

SEP 30 2025

Town of East Lyme
Land Use

Ian Cole, LLC***Professional Registered Soil Scientist / Professional Wetland Scientist******PO BOX 619******Middletown, CT 06457******itcole@gmail.com******860-514-5642***

March 13, 2025

Robert D. Pfanner, Jr., P.E., L.S.
J. Robert Pfanner & Associates, P.C.
37 Grand Street
Niantic, CT 06357

**RE: WETLAND AND WATERCOURSE DELINEATION REPORT
 138 NORTH BRIDE BROOK ROAD
 MBL: 3-1-25
 EAST LYME, CONNECTICUT**

Dear Mr. Pfanner:

At J. Robert Pfanner & Associate's request, I field delineated the jurisdictional freshwater inland wetlands and watercourse boundaries on the subject 18.34-acre parcel.

WETLAND AND WATERCOURSE DELINEATION METHODOLOGY

The wetland survey was completed in accordance with the standards of the Natural Resources Conservation Services (NRCS) National Cooperative Soil Survey and the definitions of inland wetlands and watercourses as found in the Connecticut General Statutes, Chapter 440, Sections 22a-36 through 22a-45 as amended. Wetlands, as defined by the Statute, are those soil types designated as poorly drained, very poorly drained, floodplain or alluvial in accordance with the NRCS National Cooperative Soil Survey. Such areas may also include disturbed areas that have been filled, graded, or excavated and which possess an aquic (saturated) soil moisture regime.

Watercourses means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, vernal, or intermittent, public, or private, which are contained within, flow through or border upon the Town of East Lyme or any portion thereof not regulated pursuant to sections 22a-28 through 22a-35, inclusive, of the Connecticut General Statutes. Intermittent watercourses are defined as having a permanent channel and bank and the occurrence of two or more of the following characteristics: (a) evidence of scour or deposits of recent alluvium or detritus, (b) the

FILE COPY*Wetland Delineations**Wetland Evaluations**Soil Evaluations*

presence of standing or flowing water for duration longer than a particular storm incident, and (c) the presence of hydrophytic vegetation.

WETLAND SURVEY RESULTS

The on-site wetland delineation and soil survey was completed on over several site visits on February 26, March 1, 2025, and March 4, 2025, to examine the upper 20" of the soil profile for the presence of hydric soil conditions and delineate all jurisdictional wetland and/or watercourse boundaries located on the subject property. The wetland delineation was partially completed when it was raining to best observe the movement of surface water across the landscape, with particular focus on those intermittent and ephemeral areas located on the property. Those areas meeting the wetland criteria noted above were marked in the field with sequentially numbered pink wetland flagging 1 through 63, 2-1 to 2-15, 3-1 to 3-5 and 4-1 to 4-25. The attached wetland sketch illustrates the approximate locations and corresponding flag series. Please note that the provided wetland sketch is intended for planning and navigation purposes and is subject to refinement / supersede by the site plan developed for this parcel.

The subject +/- 18-acre site is undeveloped and partially wooded. The east board of the site is located on the west side of North Bride Brook Road and borders Interstate Highway I95 along the western property line. Bride Brook, a perennial watercourse flows south along the eastern side of the site. The property is accessed by an existing steel and concrete bridge in the northern portion of the site. The site is primarily wooded with three notable clearings where past site civil work created a park like open areas and gravel access driveway that occupies the center portion of the property.

Four (4) wetland areas were identified and flagged on the subject site. The main body of the wetlands is denoted as Wetland # 1 and is delineated by wetland flags 1 through 63. The wetland boundary is found along the well-defined level forested flood plain associated with Bride Brook, which flows south along the east property line. The wetland boundary is very well-defined as the sandy level outwash soils that defines the Bride Brook wetland corridor quickly rise in topography as dense sloping rocky glacial till based soils that characterize the uplands on-site. Wetland #1 is a classic palustrine forested wetland dominated by red maple trees and a shrub stratum comprised of highbush blueberry, winterberry, spicebush and sweet pepperbush.

