Ian Cole LLC

Professional Registered Soil Scientist / Professional Wetland Scientist
PO BOX 619
Middletown, CT 06457
Itcole@gmail.com

December 7, 2023

Mr. Benjamin Topkin
76 Dayton Road
Waterford, CT 06385

RE: ***WETLAND & WATERCOURSE SURVEY REPORT: 76 Dayton Road, Waterford, Connecticut.***

Dear Mr. Topkin:

At your request, I completed a field verification survey of the jurisdictional freshwater inland wetland and watercourses boundaries within 100' of the proposed activities at the above referenced 13.16-acre residential property.

WETLAND DELINEATION METHODOLOGY

The wetland delineation 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 Waterford 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 SURVEY RESULTS

The wetland survey was completed on December 6, 2023. The 2023 on-site wetland delineation examined the upper 20" of the soil profile for the presence of hydric soil conditions. Those areas within 100' of the proposed activities meeting the wetland criteria noted above were marked in the field with sequentially numbered pink and blue wetland flagging labeled 1 through 16.

The wetlands illustrated on the subject site development plans showing the proposed house, drive, utility connections and septic, dated October 2023, prepared by Dieter & Gardner are substantially correct and accurately reflect the wetland boundary as flagged in the field.

Two separate wetland feature are found on the property. In the front portion of the property is the upper reaches of a seasonally flooded forested wetland that drains to the south forming the headwaters of the off-site Nevins Brook. The wetland boundary is well-defined marked by an extremely stony forest floor that is carpeted in sphagnum moss and tussock sedge. A portion of the driveway entrance to the proposed house will fall within the 100' upland review area. The bulk of the development is centrally located on the property far removed from the wetland resources. In the rear of the property is a Red Maple forested wetland complex that occupies the flooded low-lying lands between the subject property and the Waterford Commons Shopping Plaza. This forested wetland is well protected from development by a prominent ridgeline of ledge cliffs that buffers the wetlands. The wetlands in the rear of the property are in excess of 100' from the closest activity (the proposed reserve area for the on-site septic system).

The overall wetland community exhibits classic Red Maple swamp vegetation, including:

Trees: Red Maple, yellow birch, , and shagbark hickory.

Shrubs: Highbush blueberry, spicebush, winterberry, sweet pepperbush, ironwood, witch hazel.

Herbaceous: Tussock sedge, sphagnum moss, stout wood reed, sensitive fern, royal fern, interrupted fern, cinnamon fern, skunk cabbage, fringe sedge.

The above is not an exhaustive list, but a sample of commonly encountered vegetation that characterizes the on-site wetland community.

Representative photos of the site are attached below.

SOIL SURVEY

The soils identified on-site are a refinement of the Natural Resources Conservation Service (NRCS) Websoil Soil Survey. The on-site soils originated in glacial melt-out till parent material.

Wetland Soils

The wetland soils in the front of the parcel are mapped and classified as very rocky poorly drained Timakwa and Natchaug hydric soils.

The wetlands soils are classified as (3) Ridgebury, Leicester, and Whitman fine sandy loams. The poorly drained soils along the wetland boundary belong to the Ridgebury and Leicester soil series. Ridgebury and Leicester soils are found within drainageways and depressions on glacial till landscapes. Ridgebury and Leicester 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.

