WILLIAM KENNY ASSOCIATES
LANDSCAPE ARCHITECTURE ▪ ECOLOGICAL SERVICES

July 18, 2023

Mr. Sonny Anand
Anand Realty

Re: Wetland and Watercourse Delineation
384 Greens Farms Road, Westport, Connecticut

Dear Mr. Anand:

As requested, we investigated a portion of the referenced property to determine the presence or absence of wetlands and/or watercourses, to demarcate (flag) the boundaries of wetlands and watercourses identified, and to identify onsite soil types. This letter includes the methods and results of our investigation, which we completed today, July 18, 2023. In summary, one tidal wetland and watercourse system was identified and delineated. The system, which is located in the southeastern portion of the property, is a *Phragmites-australis*-dominated formerly-connected tidal wetland. A manmade tidal waterbody (pond) associated with Sasco Creek abuts the property to the north. No inland wetlands or watercourses were found at the property.

Regulatory Definitions

The Inland Wetlands and Watercourses Act (Connecticut General Statutes §22a-38) defines inland wetlands as "land, including submerged land...which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain." Watercourses are defined in the act as "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 state or any portion thereof." The Act defines Intermittent Watercourses as having 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, and C) the presence of hydrophytic vegetation.

The Tidal Wetlands Act (Connecticut General Statutes §22a-29) defines wetlands as those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing hydrophytic vegetation as identified in the Statutes.

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Methodology

A second order soil survey in accordance with the principles and practices noted in the USDA publication *Soil Survey Manual* (1993) was completed at the subject site. The classification system of the National Cooperative Soil Survey was used in this investigation. Soil map units identified at the project site generally correspond to those included in the *Soil Survey of the State of Connecticut* (USDA 2005).

Wetland determinations were completed based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils. Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, test pits and/or borings (maximum depth of two feet) were completed at the site.

Tidal wetland determinations were completed based on the presence of a predominance of tidal wetland vegetation in wetland areas that are below an elevation that is one foot above local extreme high water.

Intermittent watercourse determinations were made based on 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, and C) the presence of hydrophytic vegetation.

Off-site wetland and watercourse determinations were based on observations made from the project site and public right-of-ways of offsite topography, vegetation and hydrological conditions and on a review of the *Soil Survey of the State of Connecticut* (USDA 2005) and Town wetland maps. Based on these observations, conclusions were made regarding the approximate location of off-site wetlands and watercourses.

Wetland boundaries were demarcated (flagged) with pink surveyor's tape (hung from vegetation) or small flags (on wire stakes) labeled "William Kenny Associates" that are generally spaced a maximum of every 50 feet. Complete boundaries are located along the lines that connect these sequentially numbered flags. The wetland boundaries are subject to change until adopted by local, state, or federal regulatory agencies.

Results

The approximate 1.4-acre residential property is located at 384 Greens Farms Road in Westport, Connecticut. Greens Farms Road borders the western property boundary. The investigation was limited to the area shown on the attached map. Property improvements include a single-family residence, a detached garage, a septic system, and an asphalt driveway. The primary vegetative cover at the property is lawn with other ornamentals and some shade trees. A meadow is present in the southeastern portion of the property.

One tidal wetland and watercourse system was identified and delineated. The system, which is located in the southeastern portion of the property, is a *Phragmites-australis*-dominated formerly-connected tidal wetland. A manmade tidal waterbody (pond) associated with Sasco Creek abuts the property to the north. Wetland soils are primarily very poorly drained and formed from organic

deposits. The approximate location of the system is shown on the attached map. The boundary of the system was marked at the site with flags numbered 1 to 8. No inland wetlands and watercourses were found at the property.

Four soil map units were identified on the property (one wetland and three upland). Each map unit represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of each map unit. The mapped units are identified in the following table by name and symbol and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope). These characteristics are generally the primary characteristics to be considered in land use planning and management. A description of each characteristic and their land use implications follows the table. A complete description of each soil map unit can be found in the *Soil Survey of the State of Connecticut* (USDA 2005), and at *https://soilseries.sc.egov.usda.gov/osdname.aspx*. On the day of the review, the upland soil was moist to wet and wetland soil was wet to inundated. It was lightly raining and air temperatures were in the 80's ° F.