Wetland #2 is an isolated trap-rock wetland pocket. This small narrow, elongated wetland occurs in an area of dense bedrock that captures surface runoff from the rocky landscape above. Because of the underlying bedrock and constricted topographic relief point surface water ponds southeastern corner of the lot creating this small wetland feature. This area quickly dries in the late spring months and is unrecognizable as a wetland throughout most of the year. The wetland lacks any substantial obligate wetland vegetation and the boarding vegetation consists of upland species such as mountain laurel, birch and maple.

Wetland #3 is a man-made constructed inlet collection point designed to capture overland sheet flow at a topographic low spot. The small man-made pocket wetland drains to a culvert pipe which convey flows easterly under the existing gravel driveway to Bride

Brook. Wetland flags 3-1 to 3-5 mark the wetland boundary and this area of poorly drained soil.

Wetland #4 is channelized drainage that issues onto the property from the highway line and cascades down a steep rocky slope until the terrain levels out dissipating the streams energy into an area of poorly drained soils upgradient of the existing gravel driveway. The wetland and associated watercourse are drained to a culvert which transfers flows under the driveway towards the watercourse's confluence with Bride Brook.

A fifth area previously identified as a wetland circa 2001 and mapped by flags 147-162 and 142-146 as illustrated on the 2001 "Nebelung Farms LLC" Finn Survey. This area was evaluated in March 2025 and after examining the soil conditions, vegetation, hydrology and landscape setting it is my professional opinion this area does not qualify as a wetland or watercourse. The subject area does not qualify as wetland resource or intermittent watercourse because 1. The area/ feature does not host a predominance of hydrophytic vegetation, 2; the area does not contain hydric soils (Photo 10) 3; the area does not show evidence of persistent flow for longer than a particular storm event (and my site visits came on the heels of the winter thaw and rain events), and 4; the area does not show evidence of channel development or signs of concentrated flow path. The landscape and watershed upgrade of this location has a heavily armored ground structure and occurs in a small boulder field. These hardened ground conditions increase the runoff during storm events creating seasonal seepage which has been accounted for with the small PVC seepage pipes that exchange any seepage collection upgradient of the driveway to the downgradient topographic bowl at the pipes outlet. Photos 8, 9 and 10 illustrate these conditions.

SOIL SURVEY

The soils identified on the site are a refinement of the Natural Resources Conservation Service (NRCS) Websoil Survey. On-site soils originated at the interface of end-moraine lodgment glacial till soils that typifies the surficial geology of coastal southeastern Connecticut, and the level glaciofluvial outwash parent material found along Bride Brook.

Wetland Soils

The wetland soils in Wetland #1 are classified as Rippowam fine sands and silt loams. These very poorly drained soils occur in level outwash areas of sands and gravels and are often found on the broad flat areas where tributaries spread out, deenergize, and allow fine-textured sediments and organics to accumulate creating mucky conditions

Wetland Soils

The wetlands soils in Wetland #2, #3 and #4 are classified as (3) Ridgebury fine sandy loams. The poorly drained soils along the wetland boundary belong to the Ridgebury soil series. Ridgebury soils are found within drainageways and depressions on glacial till landscapes. Ridgebury soils have a seasonal high-water table at a depth of about 6 inches. Very poorly drained Whitman soils are found in the lowest lying areas within the interior

of the wetlands where the water table is at the surface thought most of the growing season.

A typical soil profile along the wetland boundary consists of approximately 3"-0" of intermediately decomposed organic material (Oi), followed by 0"-6" of a thick dark topsoil horizon (A), underlain by 6-18" of a wet weakly developed grayish subsoil horizon (Bg) with common redoximorphic features (Common medium distinct strong brown mottles, masses) ranging from fine sandy loam to very fine sandy loam. This subsoil is underlain by a saturated sandy loam to fine sandy loam gray substratum (2Cg).

Upland Soils

The upland soils were not examined in great detail except as necessary to delineate the wetland boundary. The bulk of the naturally occurring NRCS mapped soils are listed as Charlton and Chatfield fine sandy loams. Charlton soils are well-drained upland sandy soils are generally unrestrictive and well-suited for development. Inclusions of Chatfield soils within the mapping unit are noted for having shallow depth to bedrock which can be a limiting factor for development. In the north and south limits of the property where there are previously disturbed soils from past site work the upland soils are mapped and classified as Udorthent soils. The Udorthent soil mapping unit is denoted for those areas which have been previously disturbed and the original soil profiles are no longer discernible.