Upland Soils

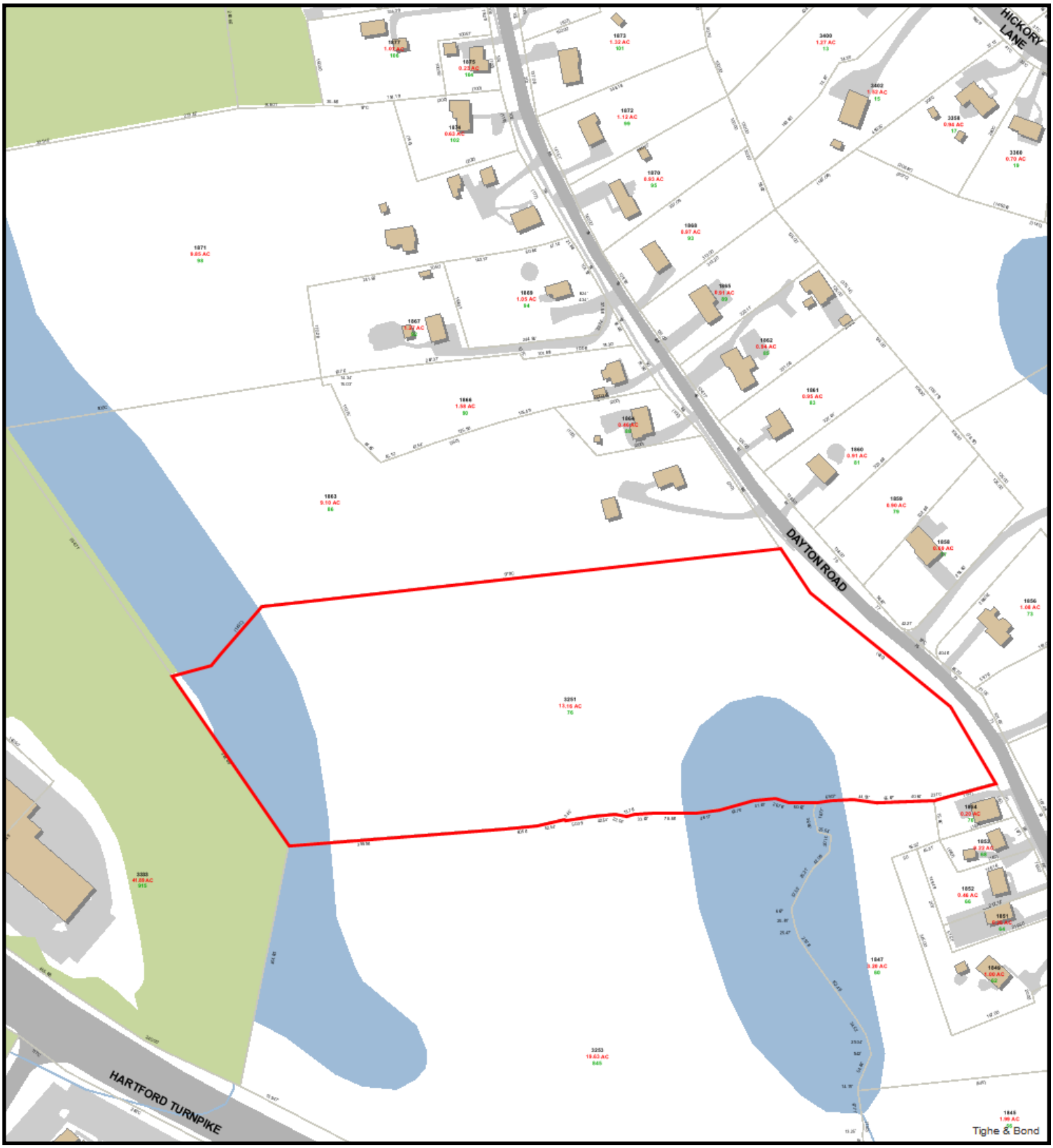
The upland soils were not examined in great detail except as necessary to delineate the wetland boundary. The bulk of the uplands are mapped and classified as well-drained Charlton-Chatfield Rock Outcrop Complex. These upland soils consist of fine sandy loams. Shallow depth to ledge may be encountered in Chatfield soils and can be a limiting factor for development.

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 Location Map
GIS Topo Map
NRCS Soil Map
SITE PHOTOS



12/2/2023 2:47:36 PM

Scale: 1"=250'

Scale is approximate

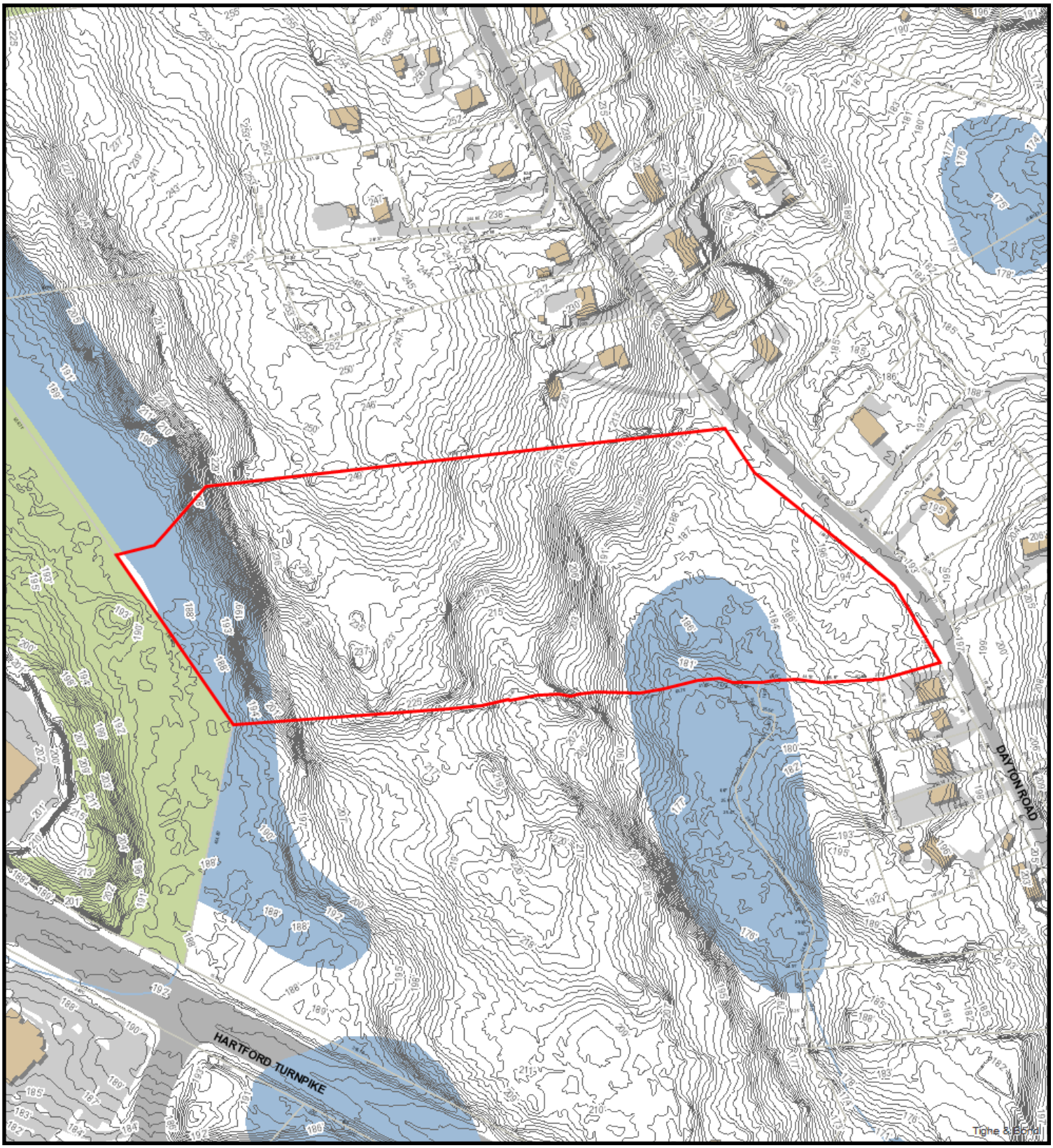
The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

12/2/2023 2:51:38 PM

Scale: 1"=250'

Scale is approximate

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.



12/7/2023 8:36:07 PM

Scale: 1"=250'

Scale is approximate

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.

Soil Map—State of Connecticut, Eastern Part

Map Scale: 1:2,710 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

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	2.9	16.6%
17	Timakwa and Natchaug soils, 0 to 2 percent slopes	2.3	13.5%
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	2.0	11.4%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	0.3	1.5%
60C	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	0.0	0.2%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	1.5	8.9%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	1.2	7.1%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	7.0	40.8%
Totals for Area of Interest		**17.2**	**100.0%**

WETLAND SURVEY

SITE PHOTOS

76 DAYTON ROAD

WATERFORD

CONNECTICUT

Photo 1: Example of the Wetlands in the front (east) portion of the property.

Photo 2: Example of the Wetland conditions in the rear (west) of the property.

Photo 3: Example of the upland review area proximal to the front wetland.

Photo 4: Proposed house location in center of parcel.

Photo 5: Existing entrance in northeast corner of parcel which will be improved.