Green Site Design LLC

Ellen Bartlett, P.E. • CPSWQ, Leed Accredited

September 2, 2025

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

Re: Uncasville Property LLC
Commercial Building Development
2227 Norwich-New London Turnpike
Uncasville, CT 06382
GSD-77

Dear Mr. Brush:

On behalf of Uncasville Property LLC, Green Site Design 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 associated with the proposed development of this parcel. Details of the proposed development of this parcel are presented on the site plans.

The inland wetland boundary was delineated by R. Russo (Green Site Design) in June of 2025. The wetland boundary and proposed development are shown on the plans prepared by Green Site Design LLC dated June 26, 2025. These data were augmented with additional online information from CTDEEP, USFWS, USGS, and the Town of Montville GIS.

Site Setting

This site is located just north of Leo St. and just to the east Route 32. It consists of three small commercial buildings with impervious areas such as parking lots. There is also some lawn area scattered across the property, with most of it being on the eastern part of the parcel. The surrounding area is mostly developed, consisting primarily commercial buildings and a few residential homes. This site is zoned as commercial district 1 (C-1) and the surrounding properties are listed as both commercial district 1 (C-1) and residential (R-20).

317 Main Street • Norwich, CT 06360 • 860.892.1380 • ebartlett@greensitedesignllc.com

Soils

The upland soils mapped by NRCS are listed in the table below. There are hydric soils mapped on the property by NRCS. This would be the Rippowam Series which is also an alluvial soil. Additional descriptive details are provided in an NRCS soil report included as Appendix A.

Table 1 - Soil Types and Properties at the Route 32 Site

Soil Series	Parent Material	Drainage Class	Texture/Characteristics
Rippowam	Coarse-loamy alluvium	Poorly drained	Fine sandy loam to stratified very gravelly coarse sand to loamy fine sand
Udorthents-Urban Complex	Human transported material	Well drained	Loam to very gravelly sandy loam

The Rippowam series consists of very deep, poorly drained loamy soils formed in alluvial sediments. They are nearly level soils on flood plains subject to frequent flooding. The Udorthents-Urban Complex series contains well drained soils formed by human transported materials. They are nearly level to steep sloping soils and can be found in areas in or near human disturbance.

Wetland Characteristics

Classification

The National Wetlands Inventory (NWI https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/) does show the wetland on the northern part of the site classified as PSS1E. However, after inspecting the site, it appears to be a forested wetland which would be a PFO1E. It also does not show the wetland on the southeastern part of the site which would be classified as a PFO1E. A description of this wetland group can be found 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 **Broad-Leaved Deciduous (1):** Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (Fraxinus nigra).

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

There are two regulated areas on the property. One is a wetland on the northern part of the site and then another wetland on the southeastern part of the site. The northern wetland is man-made and is fed by 2 storm water pipes. The southern wetland is naturally occurring and feeds into Shantok Brook, which flows into the Thames River and eventually makes its way to Long Island Sound.

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 not known to be present on the site per the December 2024 update of the CTDEEP NDDB. See Appendix C.
2. The local zoning is commercial (C-1) and residential (R20) per the Town GIS, and the surrounding parcels appear to be single-family residences.
3. The wetland consists of alluvial material along with human transported material around its edges per available online mapping. Detailed soil mapping from the U.S. Web Soil Survey is included within Appendix A.
4. The northern wetland is heavily degraded with trash and debris and there is evidently less wetland vegetation growing.
5. There are two stormwater piles that enter the northern wetland. One is a pvc pipe at the southern end where it appears runoff from Leo Rd enters. The second one is a rcp pipe that brings stormwater to the northern end of the wetland from Route 32.

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 B and it revealed that the northern wetland was so degraded it did not meet any of the principal functions. The southern wetland onsite was less impacted by human disturbance and has the following Principal functions:

1. **Nutrient Removal:** The area around this wetland is very developed and the wetland likely does receive polluted stormwater runoff from the nearby impervious surfaces. Green Site Design noticed that this wetland is highly vegetated with a moderate species diversity which would allow it to attenuate a significant amount of nutrients.
2. **Wildlife Habitat:** Green Site Design noted multiple deer tracks in this wetland and signs of browsing. There is a lot of edible vegetation present and along with flowering plants which is beneficial to insect populations.

Potential for Impacts

As shown on the project plans, the following activities are planned to occur in the upland review zone.