Map Unit		Parent	Slope	Drainage	High Water Table			Depth To
Sym.	Name	Material	(%)	Class	Depth (ft)	Kind	Mos.	Bedrock (in)
	Upland Soil							
21	Ninigret and Tisbury soils	Glacial Outwash	0-8	Moderately Well Drained	1.5-3.5	Apparent	Nov-Apr	>60
29	Agawam fine sandy loam	Glacial Outwash	3-8	Well Drained	>6.0	--	--	>60
308	Udorthents, Smoothed	Excavated or Filled Soil (>2 feet)	0-45	Well Drained to Somewhat Poorly Drained	1.5->6.0	Apparent	Nov-May	>60
	Wetland Soil							
99	Westbrook Mucky peat, low salt	Organic Deposits	0-3	Very Poorly Drained	1.0-0.0	Apparent	Jan-Dec	>60

Parent material is the unconsolidated organic and mineral material in which soil forms. Soil inherits characteristics, such as mineralogy and texture, from its parent material. Glacial till is unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice. Glacial outwash consists of gravel, sand, and silt, which are commonly stratified and deposited by glacial melt water. Alluvium is material such as sand, silt, or clay, deposited on land by streams. Organic deposits consist of decomposed plant and animal parts.

A soil's texture affects the ease of digging, filling, and compacting and the permeability of a soil. Generally sand and gravel soils, such as outwash soils, have higher permeability rates than most glacial till soils. Soil permeability affects the cost to design and construct subsurface sanitary disposal facilities and, if too slow or too fast, may preclude their use. Outwash soils are generally excellent sources of natural aggregates (sand and gravel) suitable for commercial use, such as construction sub

base material. Organic layers in soils can cause movement of structural footings. Compacted glacial till layers make excavating more difficult and may preclude the use of subsurface sanitary disposal systems or increase their design and construction costs if fill material is required.

Generally, soils with steeper slopes increase construction costs, increase the potential for erosion and sedimentation impacts, and reduce the feasibility of locating subsurface sanitary disposal facilities.

Drainage class refers to the frequency and duration of periods of soil saturation or partial saturation during soil formation. Seven classes of natural drainage classes exist. They range from excessively drained, where water is removed from the soil very rapidly, to very poorly drained, where water is removed so slowly that free water remains at or near the soil surface during most of the growing season. Soil drainage affects the type and growth of plants found in an area. When landscaping or gardening, drainage class information can be used to assure that proposed plants are adapted to existing drainage conditions or that necessary alterations to drainage conditions (irrigation or drainage systems) are provided to assure plant survival.

High water table is the highest level of a saturated zone in the soil in most years. The water table can affect the timing of excavations; the ease of excavating, constructing, and grading; and the supporting capacity of the soil. Shallow water tables may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

The depth to bedrock refers to the depth to fixed rock. Bedrock depth affects the ease and cost of construction, such as digging, filling, compacting, and planting. Shallow depth bedrock may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

Conclusions

Today, we investigated a portion of the property at 384 Greens Farms Road in Westport, Connecticut and identified and delineated one tidal wetland and watercourse system. No inland wetlands and watercourses were found at the property. Thank you for the opportunity to assist you. If you should have any questions or comments, please do not hesitate to contact us.

