

CLA Engineers, Inc.

Civil • Structural • Survey

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April 7, 2025

Town of Montville
Inland Wetlands Commission
Attn: Douglas K. Brush, Chair
Montville Town Hall
310 Norwich-New London Tpke
Uncasville, CT 06382

Re: Town of Montville
Lot 00A
Silver Falls Rd
Montville, CT
CLA #7885

Dear Mr. Brush:

On behalf of the applicant, CLA Engineers has performed a delineation and functional evaluation of the inland wetlands at the referenced site and assessed the site to provide a basis for determining the potential for impacts. The inland wetland boundary was delineated by Robert Russo CSS between June and November 2024. The wetland boundary and proposed development are shown on the plans prepared by CLA Engineers dated December 5, 2024. These data were augmented with additional online information from CTDEEP, USFWS, USGS, and the Town of Montville.

Site Setting

The site is a 19.5-acre parcel located on the eastern side of Silver Falls Rd south of 27 Silver Falls Rd. The parcel abuts the Town of Waterford and is currently undeveloped. The majority of the parcel is forested and there are six (6) unique wetland areas on the property, five of which appear to have some degree of groundwater or surface connectivity. Only one on-site wetland area (defined on plans as Wetland 101) will be disturbed by the proposed development. Therefore, this wetland impact letter and associated function and value analysis focuses only on Wetland 101. The entire project area is within the Latimer Brook subregional drainage basin (2202).

The surrounding neighborhood is zoned residential (R-60) per most recent update of the Town of Montville Zoning Map and consists of low- to medium-density single family residential lots, many of which are developed.

Soils

The upland and wetland soils mapped on the property by NRCS (USGS) are listed in the table below. Additional descriptive details are provided in Appendix A.

Table 1 - Soil Types and Properties at the Silver Falls Rd Site

<u>Soil Series</u>	<u>Parent Material</u>	<u>Drainage Class</u>	<u>Texture/Characteristics</u>
Ridgebury, Leicester, and Whitman (3)*	Coarse-loamy lodgment till	Poorly drained to very poorly drained	Sandy loam
Paxton and Montauk (85)	Coarse-loamy lodgment till	Well drained	Fine sandy loam
Raypol (12)*	Coarse-loamy eolian deposits	Poorly drained	Silt loam
Woodbridge (46-47)	Coarse-loamy lodgment till	Moderately well drained	Fine sandy loam
Haven (703)	Coarse-loamy eolian deposits	Well drained	Silt loam

*Hydric (wetland) soil type

One wetland soil unit mapped on this site consists of Ridgebury, Leicester, and Whitman soils. The Ridgebury series consists of very deep, somewhat poorly and poorly drained soils formed in lodgment till derived mainly from granite, gneiss and/or schist. They are commonly shallow to a densic contact. They are nearly level to gently sloping soils in depressions in uplands. They also occur in drainageways in uplands, in toeslope positions of hills, drumlins, and ground moraines, and in till plains. The Leicester series consists of very deep, poorly drained soils formed in coarse-loamy till. They are nearly level or gently sloping soils in drainageways and low-lying positions on hills. The Whitman series consists of very deep, very poorly drained soils formed in lodgment till derived mainly from granite, gneiss, and schist. They are shallow to a densic contact.

Another wetland soil unit mapped on this site is comprised of Raypol silt loam. The Raypol series consists of very deep, poorly drained soils formed in loamy over sandy and gravelly outwash. They are nearly level to gently sloping soils in shallow drainageways and low-lying positions on terraces and plains.

