Wetland Delineation Report

SBL 55.22-1-1

SBL 55.37-1-31

SBL 55.06-1-1 (Montebello, NY)

25 Old Mill Road

Suffern, New York 10901

Prepared for:

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Capital No. 19016

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APPENDICES

1.0 INTRODUCTION

Mark Yunger has engaged Capital Environmental Consultants, Inc. ("Capital") to investigate and delineate wetlands on the subject property located at 25 Old Mill Road, Rockland County, New York (SBLs 55.22-1-1, 55.37-1-31, & 55.06-1-1) (the "Property"). Further, Capital is seeking a United States Army Corps of Engineers (ACOE) jurisdictional determination on the extent of ACOE jurisdictional wetlands on the property for the purpose of determining future site development potential. The wetland delineation was performed on March 10 & 11, 2016 by Robert G. Torgersen. On March 26, 2019, Capital confirmed the location of Mr. Torgersen's flags and conducted soil sampling to confirm the location and extent of any on-site wetlands and watercourses he delineated. The delineation was performed in accordance with the three-parameter methodology outlined in the ACOE 1987 Wetland Delineation Manual (TR-Y-87-1) and Northcentral and Northeast Regional Supplement.[1,2]

1.1 Site Description

The Property is approximately 162.1 acres (148,033 square meters) and presently consists of a manufacturing facility building, associated structures and parking lots and vacant land. The center of the site is located at approximately latitude 41.1177, longitude -74.1386 (41°07'02.0"N 74°07'59.5"W) and is bordered by Old Mill Road to the north, Hemion Road to the east, a railroad bed (Consolidated Rail Corp) to the south and a quarry to the west (Village of Suffern 55.21-1-1). The site is located within the Hackensack-Passaic Watershed (HUC 02030103) and the overall topography of the site slopes from south to north towards the Mahwah River. Figure 1 is a Site

[1] Environmental Laboratory. (1987). Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
[2] U.S. Army Corps of Engineers. 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Location Map showing the Property on the USGS Geological Survey 7.5 Minute Quadrangle, Ramsey, New Jersey. The Topographic Survey, prepared by Paulius, Sokolowski, and Sartor, LLC, on March 23, 2016 depicts the delineated wetland lines and existing conditions (Figure 2).

1.2 Document Review

Capital reviewed the National Wetland Inventory (NWI) map for federal wetland systems (Figure 3). The NWI map depicts the following wetlands and watercourses:

- PFO1/SS1Ed (Palustrine, Forested, Broad-Leaved Deciduous/Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded/Saturated, Partially Drained/Ditched) (Figure 3) within the center-west of the property.[3]

- PFO1B (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Saturated) (Figure 3) within the far center-west portion of the property.[4]

- R5UBH (Riverine Unknown Perennial, Unconsolidated Bottom, Permanently Flooded) (Figure 3) draining from south to north bisecting the majority of the PFO1/SS1Ed wetland along its western edge and exits the site under the NYS Thruway draining into the Mahwah River.[5]

- R4SBCx (Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated) (Figure 3) bisecting the majority of the PFO1/SS1Ed wetland along its western and exits the site under the NYS Thruway draining into the Mahwah River.[6]

[3] Cowardin, L.M., V.Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
[4] Cowardin, L.M., V.Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
[5] Cowardin, L.M., V.Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
[6] Cowardin, L.M., V.Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

- R3UBH (Riverine, Upper Perennial, Unconsolidated Bottom, Permanently Flooded) (Figure 3) draining from east to west and exits the site under the NYS Thruway eventually draining into the Mahwah River.[7]

- PUBHx (Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated) (Figure 3) located in the center of the site.[8]

Capital also reviewed the New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetland (FWW), which does not identify any freshwater wetlands on the Property. (Figure 4).[9]

There are no NYSDEC Tidal Wetland map identified on or near the Property.