If you have any questions or comments, please do not hesitate to contact me at itcole@gmail.com or (860) 514-5642.

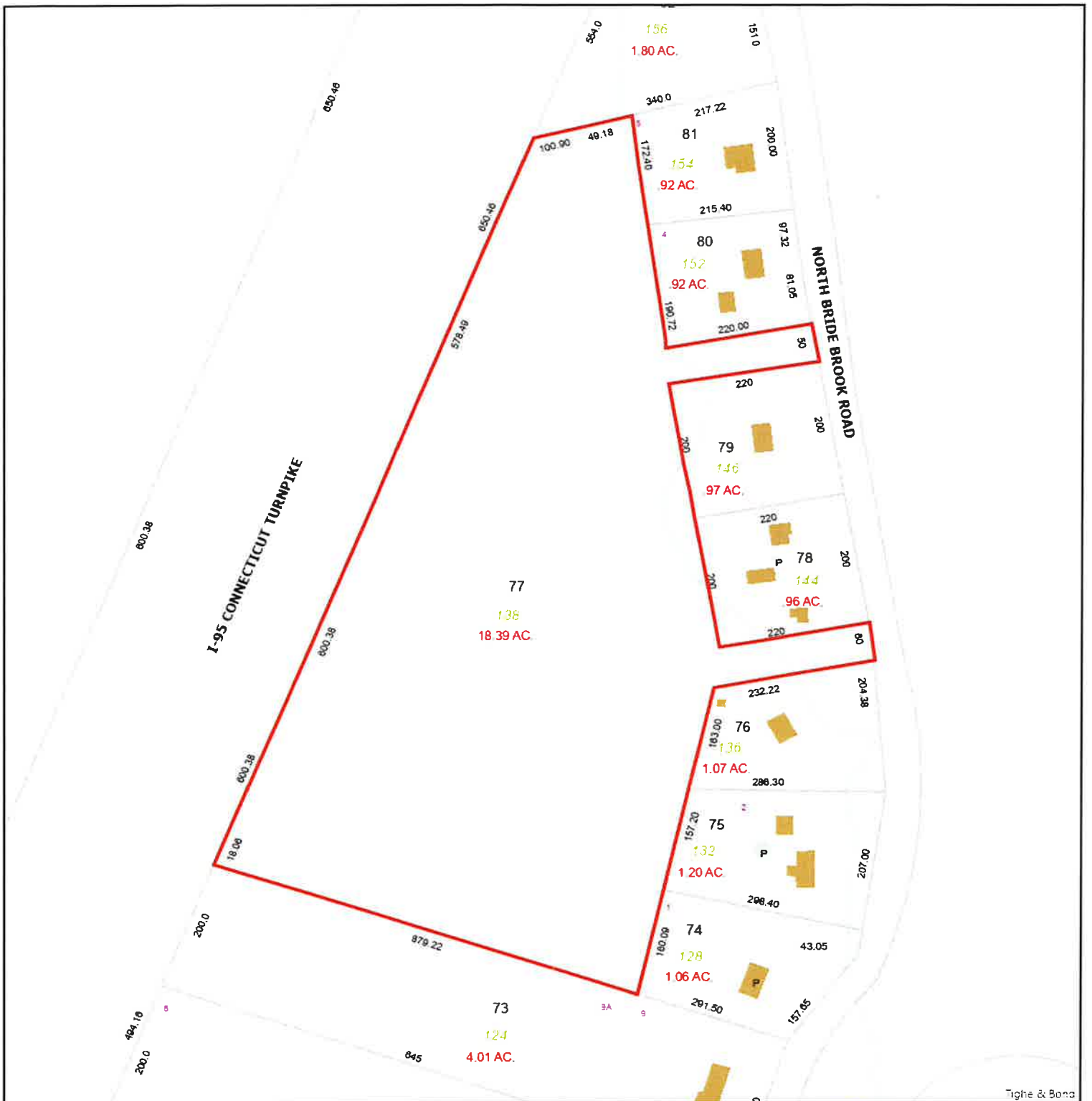
Sincerely,



Ian T. Cole
Professional Registered Soil Scientist
Professional Wetland Scientist #2006