The upland soil units on this site are Paxton and Montauk fine sandy loams, Woodbridge fine sandy loam, and Haven silt loam. The Paxton series consists of well drained loamy soils formed in lodgment till. The soils are very deep to bedrock and moderately deep to a densic contact. They are nearly level to steep soils on hills, drumlins, till plains, and ground moraines. The Montauk series consists of well drained soils formed in lodgment or flow till derived primarily from granitic materials with lesser amounts of gneiss and schist. The soils are very deep to bedrock and moderately deep to a densic contact. These soils are on upland hills and moraines. The Woodbridge series consists of moderately well drained loamy soils formed in lodgment till. They are very deep to bedrock and moderately deep to a densic contact. They are nearly level to moderately steep soils on hills, drumlins, till plains, and ground moraines. The Haven series consists of very deep, well drained soils formed in loamy over sandy and gravelly outwash. They are nearly level through

moderately sloping soils on outwash plains, valley trains, terraces, and water-sorted moraine deposits.

Wetland Characteristics

Classification

While the National Wetlands Inventory (NWI <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>) does not identify the wetland, CLA determined the onsite wetland to be a 43,300 square foot palustrine forested wetland (PFO1E) and palustrine emergent wetland (PEM1E) based on field investigation and GIS site review. The description of that classification is provided below.

Classification code: PFO1E

System Palustrine (P): The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.

Class Forested (FO): Characterized by woody vegetation that is 6 m tall or taller.

Subclass Persistent (1): Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.

Water Regime Seasonally Flooded/Saturated (E): Surface water is present for extended periods (generally for more than a month) during the growing season, but is absent by the end of the season in most years. When surface water is absent, the substrate typically remains saturated at or near the surface.

Classification code: PEM1E

System Palustrine (P): The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 ppt. It also includes wetlands lacking such vegetation, but with all of the following four characteristics: (1) area less than 8 ha (20 acres); (2) active wave-formed or bedrock shoreline features lacking; (3) water depth in the deepest part of basin less than 2.5 m (8.2 ft) at low water; and (4) salinity due to ocean-derived salts less than 0.5 ppt.

Class Emergent (EM): Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

Subclass Persistent (1): Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.

Water Regime Seasonally Flooded/Saturated (E): Surface water is present for extended periods (generally for more than a month) during the growing season, but is absent by the end of the season in most years. When surface water is absent, the substrate typically remains saturated at or near the surface.

Wetland hydrology

The onsite wetland consists largely of a palustrine forested wetland area with likely groundwater connectivity to other wetlands and water bodies, most notably Silver Falls Pond across the street. Since the proposed development is not within 100 feet of any wetland besides Wetland 101, the below functional assessment focuses only on Wetland 101. The wetland is densely vegetated and appears healthy with high organic matter content in the soil. Various strata of vegetation exist within and around the wetland (trees, shrubs, emergent, mosses, etc.), evidencing relatively high plant biodiversity in the wetland. The wetland sits high in the drainage basin and appears to have groundwater connectivity to the other wetlands on site as well as Latimer Brook, a tributary to the Niantic River. The wetland is saturated but does not contain sufficient ponded water to support finfish or shellfish habitat. Additionally, a FEMA-designated floodplain contains much of Wetland 101 and the surrounding upland. The FEMA flood map for this site is included in Appendix B.

Factors important to functional assessment

The following observations are important to the functional assessment and are listed here to provide context to the later discussion of functions and values.

1. Connecticut protected species are known to be present on the site per the June 2024 update of the CTDEEP NDDB.
2. The wetland has two dominant classes (PFO1E and PEM1E).
3. The local zoning is residential (R-60) per the Town GIS, and the surrounding parcels appear to be used for single-family residences.
4. The wetland has melt-out till soils along its edge and lodgement till soils within per available online mapping. Detailed soil mapping from the U.S. Web Soil Survey are included within Appendix A.
5. The wetland is a part of a larger watercourse system (Niantic River system).
6. The wetland appears to be healthy and densely vegetated, and most of its edges are surrounded by at least 100 feet of undeveloped buffer area.

