

# CLA Engineers, Inc.

Civil • Structural • Survey

317 MAIN STREET

NORWICH, CT 06360

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April 7, 2025

Rev May 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-80) 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**

| <b><u>Soil Series</u></b>              | <b><u>Parent Material</u></b> | <b><u>Drainage Class</u></b>          | <b><u>Texture/Characteristics</u></b> |
|----------------------------------------|-------------------------------|---------------------------------------|---------------------------------------|
| 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 meters<sup>1</sup>. 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.

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### 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 Silver Falls 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

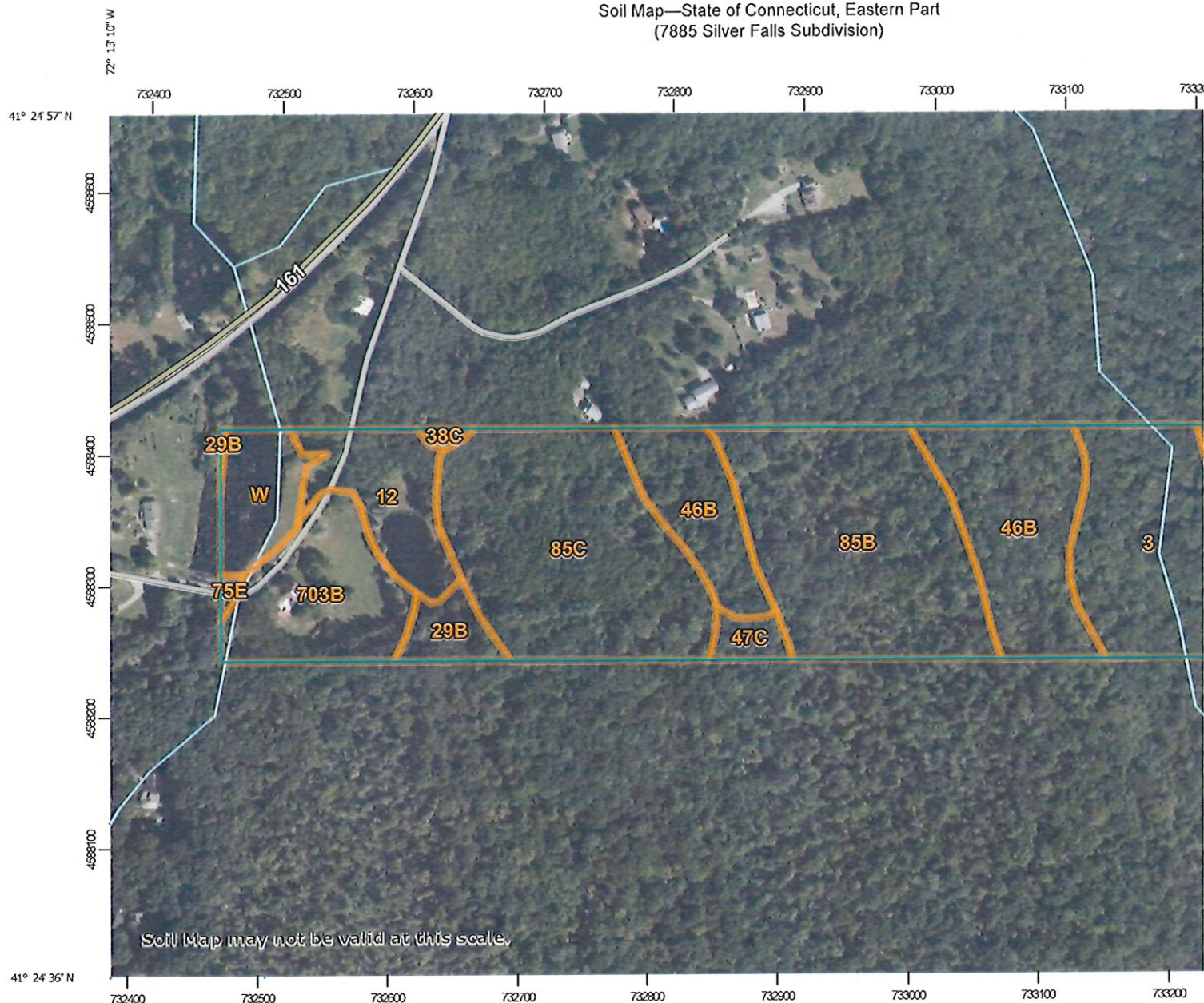
CLA Engineers, Norwich, CT

# Appendix A: Soil Map

Adapted from Web Soil Survey, U.S. Geological Survey, U.S. Department of Agriculture