2.0 Methodology

Wetlands and waters on the subject site were delineated using the three-parameter methodology outlined in the ACOE 1987 Wetland Delineation Manual (TR-Y-87-1) and Northcentral and Northeast Regional Supplement.[10,11] The wetland line was physically marked by Mr. Torgersen using flagging with alphanumeric labeling. Data sheets were created using information collected by Capital on data point locations along the wetland/upland interface pertaining to site soils, vegetation, and hydrology. Areas along the delineated line were

[7] Cowardin, L.M., V.Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
[8] Cowardin, L.M., V.Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
[9] New York State Department of Environmental Conservation; Online Environmental Resource Mapper; Accessed February 26, 2019; http://www.dec.ny.gov
[10] Environmental Laboratory. (1987). Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
[11] U.S. Army Corps of Engineers. 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

designated as representative locations and data was evaluated along the line transecting the upland/wetland boundary. Data sheets and photographs are located in Appendices A and B.

2.1 Wetland Classification

Capital classified Wetlands on the Property using the U.S. Fish and Wildlife Service Classification of Wetland and Deepwater Habitats of the United States system and supplemented with the Dichotomous Keys and Mapping Codes for Wetland Landscape Position, Landform, Water Flow Path, and Waterbody Type Descriptors: Version 2.0 (DKMC) (Table 1).[12,13] Figure 5, Waters of the U.S., prepared by Capital, dated June 10, 2019 depicts the wetlands and waters on the Property.

2.2 Soils and Hydrology

The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) web soil survey indicates that the subject property contains six soil map units; Alden silt loam; Holyoke-Rock outcrop complex, hilly; Udorthents, smoothed; Urban land; Wethersfield gravelly silt loam (3-8% slopes, 8-15% slopes and 15-25% slopes); and Watchaug fine sandy loam.

2.2.1 Alden silt loam

Alden silt loam is described as very poorly drained soils consisting of a silty mantle of local deposition overlying loamy till.[14]

[12] Cowardin.
[13] Tiner, R.W. 2014. Dichotomous Keys and Mapping Codes for Wetland Landscape Position, Landform, Water Flow Path, and Waterbody Type Descriptors: Version 3.0. U.S. Fish and Wildlife Service, National Wetlands Inventory Program, Northeast Region, Hadley, MA. 51 pp. [Tiner - Dichotomous Keys]
[14] USDA NRCS. Web soil survey. Map unit description: Alden silt loam, Rockland County, New York.

2.2.2 Holyoke-Rock outcrop complex, hilly

Holyoke-Rock outcrop complex, hilly is described as well drained soils consisting of loamy till and rock outcrops.[15]

2.2.3 Udorthents, smoothed

Udorthents, smoothed is described as somewhat excessively drained soils consisting of channery and gravelly loam.[16]

2.2.4 Watchaug fine sandy loam

Watchaug fine sandy loam is described as very poorly drained soils consisting of loamy acid till derived mainly from reddish sandstone, shale, and conglomerate, with some basalt.[17]

2.2.5 Wethersfield gravelly silt loam (3-8% slopes, 8-15% slopes and 15-25% slopes)

Wethersfield gravelly silt loam is described as well drained soils consisting of loamy acid till derived mainly from reddish sandstone, shale, and conglomerate, with some basalt.[18]

3.0 SITE OBSERVATIONS

3.1 Wetland A

Wetland A is mapped by NWI (Figure 3) as PFO1/SS1Ed/PFO1B (Palustrine, Forested, Broad-Leaved Deciduous - Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded/Saturated, Partially Drained/Ditched - Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Saturated). The wetland was further defined using the DKMC.[19] Capital determined that

[15] USDA NRCS. Web soil survey. Map unit description: Holyoke-Rock outcrop complex, hilly, Rockland County, New York.
[16] USDA NRCS. Web soil survey. Map unit description: Udorthents, smoothed, Rockland County, New York.
[17] USDA NRCS. Web soil survey. Map unit description: Watchaug fine sandy loam, Rockland County, New York.
[18] USDA NRCS. Web soil survey. Map unit description: Wethersfield gravelly silt loam, Rockland County, New York.
[19] Tiner – Dichotomous Keys.

Wetland A has a DKMC description of LS1FPflTB (Lotic stream, perennial, Floodplain flat, bidirectional throughflow).