Principal functions

The functional assessment was conducted using the USCAE Highway Methodology (<https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/HighwaySupplement6Apr2015.pdf>). The assessment is included as Appendix C and it revealed that the wetland has the following principal functions:

1. **Groundwater recharge and discharge:** this wetland has a variable water level and lacks a permanent outlet, indicating that it feeds the groundwater system.
2. **Nutrient removal:** the wetland is rich in organic material, which is highly capable of removing excess nutrients from agricultural operations and roads upland and upstream of the wetland.
3. **Wildlife habitat:** overland access from the wetland is possible to six (6) unique classes of wetland as well as upland areas.
4. **Endangered species habitat:** The Connecticut Natural Diversity Data Base (CTNDDB) has identified the wetland area as an area of concern for endangered species.

Proposed Development

As shown on the project plans, the following activities are planned in the wetland for a total of approximately 4,590 square feet of disturbance:

1. Construction and grading of a common driveway across the property from Silver Falls Rd to the four unique housing lots in the subdivision. Contractors will utilize typical excavators, loaders, rollers, and dump trucks for the construction of the driveway.
2. Construction of a 15" culvert beneath the driveway to promote connectivity in the wetland on both sides of the driveway.
3. Construction of a 70' by 45' stormwater quality basin within the upland review area (outside of the wetland) to manage runoff from the driveway area.
4. Implementation of erosion and sedimentation control measures in and around the project area including silt fence, grassed swale, anti-tracking pad, and hay bale barrier.

Table: total wetland impacts from the proposed driveway construction

	Area in square U.S. feet	Area in acres
Permanent area impacted	4590 +/-	0.10 +/-
Temporary area impacted	0	0

Potential for Impacts

The proposed activities outlined above may impact the wetland's principal functions in the following ways:

1. **Groundwater recharge and discharge:** because the stormwater basin is sized to accommodate for the changes in drainage due to the driveway, CLA does not anticipate any changes to the wetland's ability to perform this function.
2. **Nutrient removal:** the proposed driveway could increase the overall nutrient load into the wetland. However, if proper erosion and sedimentation controls are implemented during and after construction as indicated on plans, CLA does not predict significant impacts to this functionality.
3. **Wildlife habitat:** because the area of the driveway is small relative to the wetland and quite narrow, we do not expect this project to impact wildlife habitat via fragmentation or other means. For instance, bats can easily travel across roadways with low or moderate traffic flow where the distance from one tree canopy to the other is less than 20 meters¹. Because the proposed project is a private driveway only 14 feet in width, we do not expect to see any habitat fragmentation or collision risk for bat species.
4. **Endangered species habitat:** see "Wildlife Habitat" above.

Narrative Describing the Activities to Take place on the property.

This section is responsive to the Town of Montville Inland Wetlands Checklist, page 2 Item 3, Narrative.

Alternatives considered

This site is a developable parcel of land that has wetland along the entire road frontage as shown on the project plans. As such, the access driveway was located so as to minimize the total area of wetland disturbance by crossing the wetlands at the narrowest point.

Description of the activity including location and square footage of disturbance.

The overall all project consists of a 4-lot residential subdivision to be accessed from Sliver Spring Rd in Montville. The proposed development includes on site driveways, septic systems, wells, rain gardens and a stormwater treatment basin. The regulated activity includes construction of a residential driveway and a stormwater management basin within the upland review zone. More specifically, there will be a loss of approximately 4590 square feet of forested wetland in two separate locations within the first 400 feet of the intersection with Silver Falls Rd. The construction will include a 15 inch diameter culvert at the first crossing location in order to provide connectivity to the upslope wetland and to protect the driveway. This work will be done in only after meeting with town staff and installation of the proper erosion and sediment control measures. The work will be performed with excavators, bulldozers and dump trucks.

What type of erosion and sediment control will be used?

As shown on the site plan, the following best management practices will be employed:

1. An anti-tracking pad at the construction entrance.
2. A rip rap swale along the edge of the driveway
3. Silt fence along the limits of disturbance
4. De-watering, if needed, as shown on the dewatering detail on the site plans.

If machinery will be used or if work will be done by hand.

Machinery will be used and it will include typical heavy construction machines such as excavators, bulldozers, and dump trucks.