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

## MAP LEGEND

## MAP INFOR

### 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

The soil surveys that comprise your  
1:12,000.

Warning: Soil Map may not be valid

Enlargement of maps beyond the scale  
misunderstanding of the detail of map  
line placement. The maps do not show  
contrasting soils that could have been  
scale.

Please rely on the bar scale on each  
measurements.

Source of Map: Natural Resources  
Web Soil Survey URL:  
Coordinate System: Web Mercator

Maps from the Web Soil Survey are  
projection, which preserves direction  
distance and area. A projection that  
Albers equal-area conic projection, for  
accurate calculations of distance or

This product is generated from the  
of the version date(s) listed below.

Soil Survey Area: State of Connecticut  
Survey Area Data: Version 2, Aug

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

Date(s) aerial images were photographed  
2022

The orthophoto or other base map on  
compiled and digitized probably differ  
imagery displayed on these maps. A  
shifting of map unit boundaries may



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

## 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%           |
| <b>Totals for Area of Interest</b> |                                                                                 | <b>36.9</b>  | <b>100.0%</b>  |



# Appendix B: FEMA Firmette Map

# National Flood Hazard Layer FIRMette

72°13'20"W 41°25'7"N



SPECIAL  
HAZARD

OTHER AR  
FLOOD H

OTHER  
GE  
STRUC

FEA

MAP I

This n  
digita  
The b  
accur  
  
The fl  
autho  
was e  
reflec  
time.  
becor

This n  
elem  
legen  
FIRM  
unma  
regul

Basemap Imagery Source: USGS National Map 2023

# Appendix C: Army Corps Wetland Assessment Sheet

# Wetland Function-Value Evaluation Form

Total area of wetland 43,300<sup>sq</sup>ft Human made? No 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 PFO1E, PEM1E Contiguous undeveloped buffer zone present ~60%

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)

Wetland ID: 778S WL 101  
Latitude 41.414 Longitude -72.217  
Prepared by: MKA Date 12/2/24  
Wetland Impact: 32.00  
Type: permanent Area 38100 ft<sup>2</sup>

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

| Function/Value                   | Suitability<br>Y / N | Rationale<br>(Reference #)* | Principal<br>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                       | <del>N</del> 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                                      |
| Endangered Species Habitat       | Y                    | 2                           | ✓                                 | WL included in CT NDDB                                |
| Other                            | ✓                    | ✓                           | ✓                                 |                                                       |

\* Refer to backup list of numbered considerations.

Notes:



# CLA Engineers, Inc.

Civil • Structural • Survey

317 MAIN STREET

NORWICH, CT 06360

(860) 886-1966

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May 7, 2025

Mr. John Carlson, Director  
Department of Public Works  
225 Maple Avenue  
Uncasville, CT 06382  
Via Email: [jcarlson@montville-ct.org](mailto:jcarlson@montville-ct.org)

RE: Silver Falls Subdivision – Waiver Request  
CLA-7885

Dear Mr. Carlson:

On behalf of the applicant for the above referenced property, we are requesting a waiver related to paving the entire proposed common driveway in accordance with Section 130D.2 (Common Driveway Surfacing) of the “Town of Montville Road Standard and Improvement Details”. We are proposing to pave the first 220’+/- . Stormwater for the remainder of the common driveway above this point will be directed to a proposed stormwater quality basin in accordance with plans provided in the application. This will prevent the possibility of runoff from unpaved surfaces reaching the Town road.

Please feel free to call me with any questions.

Sincerely,



Robert A. DeLuca, P.E.