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JUN 24 2024

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LAND USE DEPARTMENT



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

November 26, 2021

Mr. Peter Gardner P.L.S.
Dieter & Gardner, Inc.
Land Surveying Planning Engineering
P.O. Box 335
Gales Ferry, CT 06335

RE: **Wetland Delineation -Lots 29/39, Sweet-Hill-Farm-Property, Military Highway,
Gales Ferry, Connecticut.**

Dear Mr. Gardner:

I completed a wetland survey of the above referenced .85- & 17.89-acre parcels. The purpose of this survey was to document all on-site jurisdictional freshwater inland wetlands and watercourses.

Wetland Delineation Methodology

A soil survey and wetland delineation were 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 Ledyard or any portion thereof not regulated pursuant to sections 22a-28 through 22a-35, inclusive, of the Connecticut General Statutes. Intermittent watercourses are defined 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 presence of standing or flowing water for duration longer than a particular storm incident, and (c) the presence of hydrophytic vegetation.

Wetland Delineations

Wetland Evaluations

Soil Evaluations

Wetland Delineation Findings

The on-site soil survey was completed on November 18, 2021, to examine the upper 20" of the soil profiles for the presence of hydric soil conditions and delineate any wetland and/or watercourse boundaries located on the property.

The wetlands on the subject property are associated with the Pine Swamp Brook wetland system. Pine Swamp Brook is a perennial watercourse that is impounded downstream (off-site) creating an alder scrub-shrub swamp that occupies the southeastern corner of the property. The wetlands are well-defined occurring along a distinct break in slope as the topography quickly gives rise to upland conditions. It is noteworthy to add that the wetlands are flooded due to active beavers and a downstream blockage, causing the water levels of Pine Swamp Brook to rise, causing minor flooding of some of the lower elevations along the existing southern tree line. The wetland boundary may be local adjusted in these flooded areas in the future if the current land under water is exposed following rescinded inundation.

Sequentially numbered wetland flags, 1 to 20 represent the wetland limits as flagged in the field. Figure 1 illustrates the approximate flag locations. The provided figure is for planning purposes only and the field location and subsequent mapping supersedes this sketch.



Figure 1: Wetland Sketch

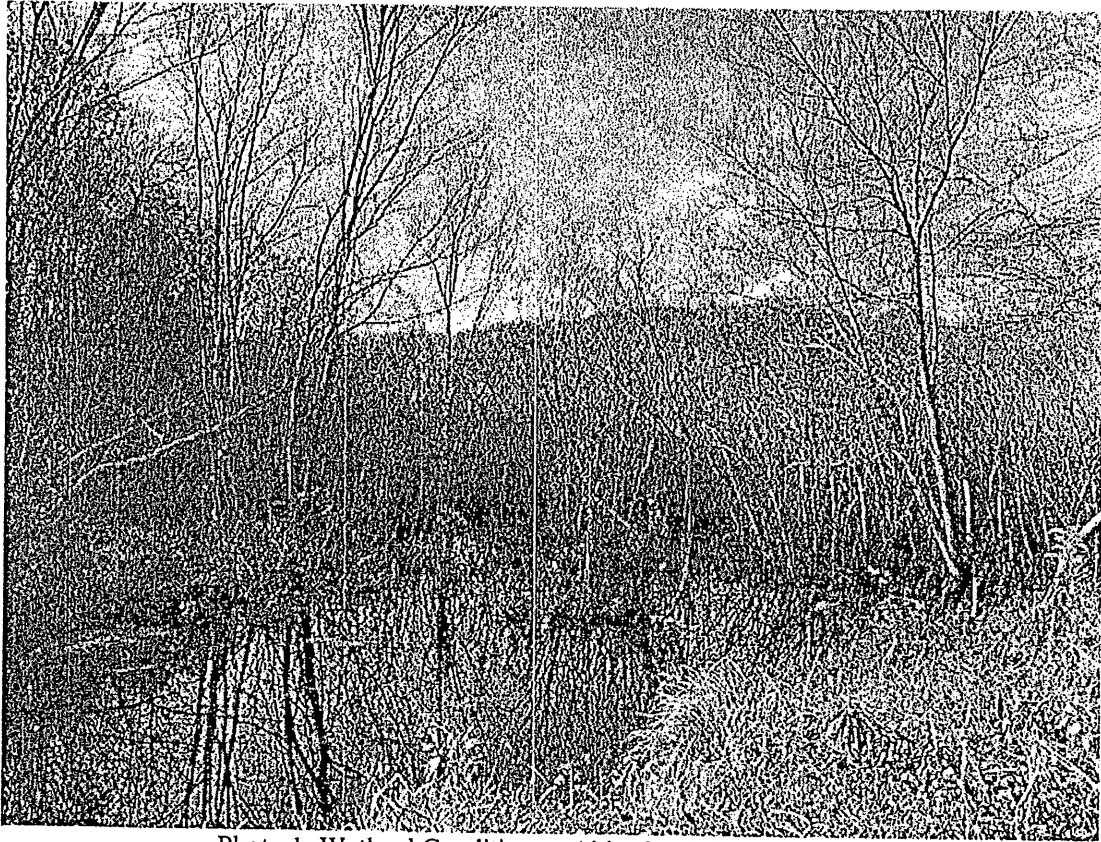


Photo 1: Wetland Conditions – Alder Scrub-Shrub Wetland

Soil Survey

The soils identified on the site are a refinement of the Natural Resources Conservation Service (NRCS) Websoil survey. The soils onsite occur along a surficial geology boundary of stratified outwash ranging from fine sandy loams to loamy fine sands and the interface with the opposing dense glacial till landscape.

The wetland soils on the property are very poorly drained Timakwa and Natchaug mucks. These wetland soils consist of deep organics over stratified layers of sands and gravels. Inclusions of Raypol silt loams can be found along the wetland transitional zones and exhibit dense dark topsoil layer 6" underlain by 24" + of coarse loamy sand. These soils are derived from parent material of coarse loamy glaciofluvial and meltwater deposits.

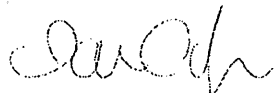
The upland soils that cover the farmland on the property are mapped and classified belonging to Agawam soil series. These well-drained fine sandy loams are commonly found the hillsides of relic outwash stream terraces. The soils associated with the higher elevations of the western limits of the property including lot 29 are mapped and classified as well-drained Hollis and Chatfield sandy loams. These soils are associated with shallow depth to ledge which can be a limiting factor for development.



Photo 2: Example of existing upland conditions

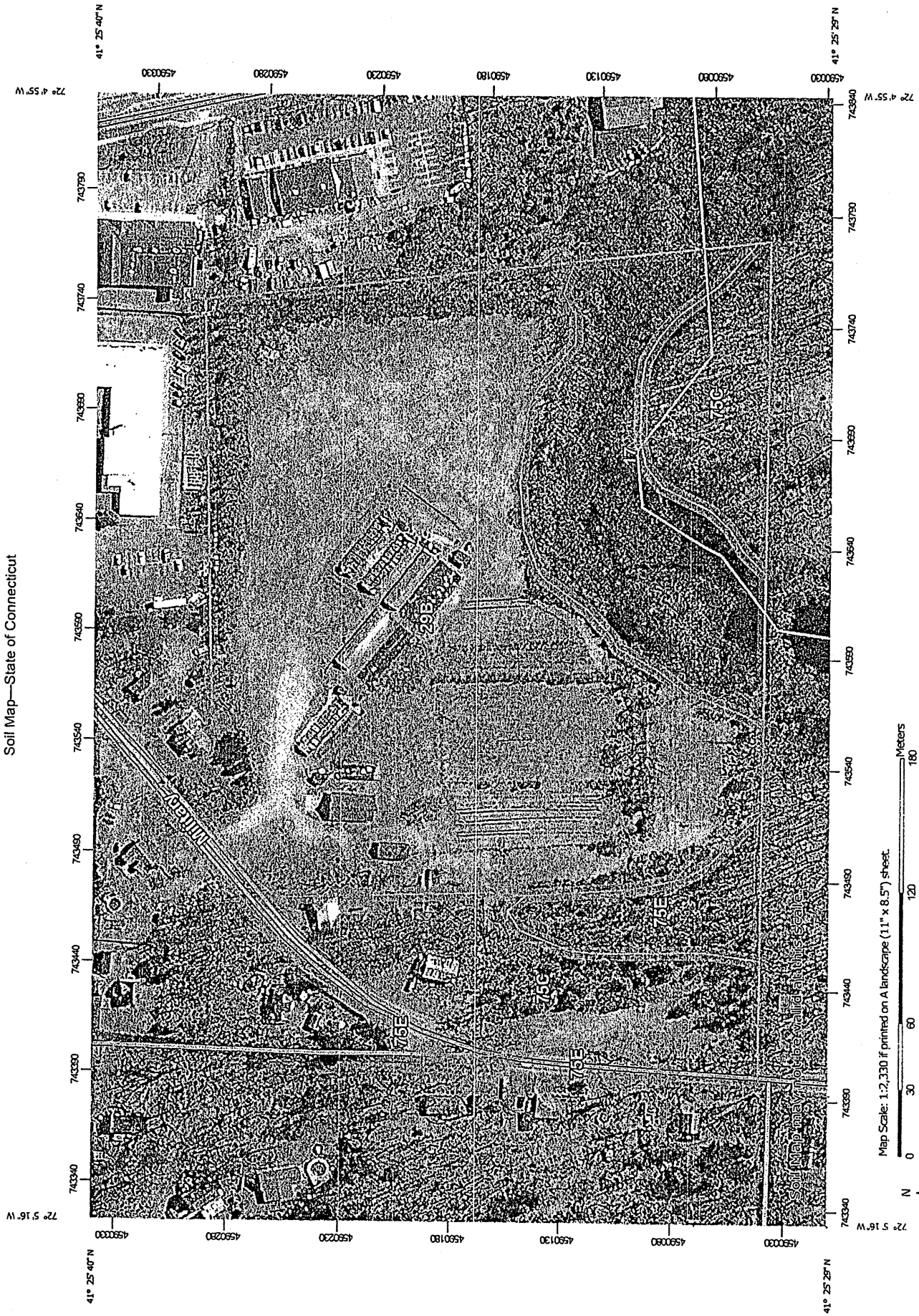
If you have any questions or comments, please do not hesitate to contact me at itcole@gmail.com
or (860) 514-5642

Sincerely,



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

Soil Map—State of Connecticut



Map Scale: 1:2,330 if printed on A landscape (11" x 8.5") sheet.

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
- Water Features
 - Streams and Canals
- Transportation
 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background
 - Aerial Photography
- Soil Map Unit Features
 - Spill Area
 - Stony Spot
 - Very Stony Spot
 - Wet Spot
 - Other
 - Special Line Features

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
 Survey Area Data: Version 21, Sep 7, 2021

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

Date(s) aerial images were photographed: Mar 20, 2019—Mar 27, 2019

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
17	Timakwa and Natchaug soils, 0 to 2 percent slopes	3.2	15.1%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	12.6	59.1%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	4.4	20.8%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	1.1	5.1%
Totals for Area of Interest		21.4	100.0%