Identify the sub-drainage basin where the proposed activity will occur.

The sub-drainage basin is number 2202.

Summary

CLA has designed the wetland crossing to occur at the narrowest available location thus providing for minimal loss of wetland habitat and function. If proper erosion and sedimentation controls are installed according to the site plans, we do not anticipate the proposed development will have any significant impact on the four principal functions of the onsite forested wetland.

Sincerely,

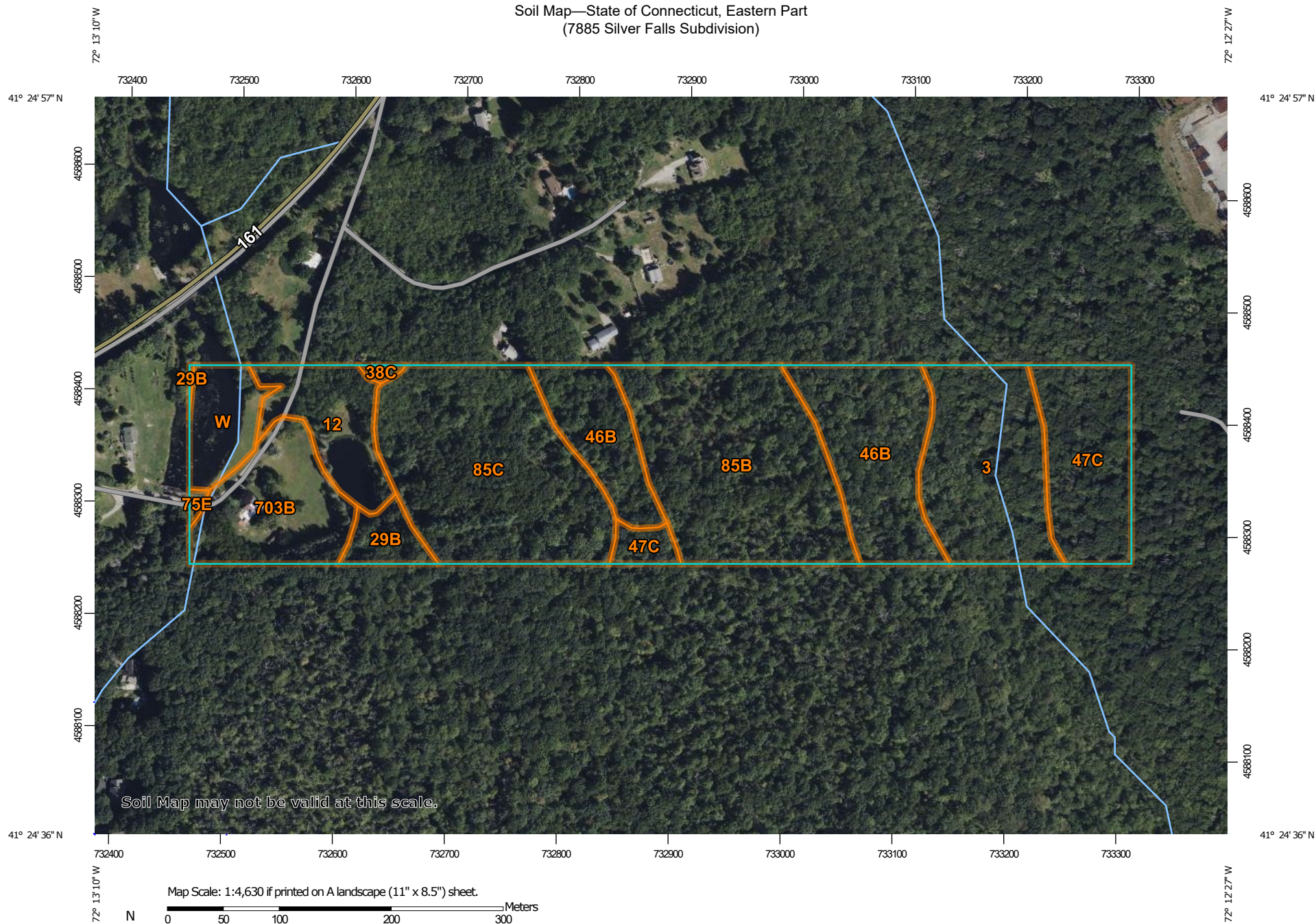
Robert C Russo

Robert C. Russo

Soil and Wetland Scientist

CLA Engineers, Norwich, CT

Soil Map—State of Connecticut, Eastern Part
(7885 Silver Falls Subdivision)



Soil Map may not be valid at this scale.

Map Scale: 1:4,630 if printed on A landscape (11" x 8.5") sheet.

0 50 100 200 300 Meters

0 200 400 800 1200 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



Natural Resources
Conservation Service


Web Soil Survey