1. Demolition of the existing buildings onsite
2. Construction of a 6723 SF building
3. Construction of a bituminous parking lot providing 43 parking spaces
4. Construction of concrete walkways surrounding the commercial building
5. Construction of a sediment trap basin with a forebay and modified riprap splash pad and level spreaders

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

1. **Nutrient Removal:** Due to the proposed sediment trap basin along with wood chips with silt fence lining the edges of the wetlands onsite, no excess sediments will reach the wetlands. If these measures are maintained properly, this function should be unaffected.
2. **Wildlife Habitat:** While most of the development will be occurring in an already developed area, some upland habitat areas above the wetlands will be cleared for part of the parking lot and for the sediment basin. Green Site Design also proposes plantings along the edge of the wetlands and limits of clearing to restore some of the upland habitat value.

Alternatives Considered

While designing the proposed development on the site, direct wetland impacts were avoided completely. While the proposed building is close to the northern wetland, it is heavily degraded, serving very limited functions, and is man-made. By having the building where it is, it allows for a sediment trap basin to be implemented in front of the southern wetlands, protecting it and its functions from construction activities. Without it, the risk of excess sediments reaching the southern wetlands increases. The only other alternative would be to leave the site in its current condition and lose out on the opportunity of adding more housing and tax revenue from a retail business.

Summary

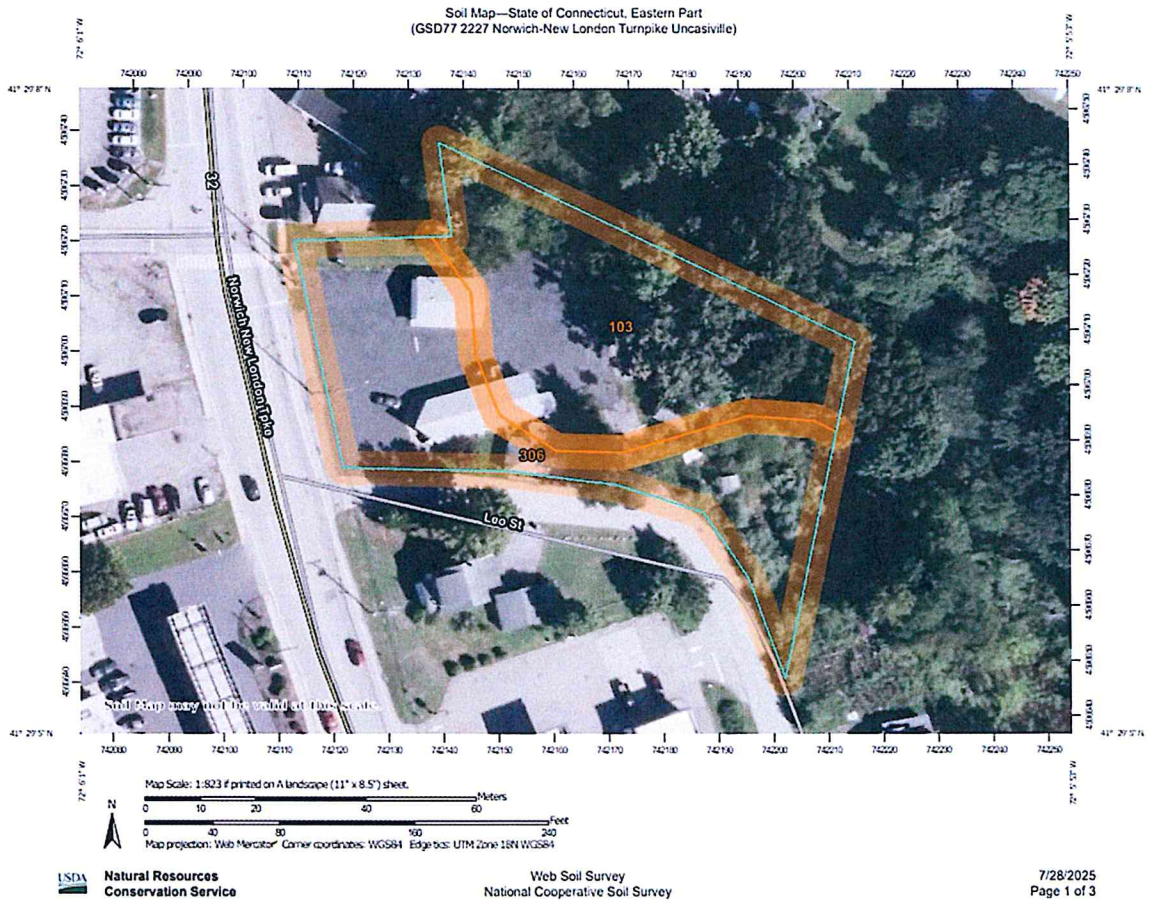
Most of the activities on this site are occurring in an already developed area and it is all outside of the wetlands. While there will be clearing close to the edge of wetlands, plantings will be implemented to restore some of that upland habitat. Proper erosion and sediment control measures will be installed along the limits of disturbance to protect the wetlands. Green Site Design believes that the proposed activities on this site will have no impact on wetlands if proper sediment and erosion control measures are installed and inspected regularly.

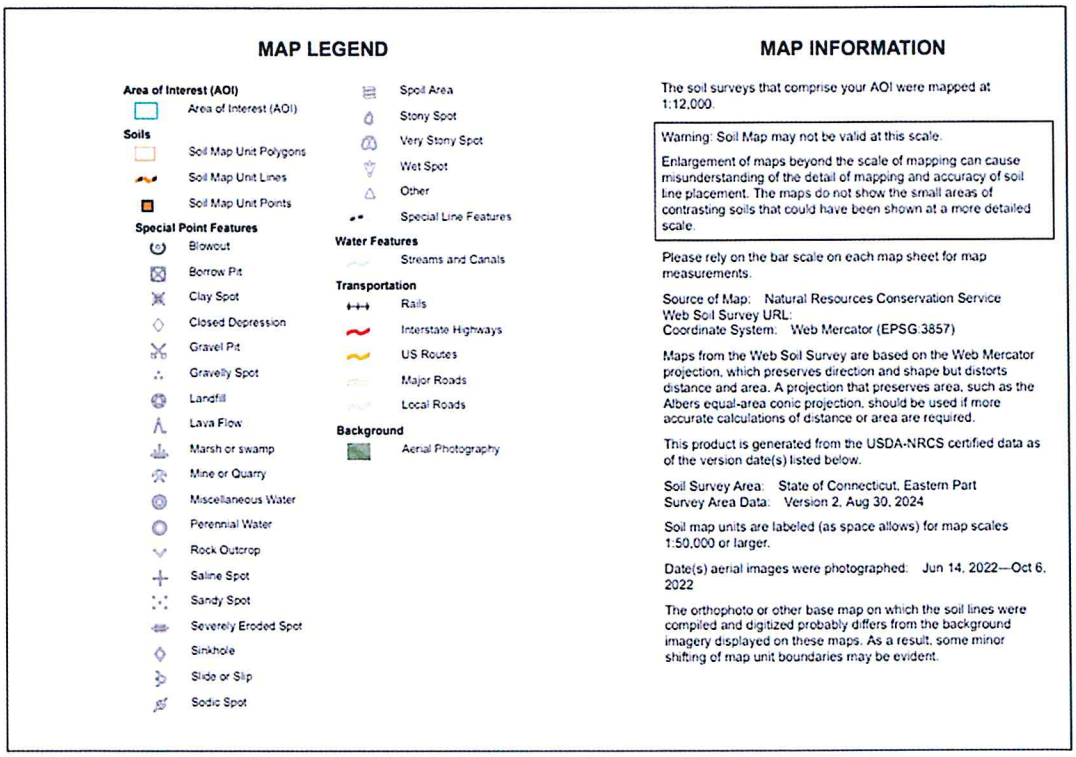
Sincerely,

Robert C. Russo
Soil Scientist, CLA Engineers
Norwich, CT

Appendix A: Soil Maps

From USGS Web Soil Survey





Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
103	Rippowam fine sandy loam	0.6	51.9%
306	Udorthents-Urban land complex	0.5	48.1%
Totals for Area of Interest		**1.1**	**100.0%**

Appendix B: Army Corps Wetland Assessment Sheets

Northern wetland

Wetland Function-Value Evaluation Form

Total area of wetland 0.03ac Human made? N Is wetland part of a wildlife corridor? No or a "habitat island"? Yes

Adjacent land use Commercial (C1) and Residential (R-20) Distance to nearest roadway or other development 10' → parking lot

Dominant wetland systems present PFO1E Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? Low

How many tributaries contribute to the wetland? None Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. GSD77
Latitude 41.485 Longitude -72.099
Prepared by: KL Date 7/30/25
Wetland Impact:
Type PFO1E Area 0.03ac

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y___ N ✓

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	N	5		wetland is over fill material and no groundwater resources are present [illegible]
Floodflow Alteration	N	3,4,5,6,9		Not associated with a watercourse and wetland is degraded with sparse vegetation
Fish and Shellfish Habitat	N			No watercourse present needed for fish habitat
Sediment/Toxicant Retention	N	2,4,5,6		No excess sediment source [illegible] in watershed and wetland has no water and little vegetation to [illegible]
Nutrient Removal	N	4		This wetland is very degraded and wouldn't [illegible] very well
Production Export	N	1,2,5		There are a couple [illegible] but vegetation and [illegible] productivity is low
Sediment/Shoreline Stabilization	N			No watercourse present
Wildlife Habitat	N	7,[illegible],11,16		Some food available but habitat is degraded and no signs of wildlife usage
Recreation	N			wetland is very degraded and not visually appealing
Educational/Scientific Value	N	8		wetland has lots of trash in it and vegetation is sparse
Uniqueness/Heritage	N	1,5		wetland is small and degraded with little significance
Visual Quality/Aesthetics	N			wetland is very degraded and a bit hard to see
ES Endangered Species Habitat	N			No CT listed species present
Other				

Notes:

* Refer to backup list of numbered considerations.

Southern wetland

Wetland Function-Value Evaluation Form

Total area of wetland 0.01ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? YES

Adjacent land use Commercial (C-1) & Residential (R-20) Distance to nearest roadway or other development 40'-Leo cb

Dominant wetland systems present PF01E Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? Low

How many tributaries contribute to the wetland? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. GSD77

Latitude 41.485 Longitude -72.098

Prepared by: KL Date 7/30/25

Wetland Impact:
Type PSS1E Area 0.01 ac

Evaluation based on:
Office ✓ Field ✓

Corps manual wetland delineation completed? Y____ N✓

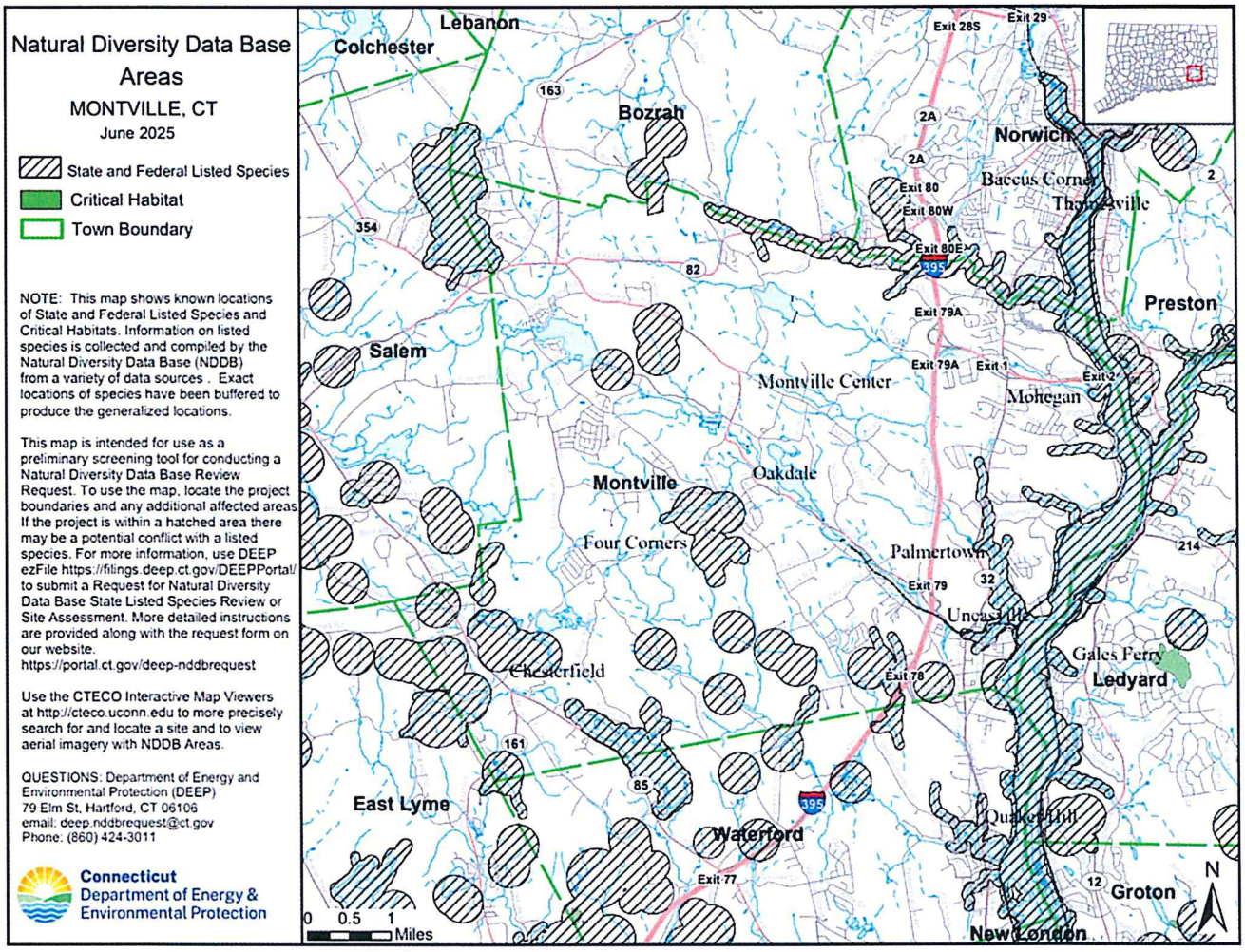
Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	N	5		wetland is over hill and no wells present downstream
Floodflow Alteration	N	3,4,5,6,9,16		has potential to help attenuate, however it is not associated with a watercourse and is small
Fish and Shellfish Habitat	N			No suitable habitat present in wetland
Sediment/Toxicant Retention	N	2,4,8,9		potential toxicants present upstream but no inlet for and to outlet
Nutrient Removal	Y	4,6,7,8,10,11	✓	Highly vegetated wetland with hydric soils which can treat pollutants coming from impervious surfaces nearby
Production Export	N	2,4,7,12		not producing many fruit bearing plants and no outlet for nutrients to be exported
Sediment/Shoreline Stabilization	N			No watercourse present
Wildlife Habitat	Y	3,7,8,11,13,16,17,19	✓	Deer tracks found in wetland and lots of leaf litter present. Flowering plants present which is good for insects
Recreation	N			Not easily accessible and is on private property
Educational/Scientific Value	N	8,9		No watercourse and not accessible except for those in Sandhill Beach
Uniqueness/Heritage	N	1,5,6		very small and not significant
Visual Quality/Aesthetics	N			can't see from major viewing points
ES Endangered Species Habitat	N			NO CT listed species present
Other				

* Refer to backup list of numbered considerations.

Notes:

Appendix C: Natural Diversity Data Base Map

Town of Montville, CT



Appendix D: Species List

Northern Wetland:

Plant Species:

Toothed plagiomnium moss (*Plagiomnium cuspidatum*)

American elm (*Ulmus americana*)

Red maple (*Acer rubrum*)

Buttonbush (*Cephalanthus occidentalis*)

Interrupted fern (*Claytosmunda claytoniana*)

White wood aster (*Eurybia divaricata*)

Fox grape (*Vitus labrusca*)

Cinnamon fern (*Osmundastrum cinnamomeum*)

Highbush blueberry (*Vaccinium corymbosum*)

Skunk cabbage (*Symplocarpus foetidus*)

Animals confirmed:

Possible species:

Red-backed salamander (*Plethodon cinerus*)

Northern brown snake (*Storeria dekayi*)

Southern Wetland:

Plant Species:

Skunk cabbage (*Symplocarpus foetidus*)

Jack-in-the-pulpit (*Arisaema triphyllum*)

New York fern (*Parathelypteris novebroacensis*)

Spicebush (*Lindera benzoin*)

Japanese barberry (*Berberis thunbergii*)

Fox grape (*Vitus labrusca*)

Greenbriar (*Smilax rotundifolia*)

Wrinkleleaf goldenrod (*Solidago rugosa*)

Multiflora rose (*Rosa multiflora*)

Sugar maple (*Acer saccharum*)

Jewel Weed (*Impatiens capensis*)

False nettle (*Boehmeria cylindrica*)

Sensitive fern (*Onoclea sensibilis*)

Animals confirmed:

White-tailed deer (*Odocoileus virginianus*)

Possible species:

Red-backed salamander (*Plethodon cinerus*)

Northern brown snake (*Storeria dekayi*)