – New England District (USACE). (2013). *Vernal Pool Assessment Draft*. https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/NEGP/VPAssessmentDRAFT.pdf (Accessed March, 2020.)

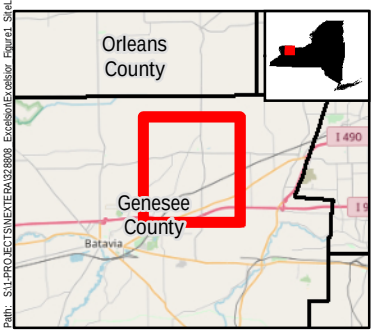
United States Army Corps of Engineers – New England District (USACE). (2016). *Draft Vernal Pool Characterization Form.* https://www.nae.usace.army.mil/Portals/74/docs/regulatory/VernalPools/VPCharacterizationForm2016.pdf (Accessed March, 2020.)

Vermont Department of Environmental Conservation (VTDEC). (2003) *Vermont Wetlands Bioassessment Program*. https://dec.vermont.gov/sites/dec/files/wsm/mapp/docs/bs_vernalpoolreport.pdf (Accessed March, 2020.)

# ATTACHMENT A

*Figures*




**LEGEND**

- PARCEL BOUNDARIES
- CITY/TOWN BOUNDARY
- USGS 24K BOUNDARY

N

1. BASEMAP IMAGERY FROM ESRI/ USGS NATIONAL TOPO BASEMAP, 2020.

1 " = 4,000 '

0 2,000 4,000 Feet

PROJECT:

**EXCELSIOR ENERGY CENTER, LLC**
**EXCELSIOR ENERGY CENTER PROJECT**
**BYRON, GENESEE COUNTY, NY**

TITLE:

**SITE LOCATION MAP**

| | | | |
|---|---|---|---|
| DRAWN BY: | A. KAILAS | PROJ NO.: | 328808 |
| CHECKED BY: | I. PALLANT | | |
| APPROVED BY: | K. MCCORMICK | | **FIGURE 1** |
| DATE: | MAY 2020 | | |

TRC
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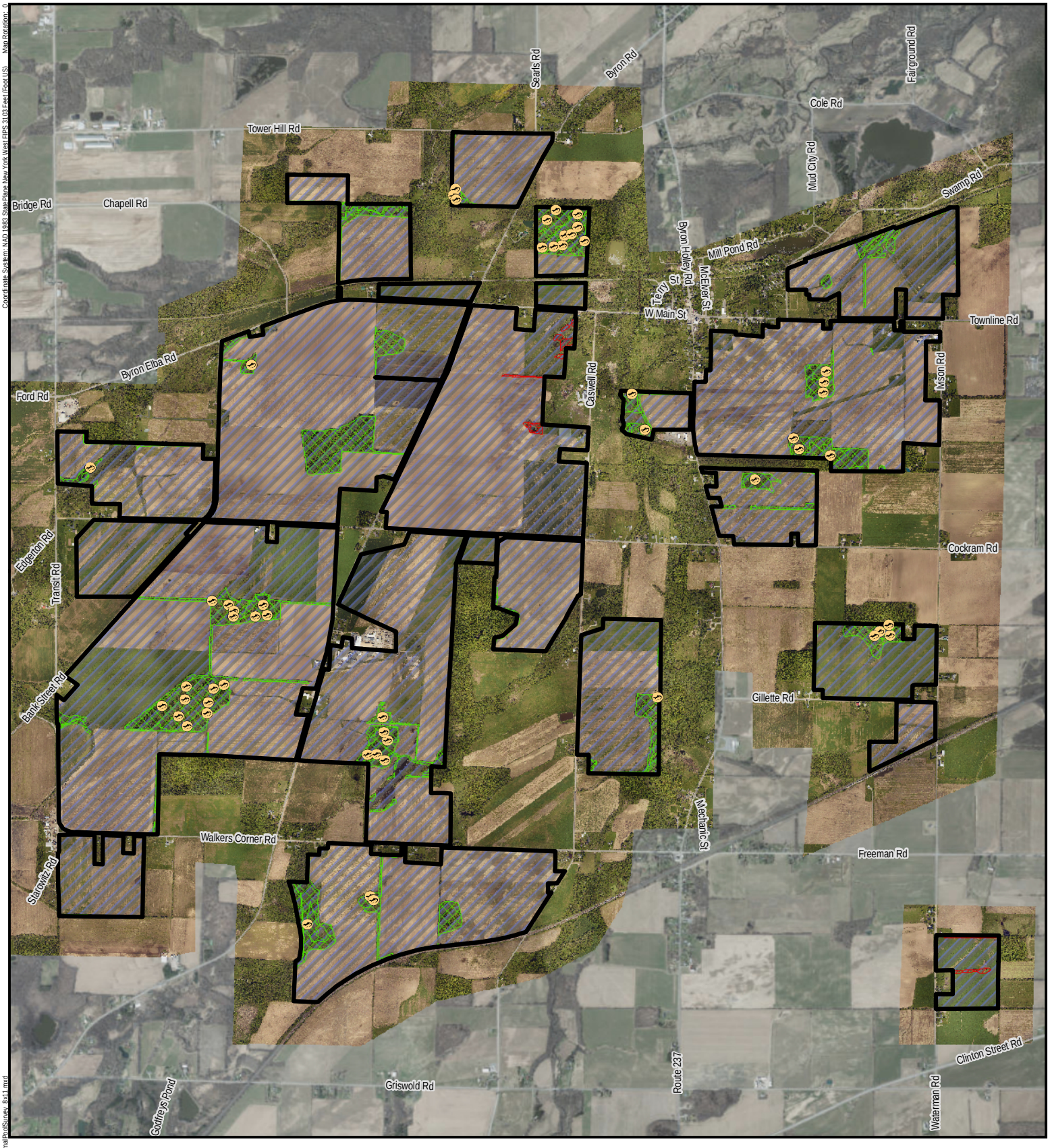
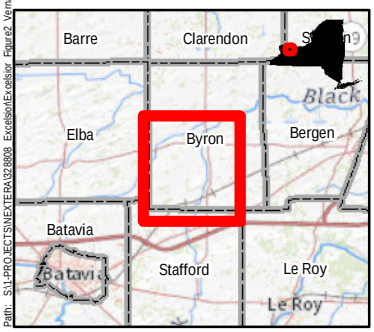
WEST SENECA, NY 14224

NEXTera ENERGY RESOURCES

Path: S:\1-PROJECTS\NEXTERA\328808 Excelsior\Excelsior Figure1 SiteLoc 8x11.mxd Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet (Excel US) Map Rotation: 0




## LEGEND

- POTENTIAL VERNAL POOL COMPLEX
- SURVEYED AREA
- FORESTED AREA - NOT SURVEYED
- AREA NOT SURVEYED
- PROJECT AREA

N

1. BASEMAP IMAGERY FROM APEM, 2019.

1 " = 2,780 '

0 1,390 2,780 Feet

PROJECT:

EXCELSIOR ENERGY CENTER, LLC
**EXCELSIOR ENERGY CENTER PROJECT**
BYRON, GENESEE COUNTY, NY

TITLE:

**VERNAL POOL SURVEY MAP**

| | | | |
|---|---|---|---|
| DRAWN BY: | A. KAILAS | PROJ NO.: | 328808 |
| CHECKED BY: | I. PALLANT | | |
| APPROVED BY: | K. MCCORMICK | | **FIGURE 2** |
| DATE: | MAY 2020 | | |

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# ATTACHMENT B

*Photographic Log*

**Photo 1.** Potential vernal pool in the northeast portion of the Project Site. 3/30/2020

**Photo 2.** Potential vernal pool located along a forest – scrub shrub boundary in the eastern portion of the Project Site. 3/30/2020

**Photo 3.** Potential vernal pool complex located in the eastern portion of the Project Site. 3/30/2020

**Photo 4.** Potential vernal pool complex located in within a large forested wetland in the north – central portion of the Project Site. 3/31/2020

**Photo 5.** Potential vernal pool located in within a large forested wetland, demonstrating ideal habitat requirements, no amphibian breeding signs or activity observed. 3/31/2020

**Photo 5.** Potential vernal pool complex located on a flooded access road within a large forested wetland in the western portion of the Project Site. 3/31/2020