National Cooperative Soil Survey

12/2/2024
Page 1 of 3


Soil Map—State of Connecticut, Eastern Part
(7885 Silver Falls Subdivision)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Eastern Part

Survey Area Data: Version 2, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

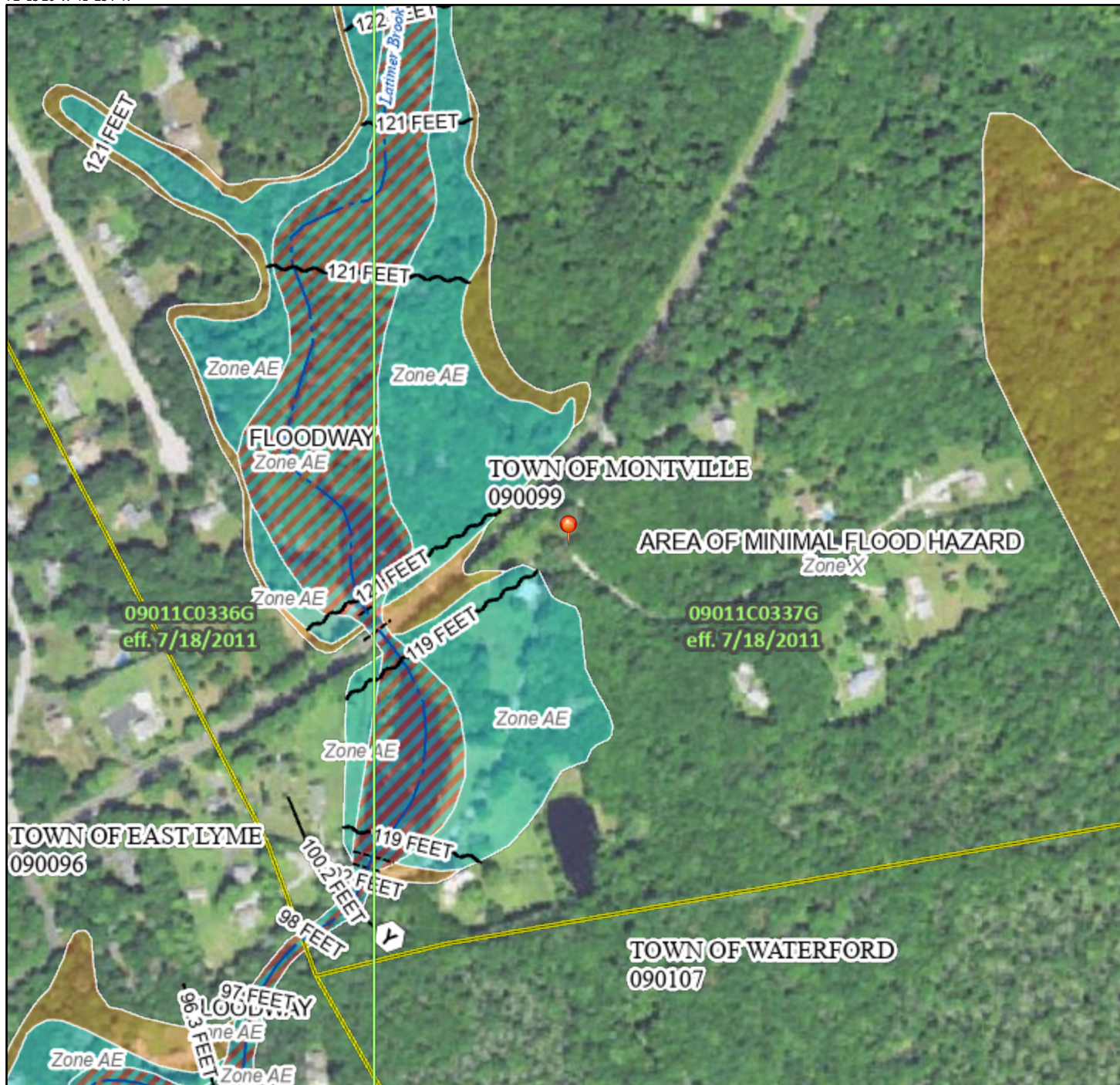
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	4.6	12.4%
12	Raypol silt loam, 0 to 3 percent slopes	2.3	6.1%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	0.8	2.2%
38C	Hinckley loamy sand, 3 to 15 percent slopes	0.1	0.3%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	6.1	16.5%
47C	Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony	3.8	10.4%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	0.1	0.2%
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	7.1	19.2%
85C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes, very stony	7.3	19.8%
703B	Haven silt loam, 3 to 8 percent slopes	3.2	8.8%
W	Water	1.5	4.1%
Totals for Area of Interest		36.9	100.0%