ATTACHMENTS

GIS MAP
WETLAND SKETCH
NRCS SOIL MAP
SITE PHOTOS



138 N BRIDE BROOK RD

1/27/2025 9:33:03

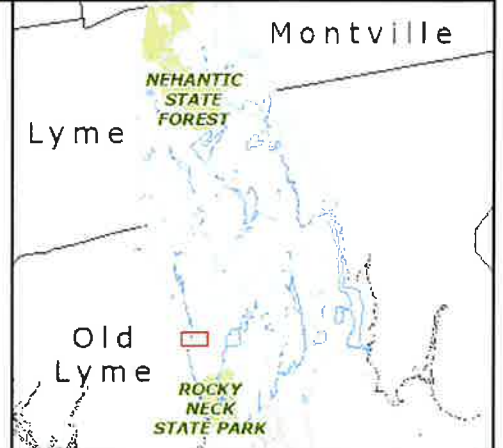
1"=200'

Property Information

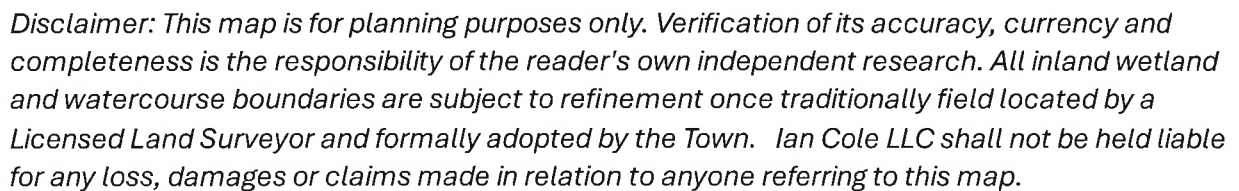
Parcel ID	14.0 77
Address	138 N BRIDE BROOK
Total Assessed Parcel	\$154,000.00



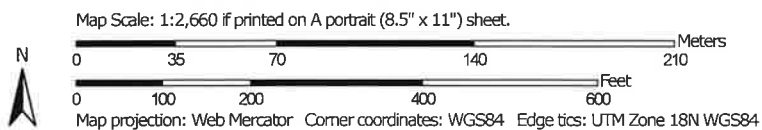
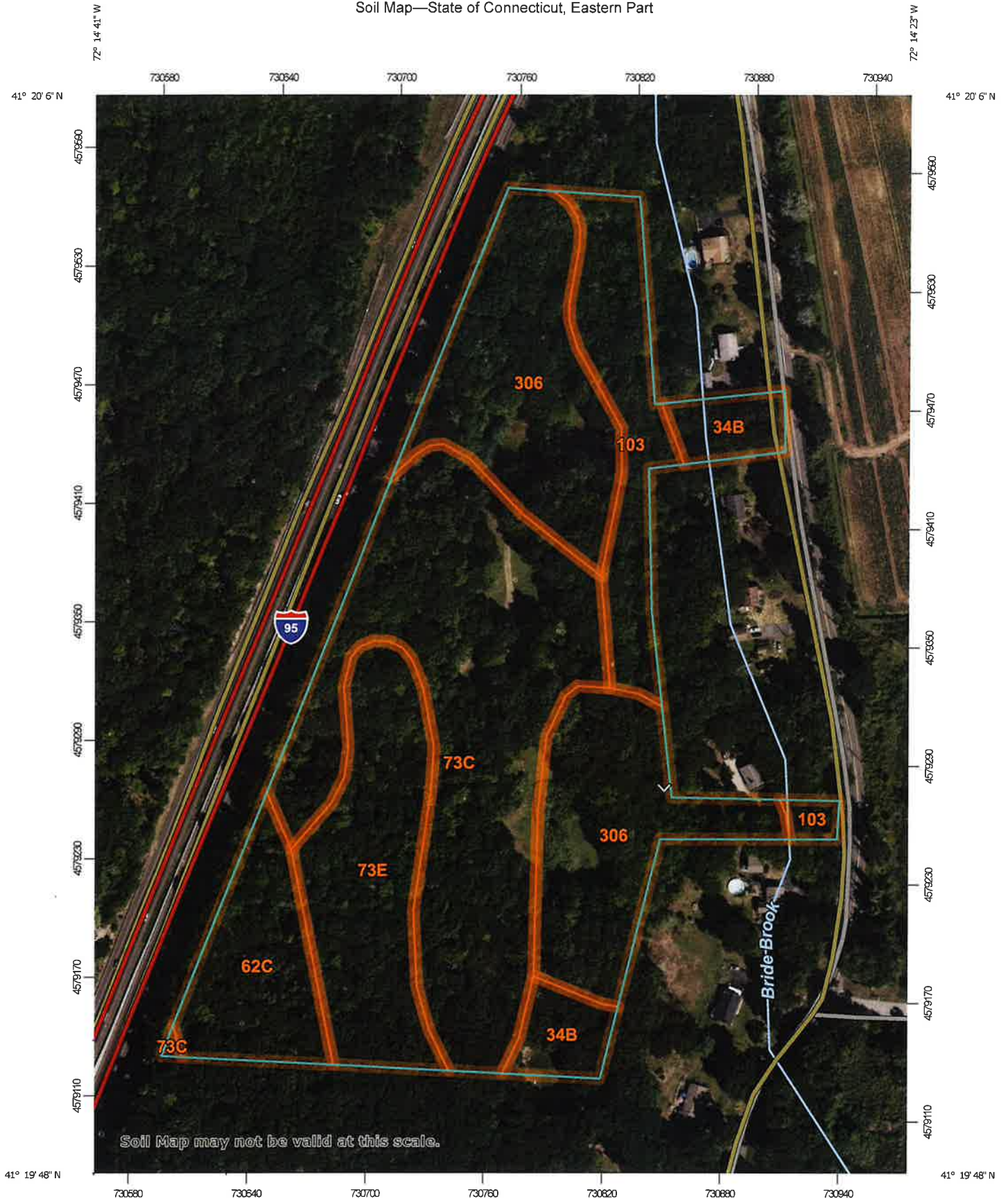
The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



