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WETLAND BOUNDARIES • POND & LAKE MANAGEMENT • CONSTRUCTION FEASIBILITY CONSULTATIONS • ENVIRONMENTAL STUDIES

Soil Report

Date: June 1, 2021

By: Steven Danzer Ph.D.

- Soil Scientist, Senior Professional Wetland Scientist, Arborist
 - Nationally certified by the Soil Science Society of America (#353463).
 - Registered with the Society of Soil Scientists of Southern New England.
 - Certified PWS #1321 by the Society of Wetland Scientists
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- Ph.D. in Renewable Natural Resource Studies.

Project: 70 Witch Lane, Norwalk, CT.

INTRODUCTION

A wetlands investigation was performed at the above-referenced property to locate and identify any inland wetland soils or watercourses.

The purpose of this report is to document that the field work for the site investigation was conducted using professionally accepted methods and procedures. This report is intended for submission by the owner(s) of the property or their designated agent to the local municipal regulatory agency.

DEFINITIONS

The Connecticut General Statutes Ch. 440 Sections 22a-36 and 22a-45 (as amended) define **inland wetlands** as land, including submerged land (except for tidal wetlands) which consist of any of the soil types designated by the National Cooperative Soil Survey as *poorly drained, very poorly drained, floodplain, or alluvial*.

Poorly drained and **very poorly drained** are soil drainage classes that are defined by specific technical criteria in the Soil Survey Manual, Ch. 3 of the USDA Natural Resources Conservation Service. Generally speaking, *poorly drained soils* are wet at shallow depths periodically during the growing season, or remain wet for long periods, while in *very poorly drained soils* water is removed from the soil so slowly that free water remains at or very near the ground surface during much of the growing season.

Floodplain refers to the land bordering a stream or river that is subject to flood stage inundation, and **alluvial** refers to soil deposited by concentrated running water (Soil Survey Manual, Part 629).

Watercourses are defined by the Connecticut General Statutes Ch. 440 Sections 22a-36 and 22a-45 (as amended) to include rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private. **Intermittent watercourses** are a type of watercourse that typically do not flow year-round, and are specifically defined within the CT statutes by the presence of a 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 a duration longer than a particular storm incident;
- c) The presence of hydrophytic vegetation.

Uplands are land areas that are not inland wetlands, watercourses, or subject to tides.

The **soil series** is a soil label that refers to the lowest category of the National Soil Classification System. It is used as a specification for identifying and classifying soils within a soil map unit. The descriptions are standardized by the USDA-NRCS, and contain soil properties that define and distinguish them from the other soil series.

METHODS

All soils were sampled to a depth of at least 22 inches with spade and augur unless noted otherwise during a field investigation conducted on June 1, 2021. Soils were classified according to the nomenclature presented within the NRCS Web Soil Survey, with additional reference to the National Cooperative Soil Survey, and the local Soil Survey.

The wetland boundaries for the front (northern) boundary of the stream were marked on site with flagging tape and/or stakes (Wetland Flags 1-10). The boundary for the rear (southern) side of the stream had been previously flagged by another soil scientist. That rear line was then reviewed and determined to be substantially accurate. A sketch map was prepared (attached).

SITE DESCRIPTION AND DISCUSSION

The roughly 0.79 acre site is located on the south side of Witch Lane, Norwalk, CT. Land-use is residential. The site is located within the DEEP Basin 7000-29 within the Southwest Shoreline Subregional Basin.

Soils within the wetland boundary area north of the stream (between the stream and the residence – flags 2-7) were disturbed, necessitating sampling below the fill and/or disturbance layer. The fill layer was more compact with a more abrupt transition in the region of flags 2-3, while the soils were more mixed and less filled in the region of flags 5-7. A gas powered auger was provided for my use which greatly aided sampling below the fill layer. The wetland boundary was estimated to pre-disturbance conditions using a combination of sampling and the use of historical topographical information. It is believed that the wetland boundary in the front (north) roughly follows the pre-disturbance 41 foot contour line, in a similar pattern to the undisturbed wetland boundary observed in the rear (south) side of the stream.

WETLAND AND WATERCOURSE SOIL MAPPING UNITS

(4) Leicester fine sandy loam

The Leicester series consists of very deep, poorly drained loamy soils formed in friable till. They are nearly level or gently sloping soils in drainageways and low-lying positions on hills. Slope ranges from 0 to 8 percent. Permeability is moderate or moderately rapid in the surface layer and subsoil and moderate to rapid in the substratum. Mean annual temperature is about 50 degrees F., and mean annual precipitation is about 47 inches.

TAXONOMIC CLASS: Coarse-loamy, mixed, active, acid, mesic Aeric Endoaquepts

UPLAND (NON WETLAND) SOIL MAPPING UNITS

(73E) Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky – front yard

(73C) Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky – rear yard

The Charlton series consists of very deep, well drained loamy soils formed in till derived from parent materials that are very low in iron sulfides. They are nearly level to very steep soils on till plains and hills. Slope ranges from 0 to 50 percent. Saturated hydraulic conductivity is moderately high or high. Mean annual temperature is about 10 degrees C and mean annual precipitation is about 1194 mm.