National Flood Hazard Layer FIRMette



72°13'20"W 41°25'7"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

72°12'42"W 41°24'40"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **11/19/2024 at 4:51 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Wetland Function-Value Evaluation Form

Wetland I.D. 778S WL 101
 Latitude 41.414 Longitude -72.217
 Prepared by: MKA Date 12/2/24
 Wetland Impact: 3200
 Type Permanent Area 31000 ft²

Evaluation based on:
 Office ☒ Field ☒
 Corps manual wetland delineation completed? Y ☐ N ☒

Total area of wetland 43,300^{sq ft} Is wetland part of a wildlife corridor? yes or a "habitat island"? yes
 Adjacent land use residential, forested Distance to nearest roadway or other development 0' Falls Rd
 Dominant wetland systems present PFOIE, PEM1E Contiguous undeveloped buffer zone present 260%

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? high
 How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	4, 7, 9, 13, 15	✓	Likely GW connection to nearby WLs
Floodflow Alteration	Y	2, 5, 7, 8, 9, 10, 13		High veg density, evidence of perched aquifer
Fish and Shellfish Habitat	N			Hydrology unlikely to support fish
Sediment/Toxicant Retention	Y	1, 2, 3, 4, 5, 7, 8, 11		High organic content in WL soils
Nutrient Removal	Y	3, 4, 5, 6, 7, 8, 9, 12	✓	Likely nutrient input from upland
Production Export	N			Little evidence of production/export
Sediment/Shoreline Stabilization	N			No evidence of erosion
Wildlife Habitat	Y	1, 3, 4, 5, 7, 6, 9, 10, 13	✓	Overland access to 6 unique WL classes
Recreation	Y Y	2, 4, 5, 7, 8, 11, 12		WL is on private property → evidence of hiking/biking
Educational/Scientific Value	Y	1, 2, 3, 4, 5, 9, 10, 13		Private property but visible from street
Uniqueness/Heritage	N			No known historical use/appreciation
Visual Quality/Aesthetics	Y	1, 2, 3, 4, 6, 7, 8, 10, 11		Private property
ES Endangered Species Habitat	Y	2	✓	WL included in CT NDDB
Other	✓	✓	✓	

* Refer to backup list of numbered considerations.

Notes: