Green Site Design LLC

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

April 23, 2024

Meredith Badalucca
Assistant Planner
Montville Town Hall
310 Norwich-New London Tpke.
Uncasville, CT 06382

Re: 1492 Norwich New London Turnpike
Montville, CT
GSD 69

Dear Ms. Badalucca:

GSD Engineers delineated inland wetlands on the referenced parcel according to the State of Connecticut statutory definition as described in C.G.S. Section 22a. GSD conducted fieldwork in February, of 2024 and confirmed the delineation the inland wetland boundary as shown on Sheet 2 of the submitted project plans prepared by Green Site Design LLC. CLA previously delineated these wetlands in 2004 the boundary remained substantially the same. This letter documents the wetland delineation and the soils encountered on the site.

Site Setting

The site was developed in the past been residential use and has also been regraded. The vegetation is in an early stage of old field succession and dominant vegetation includes Autumn olive (*Eleagnus umbellata*), multiflora rose (*Rosa multiflora*) barberry (*Berberis thumbergii*) reaspberry (*Rubus spp.*) Where trees occur, they include red cedar (*Juniperus viginiana*) red maple (*Acer rubrum*) tree of heaven (*Ailanthus altissma*) and hickories (*Carya spp.*).

The current land use surrounding the site is predominantly commercial to the south west, north and east.

The topography of the site features moderate to gentle slopes with high elevations of approximately 238' NAVD on the southwestern side of the site down to elevation approximately 206' in a bowl like depression containing the wetland on the eastern edge of the site. Surface water flows offsite to the south west, eventually flowing under Sachatello Industrial Drive via a culvert. .

Soils

Southern New England was overlain by glacial ice as recently as 12,000-15,000 years ago during the Wisconsin glaciation. The materials that the glaciers deposited over top the local bedrock determine the surficial geology of the region and of the site. These glacial deposits are generally divided into three categories: glacial till (un-stratified sand, silt and

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rock), glaciofluvial (water sorted, stratified sand and gravel), and glaciolacustrine (stratified sand, silt and clay that settled out in lakebeds). The original type of glacial deposits present on the site are glacial till and glacial outwash. This finding is based on on-site–observations and the NRCS mapping (attached) that shows the soil series mapped as (3) Ridgebury, Leicester, Whitman, (29) Agawam) and (84) Paxton and Montauk.

The soils on the site have been re-graded for the existing site . This re-grading covers much of the site. The gentle slopes down to the wetlands also reflect past grading and filling.

Table 1 is a sumary table of the soils found on the site. Appendix A provides additional soil data

Table 1 - Soil Types and Properties at the 1492 Hartford New London Turnpike Site

Soil Series	Parent Material	Drainage Class	Texture/Characteristics
3 Ridgebury, Leicester, Whitman*	Glacial till with dense layer	Somewhat Poorly to very poorly drained	Sandy loam
29 Agawam	Glacial outwash with Aeolian cap	Moderately well drained	Sandy loam
84 Paxton and Montauk	Glacial till	Well Drained	Sandy loam

* Wetland soil types on site, mapped by NRCS

The Ridgebury, Leicester and Whitman series consists of very deep, somewhat poorly to 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. (Source: NRCS https://soilseries.sc.egov.usda.gov)

The Agawam series consists of very deep, well drained soils formed in sandy, water deposited materials. They are level to steep soils on outwash plains and high stream terraces. (Source: NRCS https://soilseries.sc.egov.usda.gov)

The Paxton and Montauk 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. (Source: NRCS https://soilseries.sc.egov.usda.gov)

Wetland Description

This site has one wooded wetland system that system that continues to the east. Citation: (https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.)

I. 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.

The on-site wetland has predominantly of red maple trees in the canopy. The understory is a dense tangle of multiflora rose and Japanese barberry. Also present were jewelweed *(Impatiens capensis)* and skunk cabbage *(Symplocarpus foetidus).*

Potential for Wetland Impacts

GSD notes that the following features have been incorporated into the site design:

- A 50-foot vegetated buffer will be maintained around the inland wetland.
- The stormwater treatment system is designed to meet the CTDEEP 2004 Manual as revised to 2024.
- The Erosion and Sedimentation controls have been designed to be consistent with the CTDEEP 2002 Manual as revised to 2024.

Given that lack of direct wetland impacts and the three factors mentioned above, GSD believes that the project can be constructed without adverse impacts to inland wetlands.

Please contact me if you have any questions.

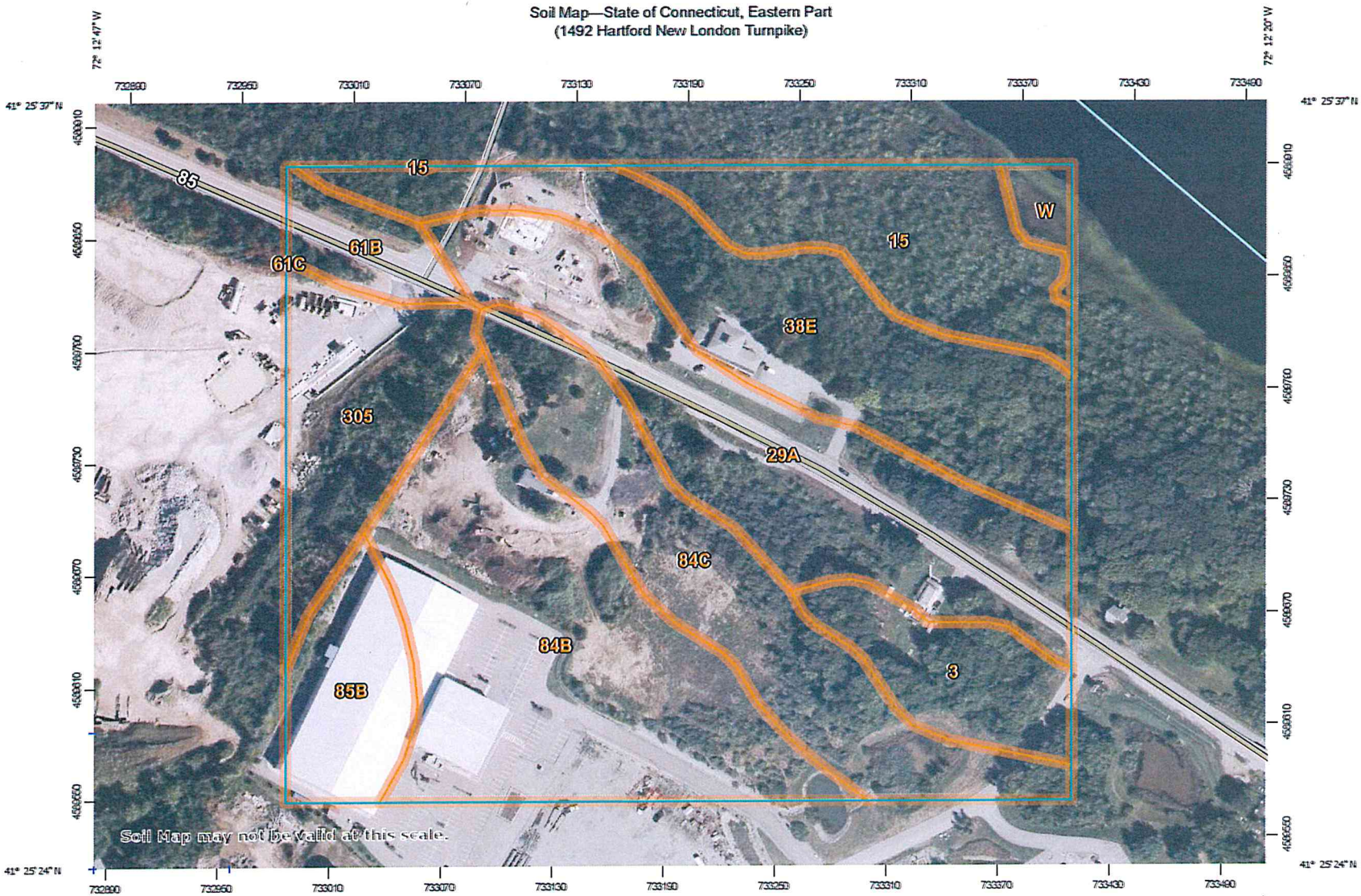
Sincerely,

Robert C Russo

Robert C. Russo CSS

Appendix A
Soils Data

Soil Map—State of Connecticut, Eastern Part
(1492 Hartford New London Turnpike)



Map Scale: 1:2,880 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 40, 80, 160, 240

Feet: 0, 100, 200, 400, 600

N

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

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 1, Sep 15, 2023

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	1.9	5.3%
15	Scarboro muck, 0 to 3 percent slopes	3.3	9.2%
29A	Agawam fine sandy loam, 0 to 3 percent slopes	6.3	17.6%
38E	Hinckley loamy sand, 15 to 45 percent slopes	5.6	15.7%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	1.0	2.8%
61C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes, very stony	0.0	0.0%
84B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	7.7	21.5%
84C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	4.8	13.4%
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	1.9	5.2%
305	Udorthents-Pits complex, gravelly	2.9	8.2%
W	Water	0.4	1.1%
Totals for Area of Interest		**35.7**	**100.0%**