TAXONOMIC CLASS: Coarse-loamy, mixed, active, mesic Typic Dystrudepts

The Chatfield series consists of well drained and somewhat excessively drained soils formed in till derived from parent materials that are very low in iron sulfides. They are moderately deep to bedrock. They are nearly level through very steep soils on glaciated plains, hills, and ridges. Slope ranges from 0 through 70 percent. Crystalline bedrock is at depths of 20 to 40 inches (50 through 100 centimeters). Saturated hydraulic conductivity is moderately high or high in the mineral soil. Mean annual

temperature is 51 degrees F (11 degrees C) and mean annual precipitation is 38 inches (1194 millimeters).

TAXONOMIC CLASS: Coarse-loamy, mixed, superactive, mesic Typic Dystrudepts

LIMITATIONS

All observations and conclusions within this report are opinion and were based upon the field conditions at time of investigation and best professional judgment. Soils were disturbed, requiring estimation. Field conditions may change over time. All wetland boundary lines established by the undersigned Soil Scientist are subject to change until officially adopted by the appropriate local, state and federal regulatory agencies.

CERTIFICATION

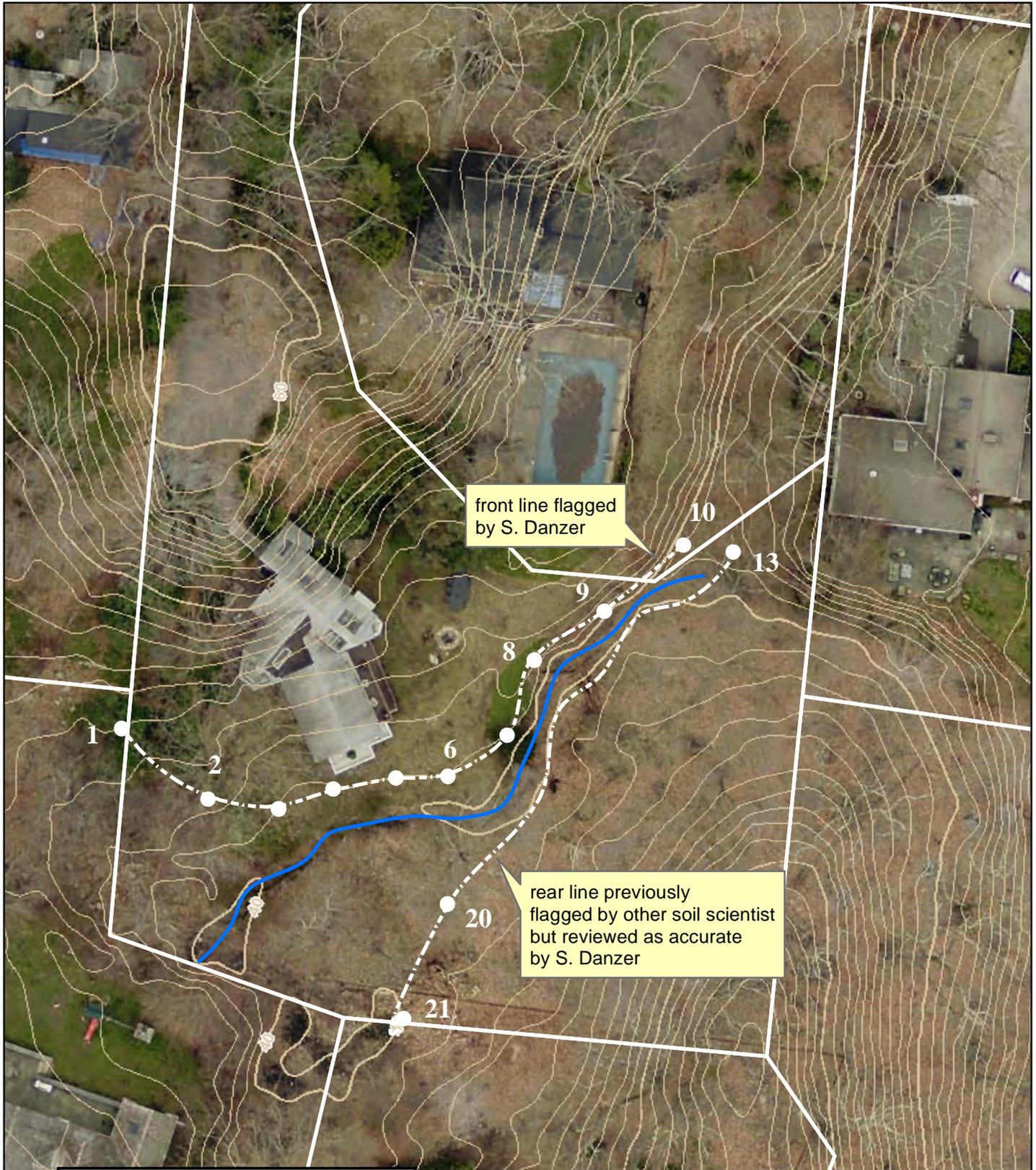
Signed,



Steven Danzer Ph.D., Certified Professional Soil Scientist (CPSS #353463)



70 Witch Lane, Norwalk



Sketch Map - not to scale
See report for methods
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