

# Wetland and Watercourse Delineation Report

For KCE CT 8 Battery Energy Storage System Project  
East Hampton, Connecticut



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## 1.0 Project Setting

The proposed CT 8 Battery Energy Storage System (BESS) project (Project) is located in the town of East Hampton in Middlesex County, Connecticut. The Project is within the Salmon River watershed, which is tributary of the Connecticut River and part of the Lower Connecticut Watershed. The Salmon River watershed covers approximately 149 square miles in central Connecticut.

To support avoidance and minimization of potential impacts to protected natural resources, Flycatcher LLC (Flycatcher) completed agency consultation, desktop review, and on-site surveys to evaluate the presence of sensitive resources and to inform the Project design and development. This includes a wetland and watercourse delineation, vernal pool survey, and general ecological assessment of the site. Field surveys were completed on November 17 and December 5, 2022, and on April 4, 2023.

The Project's Survey Area is approximately 7.5-acre area located south of Forest Street and northwest of Skinner Street, in East Hampton, Connecticut. (Figure 1, Attachment 1). The Survey Area is part of a larger parcel, where the remaining approximately 20 acres of the subject property (the southwestern portion) is occupied by two recently constructed solar photovoltaic electric generating facilities with a total capacity of 1.975-megawatts AC. The site entrance is off Hilltop Drive, a gravel road that allows access from Skinner Street. An old railroad line abuts the northern boundary of the parcel and exists as a recreational trail and state park, the Air Line State Park Trail.

The topography on site is relatively flat and slopes downhill along the eastern boundary of the Survey Area. The National Wetland Inventory Mapper does not indicate that there are any wetlands within the Survey Area. A Project location map is provided on Figure 1 in Attachment 1.

## 2.0 Soils

The Natural Resources Conservation Service (NRCS) medium intensity soil survey for Middlesex County shows the following map units depicted within the Survey Area:

- Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony
- Nipmuck – Brimfield-Rock outcrop, 15 to 45 percent slopes
- Nipmuck-Brookfield complex, 3 to 15 percent slopes, very rocky
- Nipmuck-Brookfield complex, 3 to 15 percent slopes, very rocky

None of the soils mapped within the Survey Area are considered hydric soils which are commonly associated with wetlands, nor are they listed as prime farmland soil. Onsite investigations confirmed these soil types are present.

## 3.0 Water Resources

### 3.1 Wetlands

Wetland delineations were conducted in accordance with the US Army Corps of Engineers (USACE) Wetland Delineation Manual<sup>1</sup> and the Northcentral and Northeast Regional Supplement.<sup>2</sup> Additionally, wetland and watercourses surveys were completed in accordance with the Connecticut Department of Energy and Environmental Protection's (DEEP) Inland Wetland and Watercourses Act<sup>3</sup> and with the Town of Windsor Locks, Connecticut Inland Wetlands and Watercourses Regulations.<sup>4</sup>

The Survey Area was investigated by soil scientists and wetland scientists via a meander survey. The scientists analyzed site-specific data to determine if the area met the criteria to be considered a wetland. When wetlands were identified, the boundaries of the wetlands were marked with pink survey flagging with the words "Wetland Delineation" and numbered in sequential order. Delineated wetlands were overseen and verified by a professional soil scientist (Mr. Rodney Kelshaw, Certified Professional Soil Scientist with Flycatcher).

Flycatcher mapped two (2) palustrine forested (PFO) wetlands within the Survey Area. Soils were loam, mucky loam, and mucky sand, and hydric indicators were *Thick Dark Surface (A12)* and *Sandy Redox (S5)*. A summary description of each wetland is provided in Table 1, below. The location of each wetland is mapped within the Survey Area depicted on Figure 2, in Attachment 1.

### 3.2 Watercourses

Watercourse identification followed the DEEP's Inland Wetland and Watercourses Act definition of "Watercourses" (Chapter 440: Section 22a-38).<sup>3</sup> If a watercourse meeting the above definition was observed, blue survey flagging was hung along the centerline (for streams less than six feet in width) or along the top of the bank (for streams six feet or wider).

Two (2) intermittent watercourses were observed within the Survey Area. The watercourse, S-MFT-1, originated in wetland W-MFT-1, flowed under the access drive, and then along the southern drainage ditch of the access drive and offsite through a culvert under Skinner Road. Watercourse, S-CWF-1, originated in wetland W-MFT-2, and flowed south out of the Survey Area. Summary descriptions of watercourses are provided in Table 1, below. The location of each watercourse is shown on Figure 2, in Attachment 1.

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<sup>1</sup> USACE. (1987). *Corps of Engineers wetlands delineation manual*. Environmental Laboratory. Environmental Laboratory U.S. Army Corps of Engineers, Waterways Experiment Station, Wetlands Research Program Technical Report Y-87-1. Vicksburg, MS. <https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4532/>

<sup>2</sup> USACE (2012). *Regional supplement to the Corps of Engineers wetland delineation manual: Northcentral and Northeast region: Version 2.0*. Ed. J.S. Wakely, R.W. Lichvar and C.V. Noble. ERDC/EL TR-08-27. Vicksburg, MS: U.S. Army. <https://usace.contentdm.oclc.org/utills/getfile/collection/p266001coll1/id/7640>

<sup>3</sup> CTDEEP. (1972). *Inland wetlands and watercourses act: regulations of Connecticut State agencies: Chapter 440: Wetlands and watercourses*. [https://www.cga.ct.gov/current/pub/chap\\_440.htm](https://www.cga.ct.gov/current/pub/chap_440.htm)

<sup>4</sup> Windsor Locks Inland Wetlands and Watercourses Agency. (February 3, 2010). Inland wetlands and watercourses regulations of the Town of Windsor Locks, Connecticut. Retrieved June 9, 2022.

Table 1. Summary Descriptions of Wetlands Delineated Within the Survey Area

Resource ID	Cowardin Classification <sup>1</sup>	Hydrology Indicators	Dominant Vegetation	Hydric Soil Indicators	Description & Notes
W-MFT-1	PFO	High Water Table (A2), Saturation (A3), Drainage Patterns (B10), Presence of Reduced Iron (C4), Geomorphic Position (D2)	Red maple ( <i>Acer rubrum</i> ), white oak ( <i>Quercus alba</i> ), American beech ( <i>Fagus grandifolia</i> ), highbush blueberry ( <i>Vaccinium corymboseum</i> ), coastal sweet-pepperbush ( <i>Clethra alnifolia</i> ), cinnamon fern ( <i>Osumundastrum cinnamomeum</i> )	Thick Dark Surface (A12)	Forested depression connected to riparian drainage for watercourse S-MFT-1.
W-MFT-2	PFO	Saturation (A3), Sediment Deposits (B2), Drift Deposits (B3), Drainage Patterns (B10), Saturation Visible on Aerial Imagery (C9), Geomorphic Position (D2), FAC-Neutral Test (D5)	Red maple, green ash ( <i>Fraxinus pennsylvanica</i> ), white ash ( <i>Fraxinus Americana</i> ), northern spicebush ( <i>Lindera benzoin</i> ), Japanese barberry ( <i>Berberis thunbergii</i> ), multiflora rose ( <i>Rosa multiflora</i> ), Asian bittersweet ( <i>Celastrus orbiculatus</i> ), reed canary grass ( <i>Phalaris arundinacea</i> )	Sandy Redox (S5)	Forested drainage wetland.

<sup>1</sup>Wetland classifications per USFWS' Cowardin et al. (1979) <https://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf>

Table 2. Watercourse Summary

<i>Resource ID</i>	<i>Flow Regime</i>	<i>Flow Direction</i>	<i>Dominant Substrates</i>	<i>Approximate Width (ft)</i>	<i>Approximate Depth (in)</i>	<i>Associated Resources</i>	<i>Description</i>
S-MFT-1	Intermittent	East	Rock, sand	2	6	W-MFT-1	Intermittent drainage, leaves W-MFT-1 and is diverted under and then adjacent to the access road via culvert and drainage ditch.
S-CWF-1	Intermittent	South	Rock, sand	3.5	3	W-MFT-2	Intermittent drainage, originates within W-MFT-2.

## 4.0 Vernal Pool Surveys

Vernal pools are temporarily/seasonally flooded wetlands that provide the primary breeding habitat for vernal pool indicator species, and a host of secondary faunal species.<sup>5</sup> Wood frogs (*Lithobates sylvaticus*) spotted salamanders (*Ambystoma maculatum*), blue spotted salamanders (*Ambystoma laterale*), marbled salamander (*Ambystoma opacum*), Jefferson's salamander (*Ambystoma jeffersonianum*), and fairy shrimp (*Eubrachyptus spp.*) are vernal pool indicator species that depend on vernal pools to complete their life cycle.<sup>6</sup> Productivity of breeding vernal pool species is the primary metric used by regulatory authorities to assess vernal pool quality; thus, vernal pools must be assessed during the breeding season (generally March to late April).

Vernal pool surveys were conducted on April 4, 2023. Definitions from Calhoun et al. (2005) and the USACE Connecticut General Permit (2021) as well as the presence of indicator species were used to make vernal pool determinations.<sup>5,6</sup>

Flycatcher did not identify any vernal pools or potential vernal pool habitat within the Survey Area.

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<sup>5</sup> Calhoun, A. J., Miller, N. A., & Klemens, M. W. (2005). *Conserving pool-breeding amphibians in human-dominated landscapes through local implementation of Best Development Practices*. *Wetlands Ecology and Management*, 13, 291-304.

<sup>6</sup> USACE (2021). *Department of the Army Regional General Permits for the State of Connecticut*.

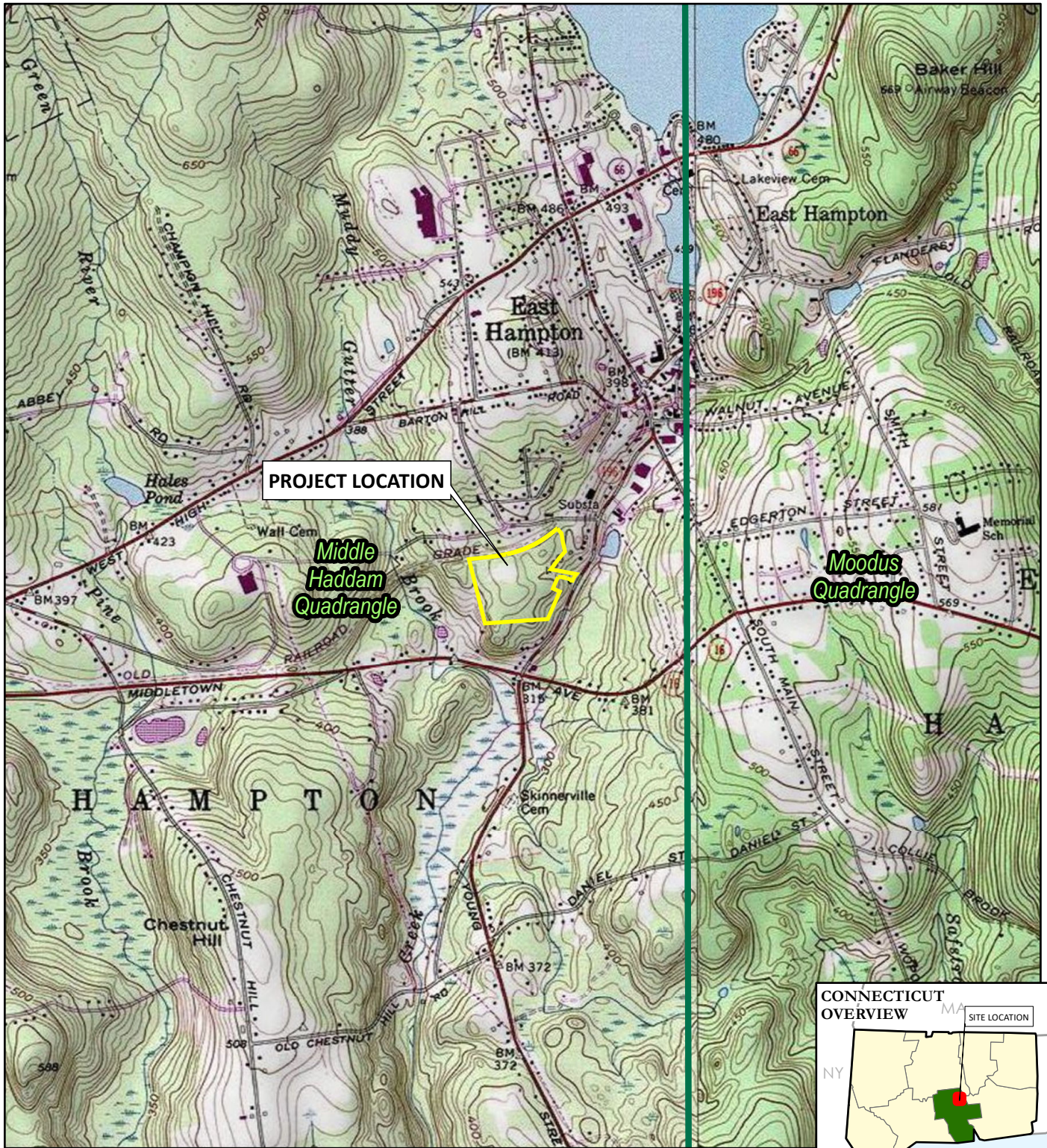
<https://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/CT/Connecticut-General-Permit-2021.pdf>

## **ATTACHMENT 1**

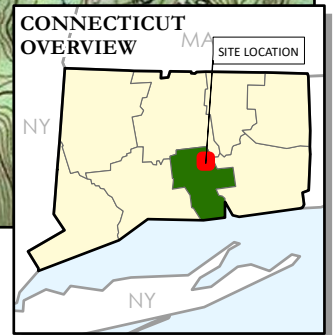
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### **Figures**





BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.



PROJECT: **KEY CAPTURE ENERGY  
CT 8 BATTERY STORAGE PROJECT  
EAST HAMPTON, MIDDLESEX COUNTY, CT**

DRAWN BY:	D. KENWORTHY
CHECKED BY:	K. NICKERSON
MONTH:	JUNE
YEAR:	2023
PROJ. NO.:	22F-4
CLIENT:	KEY CAPTURE



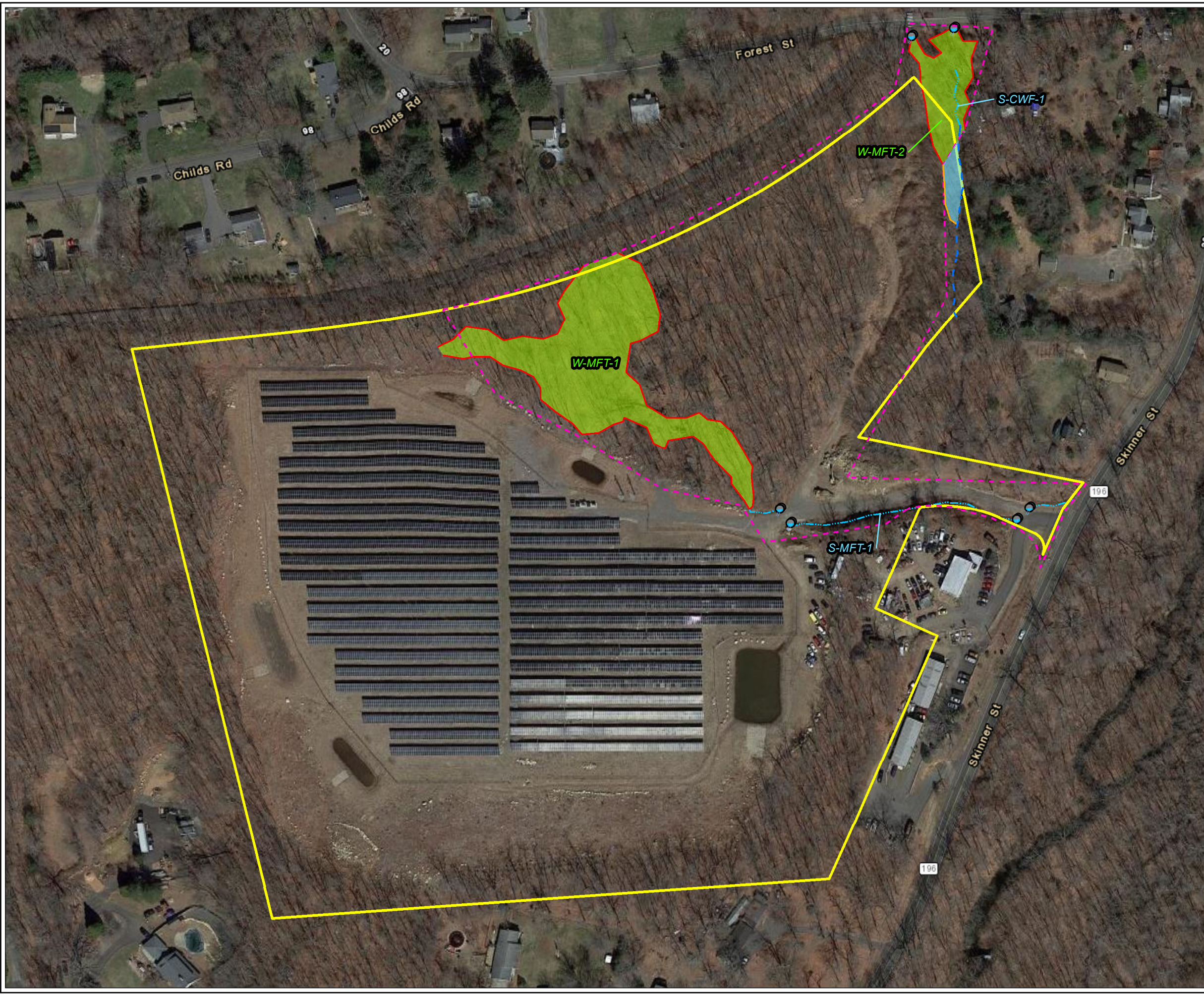
LEGEND:

- SUBJECT PARCEL
- USGS 7.5-MINUTE QUADRANGLE BOUNDARY

**FIGURE 1 - SITE LOCATION MAP (USGS)**

Coordinate System: NAD 1983 StatePlane Connecticut FIPS 0600 Feet (Foot US)  
Map Rotation: 0

Plot Date: 6/23/2023 03:28:45 AM by DREWKENWORTHY -- LAYOUT: ANSIB(11"x17")  
Path: C:\FLYCATCHER\Projects\KeyCapture\KCE\_EastHamptonCT8\_Delin\_Fig2\_Results\_11x17L.mxd



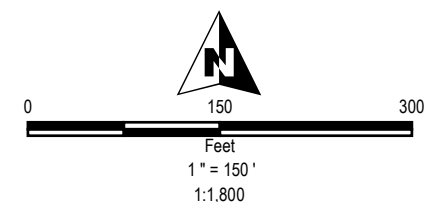
**LEGEND**

- HOST PARCEL
- FC SURVEY AREA
- CULVERT
- DELINEATED INTERMITTENT STREAM
- DELINEATED WETLAND BOUNDARY
- DELINEATED WETLAND
- SKETCHED STREAM SEGMENT
- SKETCHED WETLAND BOUNDARY
- SKETCHED WETLAND



**NOTES:**

- 1 BASEMAP IMAGERY FROM ESRI/NAIP "WORLD IMAGERY" SERVICE LAYER.
- 2 HOST PARCEL BOUNDARY BASED ON ALTA/NSPS LAND TITLE SURVEY PROVIDED BY BARTON AND LOGUIDICE.
- 3 RESOURCES WERE DELINEATED BY FLYCATCHER, NOVEMBER 2022.



PROJECT: **KEY CAPTURE ENERGY  
CT 8 BATTERY STORAGE PROJECT  
EAST HAMPTON, MIDDLESEX COUNTY, CT**

TITLE: **WETLAND DELINEATION RESULTS**

DRAWN BY: D. KENWORTHY	PROJ NO.: 22-F4
CHECKED BY: K. NICKERSON	<b>FIGURE 2</b>
MONTH: JUNE	
YEAR: 2023	

 LAND • SCIENCE • PEOPLE	
FILE NO.:	KCE_EastHamptonCT8_Delin_Fig2_Results_11x17L.mxd

## **ATTACHMENT 2**

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### **Site Photographs**



**Wetland W-MFT-1, November 17, 2022.**



**Wetland W-MFT-1, November 17, 2022**



**Wetland W-MFT-2, November 17, 2022.**



**Watercourse S-MFT-1, November 17, 2022.**



**Watercourse S-CWF-1, February 6, 2023.**



**Access drive, November 17, 2022.**