Sincerely,

William L. Kenny, PWS, PLA
Soil Scientist

Alexander Wojtkowiak
Soil Scientist

Enclosure

Ref. No. 5720

SOIL LEGEND

UPLAND
- 21 NINIGRET AND TISBURY SOILS
- 29 AGAWAM FINE SANDY LOAM
- 308 UDORTHENTS, SMOOTHED

WETLAND
- 99 WESTBROOK MUCKY PEAT, LOW SALT

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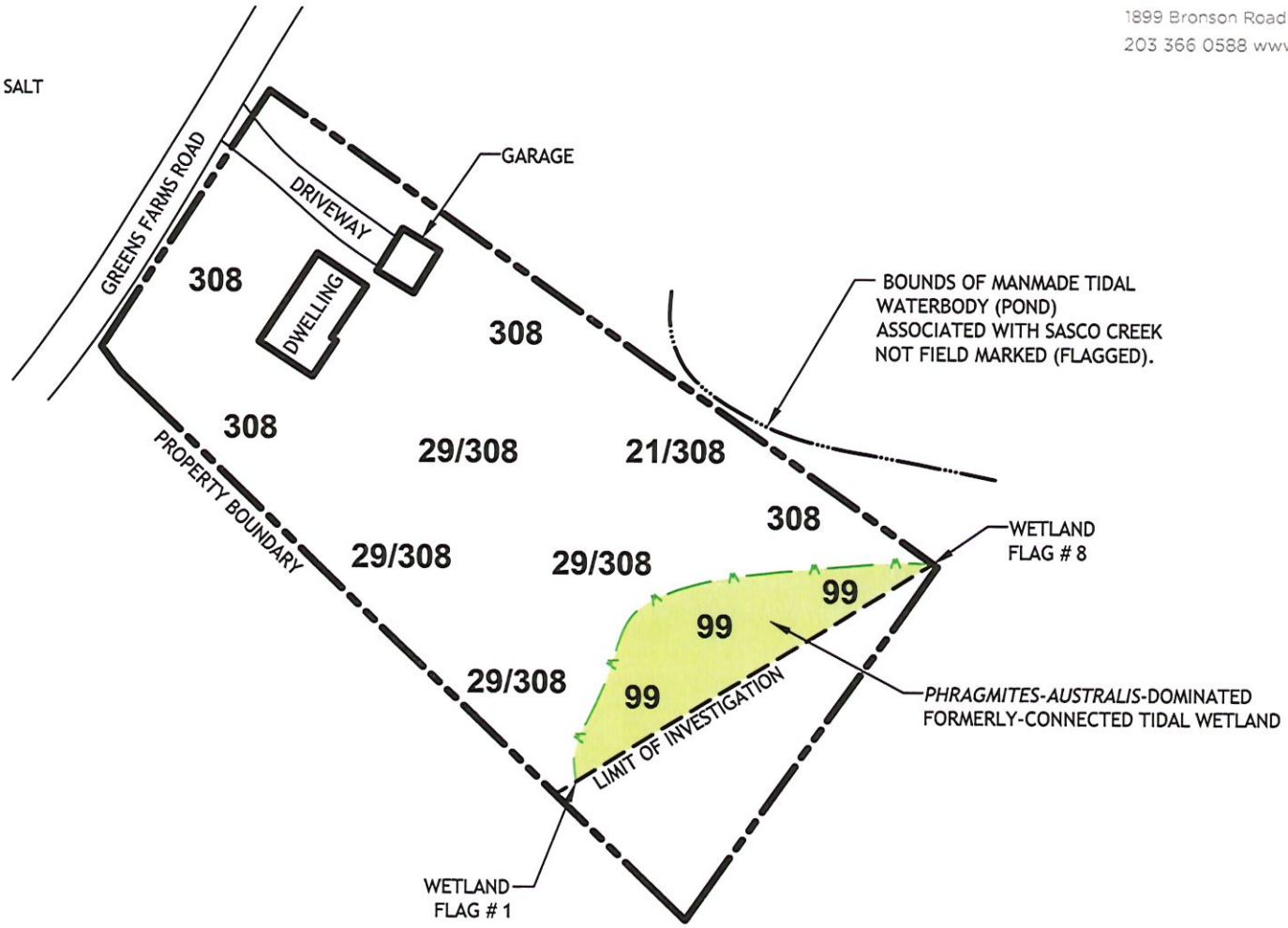

NOTES:
- *INFORMATION SHOWN ON THIS DRAWING, INCLUDING THE WETLAND BOUNDARY, IS APPROXIMATE. THE BOUNDARY IS NOT A SURVEYED REPRESENTATION OF WHAT WAS FIELD MARKED (FLAGGED).*
- *WETLAND AND SOIL INFORMATION PROVIDED BY WILLIAM KENNY ASSOC. OTHER INFORMATION TAKEN FROM A TOWN OF WESTPORT GIS MAP.*
- ***21, 29, 308** AND **99** ARE SOIL MAPPING UNIT SYMBOLS. SEE WETLAND DELINEATION REPORT FOR THE SOIL MAP UNIT NAMES AND ADDITIONAL RELATED INFORMATION.*

I CERTIFY THAT THIS WETLAND MAP SUBSTANTIALLY REPRESENTS THE SOILS AND WETLANDS MAPPED IN THE FIELD

WILLIAM L. KENNY, SOIL SCIENTIST

WETLAND & WATERCOURSE MAP

384 GREENS FARMS ROAD
WESTPORT, CONNECTICUT

SCALE: NOT TO SCALE
DATE: JULY 18, 2023

Ref. No. 5720

NORTH