EAST LYME



Soil Map—State of Connecticut, Eastern Part



MAP LEGEND

Area of Interest (AOI)		Area of Interest (AOI)		Spoil Area
Soils		Soil Map Unit Polygons		Stony Spot
	Soil Map Unit Lines			Very Stony Spot
	Soil Map Unit Points			Wet Spot
Special Point Features				Other
	Blowout			Special Line Features
	Borrow Pit			Streams and Canals
	Clay Spot		Transportation	Rails
	Closed Depression			Interstate Highways
	Gravel Pit			US Routes
	Gravelly Spot			Major Roads
	Landfill			Local Roads
	Lava Flow			Background
	Marsh or swamp			Aerial Photography
	Mine or Quarry			
	Miscellaneous Water			
	Perennial Water			
	Rock Outcrop			
	Saline Spot			
	Sandy Spot			
	Severely Eroded Spot			
	Sinkhole			
	Slide or Slip			
	Sodic Spot			

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
34B	Merrimac fine sandy loam, 3 to 8 percent slopes	0.9	5.0%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	1.5	8.2%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	6.2	33.3%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	2.7	14.5%
103	Rippowam fine sandy loam	1.9	10.3%
306	Udorthents-Urban land complex	5.3	28.7%
Totals for Area of Interest		18.6	100.0%

WETLAND SURVEY PHOTOS

March 2025

138 NORTH BRIDE BROOK ROAD

EAST LYME

CONNECTICUT



Photo 1: Site access bridge over Bride Brook



Photo 2: Example of Wetland #1 & Bride Brook



Photo 3: Example of Wetland #2



Photo 4: Example of the man-made drainage pocket of Wetland #3.



Photo 5: Example of the watercourse that defines Wetland #4



Photo 6 – General site conditions in the middle of the property where previous site work created the park like setting.



Photo 7: Forested uplands on the site with notable high concentration of mountain laurel shrubs.



Photo 8: Conditions of area previously flagged as a wetland on 2001 Finn Survey Plan



Photo 9: Conditions of the Down gradient portion of the 2001 flagged wetlands shown on the Finn Survey



Photo 10: Underlying upland soils in area previously identified as a wetland on 2001 Finn Survey, this soil sample example was taken from the area in Photo #9 above.