3.1.1 Vegetation

The dominant vegetation observed within Wetland A consists of flowering dogwood (*Cornus florida*) (FACU), green ash (*Fraxinus pennsylvanica*) (FACW), spicebush (*Lindera benzoin*) (FACW), tussock sedge (*Carex stricta*) (OBL), Japanese stiltgrass (*Microstegium vimineum*)(FAC) and skunk cabbage (*Symplocarpus foetidus*) (OBL).

Vegetation beyond the wetland/upland interface consists of red maple (*Acer rubrum*) (FAC), black walnut (*Juglans nigra*) (FACU), American elm (*Ulmus americana*) (FACW), tulip-tree (*Liriodendron tulipifera*) (FACU), eastern red cedar (*Juniperus virginiana*) (FACU), silver maple (*Acer saccharinum*) (FACW), red oak (*Quercus rubra*) (FACU), ironwood (*Ostrya virginiana)* (FACU), raspberry (*Rubus idaeus)* (FACU), common blue violet (*Viola sororia)* (FAC) and meadow garlic (*Allium canadense*) (FACU).

3.1.2 Soils

The wetland soil sampled in the northern portion of wetland A consisted of an A-horizon extending from 0-11 inches below ground surface (bgs) with a matrix color of 10 YR 2/1 and a loamy/clayey texture. The B-horizon extended from 11-20+ inches (bgs) with a matrix color of 10 YR 5/1 and a loamy/clayey texture. The B-horizon also contained 20% 10 YR 5/6 concentrations within the soil matrix. The soil was saturated 11 inch (bgs). Indicators of wetland hydrology included saturated soils within the upper 12 inches of soil and the FAC neutral test.

The upland soil sampled in the northern portion of wetland A consisted of an A-horizon extending from 0-6 inches (bgs) with a matrix color of 10 YR 2/1 and a loamy clayey texture. The B-horizon extended from 6-12+ inches (bgs) with a matrix color of 10 YR 4/6 and a sandy loam texture with small aggregates. Refusal was met at 12 inches bgs due to large rocks located within

the area. No saturated soils or water table were encountered. There were no hydric soils or hydrological indicators observed.

The wetland soil sampled in the southern portion of wetland A consisted of an A-horizon extending from 0-6 inches below ground surface (bgs) with a matrix color of 10 YR 2/1 and a loamy/clayey texture. The B-horizon extended from 6-17 inches (bgs) with a matrix color of 10 YR 4/1 and a loamy/clayey texture. The B-horizon also contained 10% 10 YR 3/6 concentrations within the soil matrix. From 14-17 inches the soil contained small aggregates. The B-horizon extended further from 17-18+ inches bgs with a matrix color of 10 YR 4/2 with 10% 10 YR 4/6 concentrations in the matrix and a loamey/clayey texture. No saturated soils or water table were encountered. Indicators of wetland hydrology included drainage patterns and geomorphic position.

The upland soil sampled in the southern portion of wetland A consisted of an A-horizon extending from 0-4 inches (bgs) with a matrix color of 10 YR 3/3 and a loamy clayey texture. The B1-horizon extended from 4-10 inches (bgs) with a matrix color of 10 YR 4/4 and a loamy clayey texture with large rocks. The B2-horizon extended from 10-16 inches (bgs) with a matrix color of 10 YR 3/2 and a loamy clayey texture with large rocks. No saturated soils or water table were encountered. There were no hydric soils or hydrological indicators observed.

3.1.3 Hydrology

Wetland A is associated with a Tributary 1 and Tributary 4, as it is located within the active floodplain and is subject to frequent overbank flooding (i.e. every other year on average). Wetland A typically drains to Tributary 1 and Tributary 4. Tributary 4 drains northernly through Wetland A into Tributary 1 at a confluence located within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River. The source of wetland hydrology is surface water runoff, seasonal groundwater fluctuations and overbank flooding from Tributary

1, although overbank flooding is likely to be less significant and inconsistent sources of hydrology.

3.2 Wetland B

Wetland B is not mapped by NWI (Figure 3). During onsite observations, Capital determined the wetland is best described as PFO1E (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated). The wetland was further defined using the DKMC.[20] Capital determined the wetland has a DKMC description of TE3FLOU (Terrene non-riparian, Flat, Outflow).

3.2.1 Vegetation

The dominant vegetation observed within Wetland B consists of red maple (*Acer rubrum*) (FAC), sycamore (*Platanus occidentalis*) (FACW), common reed (*Phragmites australis*) (FACW), tussock sedge (*Carex stricta*) (OBL), and skunk cabbage (*Symplocarpus foetidus*) (OBL).

Vegetation beyond the wetland/upland interface consists of gray birch (*Betula populifolia*) (FAC), red oak (*Quercus rubra*) (FACU), white pine (*Pinus strobus*) (FACU), eastern red cedar (Juniperus virginiana) (FACU), sycamore (*Platanus occidentalis*) (FACW) and japanese stiltgrass (*Microstegium vimineum*) (FAC).

3.2.2 Soils

The wetland soil sampled at Wetland C consisted of an A-horizon extending from 0-16 inches below ground surface (bgs) with a matrix color of 10 YR 2/2 and a mucky peat texture. The B-horizon extended from 3-9+ inches (bgs) with a matrix color of 10 YR 2/1 and a loamy/clayey texture. Refusal was met at 9 inches (bgs) due to large rocks located within the area. Saturated soils were observed at the surface and standing water was observed 3 inches bgs. Indicators of

[20] Tiner – Dichotomous Keys.

wetland hydrology included high water table, saturated soils within the upper 12 inches of soil and the FAC neutral test.

The upland soil sampled at wetland B consisted of an A-horizon extending from 0-16 inches (bgs) with a matrix color of 10 YR 5/3 and a loamy clayey texture. No saturated soils or water table were encountered. Standing water was observed 14 inches bgs. There were no hydric soils or hydrological indicators observed.

3.2.3 Hydrology

The wetland formed along at the base of a disturbed plateau within the southwestern portion of the subject property. Wetland B is located above the 100-year floodplain of Tributary 1 and its hydrology is maintained by groundwater seepage and runoff/precipitation. Wetland B drains to Wetland A via a culvert beneath the internal roadway. Wetland A drains to Tributary 1, which exits the site under the NYS Thruway draining into the Mahwah River.

3.3 Wetland C

Wetland C is not mapped by NWI (Figure 3). During onsite observations, Capital determined Wetland C is best described as PFO1E (Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated). The wetland was further defined using the DKMC.[21] Capital determined the wetland has a DKMC description of TE3SLTH (Terrene non-riparian, Slope, Throughflow).

[21] Tiner – Dichotomous Keys.

3.3.1 Vegetation

The wetland vegetation identified within Wetland C consists of sycamore (*Platanus occidentalis*) (FACW), spicebush (*Lindera benzoin*) (FACW), common reed (*Phragmites australis*) (FACW), common blue violet (*Viola sororia*) (FAC) and skunk cabbage (*Symplocarpus foetidus*) (OBL).

The upland vegetation identified around Wetland C consists of silver maple (*Acer saccharinum*) (FACW), black cherry (*Prunus serotina*) (FACU), common blue violet (*Viola sororia*) (FAC) and raspberry (*Rubus idaeus)* (FACU).

3.3.2 Soils

The wetland soil sampled at Wetland C consisted of an A-horizon extending from 0-16 inches (bgs) with a matrix color of 10 YR 2/1 and a loamy clayey texture. The A-horizon also contained 5% 10 YR 6/8 concentrations within the soil matrix. The B-horizon extended from 16-17+ inches (bgs) with a matrix color of 10 YR 4/2 and a loamy clayey texture. The B-horizon also contained 5% 10 YR 3/6 concentrations within the soil matrix. No saturated soils or water table were encountered. The soil was saturated 8 inch (bgs) and the depth to free water was 11 inches (bgs). Indicators of wetland hydrology were high water table and saturated soils within the upper 12 inches of soil.

The upland soil sampled at Wetland C consisted of an A-horizon extending from 0-2 inches (bgs) with a matrix color of 10 YR 2/2 and a loamy/clayey texture. The B-horizon extended from 2-11+ inches (bgs) with a matrix color of 10 YR 3/3 and a loamy/clayey texture. Refusal was met at 11 inches bgs due to large rocks. There were no hydric soils or hydrological indicators observed.

3.3.3 Hydrology

Wetland C is not located within the 100-year floodplain of Tributary 1 or Tributary 2, its hydrology is maintained by groundwater seepage and runoff/precipitation. Wetland C drains

into Tributary 1. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

3.4 Wetland D

Wetland D is not mapped by NWI (Figure 3). During onsite observations, Capital determined Wetland D is best described as PEM5 (Palustrine, Emergent, *Phragmites australis*). The wetland was further defined using the DKMC.[22] Capital determined the wetland has a DKMC description of TE1BAOU (Terrene headwater, Basin, Outflow).

Wetland D is located in a steep depressional area that collects stormwater runoff and potentially a seep from beneath the railroad bed. Wetland D drains to Wetland E via a culvert beneath the internal roadway. Wetland D drains and forms Tributary 3. Tributary 3 drains through Wetland E into Tributary 1, which exits the site under the NYS Thruway draining into the Mahwah River.

3.5 Wetland E

Wetland E is not mapped by NWI (Figure 3). During onsite observations, Capital determined Wetland E is best described as PFO1 (Palustrine, Forested, Broad-Leaved Deciduous). The wetland was further defined using the DKMC.[23] Capital determined the wetland has a DKMC description of TE3SLTH (Terrene non-riparian, Slope, Throughflow).

Wetland E is not located within the 100-year floodplain of Tributary 3, its hydrology is maintained by groundwater seepage and runoff/precipitation. Wetland E drains into Tributary 3. Tributary 3 drains into Tributary 1, which exits the site under the NYS Thruway draining into the Mahwah River.

[22] Tiner – Dichotomous Keys.
[23] Tiner – Dichotomous Keys.

3.6 Tributary 1

Tributary 1 is mapped by NWI (Figure 3) as a R5UBH (Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded). The tributary was further defined using the DKMC.[24] Capital determined the tributary has a DKMC description of ST1b (Stream, Channelized, Perennial flow duration).

Tributary 1 drains onsite from a culvert beneath the railroad tracks along the southern property boundary. Tributary 1 flows through Wetland C. Tributary 1 exits Wetland C via a culvert northernly into Wetland A. The portion of Tributary 1 that lies within Wetland A falls within the 100-year floodplain. Tributary 1 continues draining northernly through the western portion of the property bisecting the majority of Wetland A and exits the site under the NYS Thruway draining into the Mahwah River.

3.7 Tributary 2

Tributary 2 is not mapped by NWI (Figure 3). Capital determined the tributary is best describes as a R4SB (Riverine, Intermittent, Streambed). The tributary was further defined using the DKMC.[25] Capital determined the tributary has a DKMC description of ST4 (Stream, Intermittent).

Tributary 2 is located within the south-central portion of the Property. Tributary 2 drains onto the site from a culvert beneath the railroad tracks along the southern property boundary. Tributary 2 drains to Tributary 1 at a confluence located within Wetland C. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

[24] Tiner – Dichotomous Keys.
[25] Tiner – Dichotomous Keys.

3.8 Tributary 3

Tributary 3 is not mapped by NWI (Figure 3). Capital determined the tributary is best describes as a R4SB (Riverine, Intermittent, Streambed). The tributary was further defined using the DKMC.[26] Capital determined the tributary has a DKMC description of ST4 (Stream, Intermittent).

Tributary 3 is located within the south-central portion of the Property. Tributary 3 forms from stormwater drainage and a potential seep from below the railroad tracks at Wetland D. Tributary 3 drains Wetland D via a culvert beneath the internal roadway into Wetland E. Tributary 3 drains northwesterly through Wetland E and then drains westerly towards Wetland C. Tributary 3 drains to Tributary 1 at a confluence located within Wetland C. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

3.9 Tributary 4

Tributary 4 is mapped by NWI (Figure 3) as a R4SBCx (Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated). The tributary was further defined using the DKMC.[27] Capital determined the tributary has a DKMC description of ST4 (Stream, Intermittent).

Tributary 4 is located within the western portion of the Property. Tributary 4 drains northernly through Wetland A into Tributary 1 at a confluence located within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

3.10 Tributary 5

Tributary 5 is mapped by NWI (Figure 3) as a R3UBH/R4SBC (Riverine Upper Perennial, Unconsolidated Bottom, Permanently Flooded

[26] Tiner – Dichotomous Keys.
[27] Tiner – Dichotomous Keys.

- Riverine, Intermittent, Streambed, Seasonally Flooded). The tributary was further defined using the DKMC.[28] Capital determined the tributary has a DKMC description of ST4 (Stream, Intermittent).

Tributary 5 drains westerly onto the site from beneath Hemion Road. Tributary 5 and exits the site under Old Mill Road and the NYS Thruway eventually draining into the Mahwah River.

3.11 Pond 1

Pond 1 is mapped by NWI (Figure 3) as a PuBHx (Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated). The pond was further defined using the DKMC.[29] Capital determined the pond has a DKMC description of TE3PD2dTA (Pond, dammed/impounded, industrial, Terrene non-riparian, Throughflow artificial).

Pond 1 is a dammed/impounded waterbody originally established within a historically existing wetland for industrial stormwater purposes. There is a man-made connection from Tributary 3 into the pond. Ditch 1 conveys water from Pond 1 to Tributary 1 at a confluence within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

3.12 Ditch 1

Ditch 1 is not mapped by NWI (Figure 3). Capital determined the ditch is best describes as a R4SB7Kx (Riverine, Intermittent, Streambed, Vegetated, Artificially flooded, Excavated). The ditch was further defined using the DKMC.[30] Capital determined the tributary has a DKMC description of ST7b (Stream, Artificial ditch).

[28] Tiner – Dichotomous Keys.
[29] Tiner – Dichotomous Keys.
[30] Tiner – Dichotomous Keys.

Ditch 1 conveys water from Pond 1 to Tributary 1 at a confluence within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

3.13 Ditch 2

Ditch 2 is not mapped by NWI (Figure 3). Capital determined the ditch is best describes as a R4SB7x (Riverine, Intermittent, Streambed, Vegetated, Excavated). The ditch was further defined using the DKMC.[31] Capital determined the tributary has a DKMC description of ST7b (Stream, Artificial ditch).

Ditch 2 collects stormwater runoff during rain events from upgradient sources and conveys the runoff to Tributary 1 at a confluence within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

4.0 WOTUS Evaluation

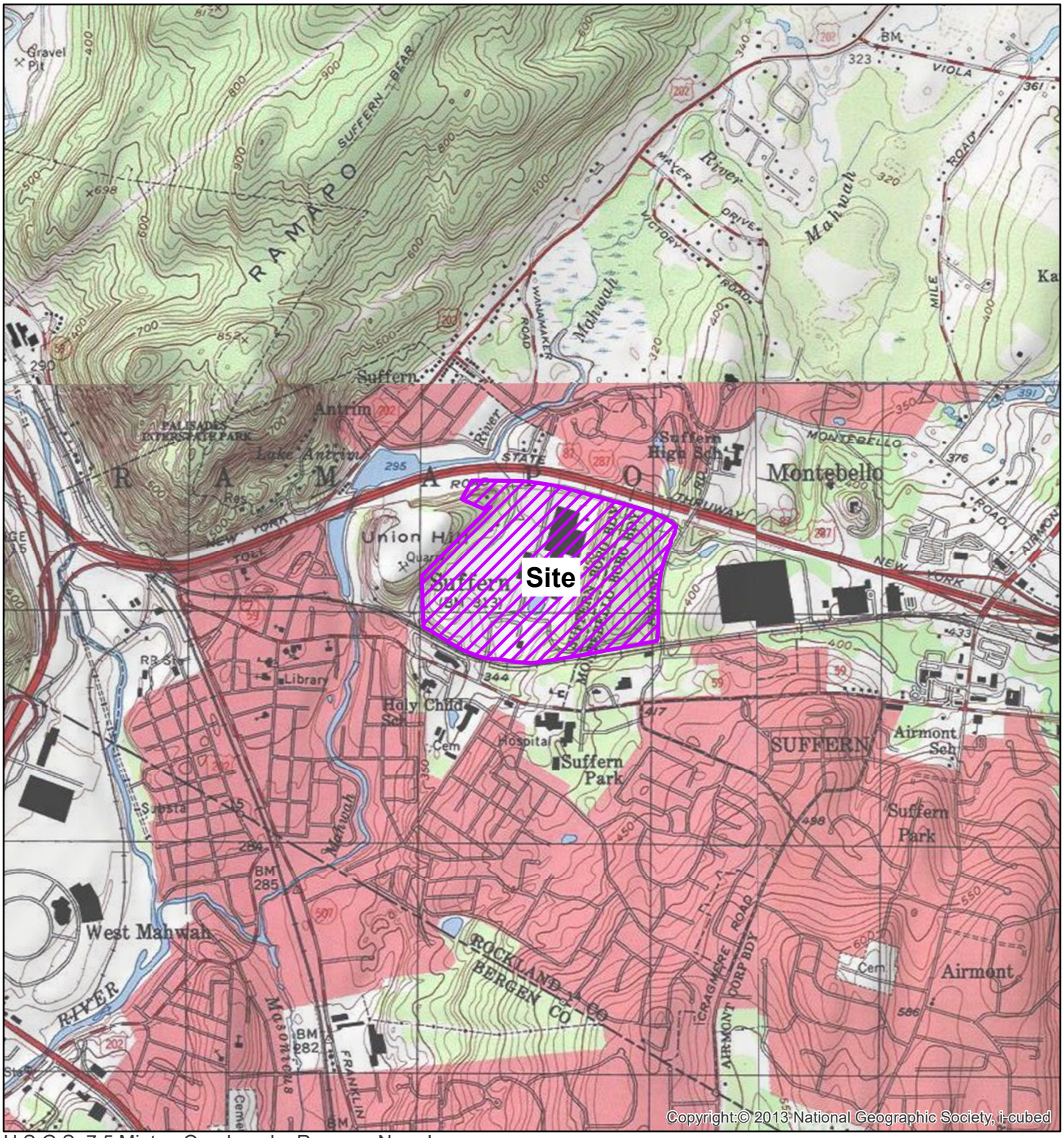
Wetlands and waters of the U.S. (WOTUS) on the subject property have been evaluated in accordance with the 2015 Clean Water Rule (2015 CWR) which was reinstated on August 16, 2018 by a South Carolina District Court ruling. An evaluation of the onsite wetlands under the 2015 CWR can be found in Table 4.

5.0 CONCLUSION

Capital identified wetlands and waters of the U.S. on the subject property as depicted on Figure 5. Based on the reviewed wetland maps, field observations and the 2015 CWR, Wetlands A, B, C, D and E, Tributaries 1, 2, 3, 4 and 5, and Pond 1 are jurisdictional. Ditch 1 and Ditch 2 are non-jurisdictional features on the Property. We request confirmation from ACOE staff that these lines depict the maximum extent of ACOE jurisdiction on the Property.

[31] Tiner – Dichotomous Keys.

FIGURES



U.S.G.S. 7.5 Mintue Quadrangle: Ramsey, New Jersey

1:24,000

Site Location Map

25 Old Mill Road
Suffern, NY 10901

CAPITAL
ENVIRONMENTAL CONSULTANTS, INC.

Capital # 19016

Figure 1

REFERENCES:

1. TOWN OF RAMAPO TAX MAPS.
2. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON AUGUST 9, 1960 IN LIBER 719, PAGE 991.
3. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON AUGUST 9, 1960 IN LIBER 719, PAGE 987.
4. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON NOVEMBER 7, 1960 IN LIBER 724, PAGE 347.
5. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON AUGUST 13, 1965 IN LIBER 796, PAGE 892.
6. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON APRIL 29, 1971 IN LIBER 889, PAGE 384.
7. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON MAY 3, 1971 IN LIBER 889, PAGE 588.
8. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON SEPTEMBER 29, 1975 IN LIBER 968, PAGE 34.
9. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON FEBRUARY 8, 1963 IN LIBER 756, PAGE 937.
10. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON FEBRUARY 8, 1963 IN LIBER 756, PAGE 940.
11. MAP ENTITLED "SURVEY PREPARED FOR NOVARTIS PHARMACEUTICALS CORPORATION, TAX MAP SECTION 55.22, BLOCK 1, LOT 1, TAX MAP SECTION 55.37, BLOCK 1, LOT 31, VILLAGE OF SUFFERN, TOWN OF RAMAPO, TAX MAP SECTION 55.06, BLOCK 1, LOT 1, VILLAGE OF MONTEBELLO, TOWN OF RAMAPO, ROCKLAND COUNTY, NEW YORK" PREPARED BY W.E. JAMES ASSOCIATES DATED APRIL 29, 2008.

NOTES:

1. HORIZONTAL DATUM REFERS TO NEW YORK STATE PLANE COORDINATE SYSTEM, ZONE 3101 EAST, NAD 1983.
2. VERTICAL DATUM REFERS TO NAVD 1988.
3. PLANIMETRIC & TOPOGRAPHIC INFORMATION SUPPLIED BY CLIENT FROM PHOTOGRAPHY DATED JANUARY, 1998.
4. LIMITED PLANIMETRIC AND UTILITY INFORMATION SHOWN HEREON WAS FIELD VERIFIED BY PAULUS, SOKOLOWSKI AND SARTOR, L.L.C. DURING APRIL, 2015.
5. THE PROPERTY IS LOCATED IN ZONE 'X' AND ZONE 'AE' AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP COMMUNITY/PANEL NUMBER 36087C0132G WITH AN EFFECTIVE DATE OF MARCH 3, 2014.
6. SUBJECT TO ANY EASEMENTS OR RESTRICTIONS OF RECORD THAT A CURRENT ACCURATE TITLE SEARCH MAY DISCLOSE.
7. THIS SURVEY IS ONLY VALID IF THE SURVEYORS EMBOSSED SEAL IS AFFIXED.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

RE□ / ISSUE	DATE	DESCRIPTION

Figure 2

PAULUS, SOKOLOWSKI AND SARTOR, LLC.
6□B MOUNTAIN BL□D E□T.
P.O. BO□ 4039
WARREN, N□0□059
PHONE□□□32□560-9□00
CERTIFICATE OF AUTHORIZATION NO. 24GA28032700

ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI AND SARTOR, LLC. OF ANY CONFLICTS, ERRORS, AMBIGUITIES OR DISCREPANCIES IN THE CONTRACT DRAWINGS OR SPECIFICATIONS BEFORE PROCEEDING WITH CONSTRUCTION.

ALL DIMENSIONS SHALL BE AS NOTED IN WORDS OR NUMBERS ON THE CONTRACT DRAWINGS. DO NOT SCALE THE DRAWINGS TO DETERMINE DIMENSIONS.

THESE CONTRACT DRAWINGS CONTAIN DATA INTENDED SPECIFICALLY FOR THE NOTED PROJECT AND CLIENT. THEY ARE NOT INTENDED FOR USE ON EXTENSIONS OF THIS PROJECT OR FOR REUSE ON ANY OTHER PROJECT.

THE COPYING AND/OR MODIFICATION OF THIS DOCUMENT OR ANY PORTION THEREOF WITHOUT THE WRITTEN PERMISSION OF PAULUS, SOKOLOWSKI AND SARTOR, LLC. IS PROHIBITED.

UNLESS THESE DRAWINGS ARE SPECIFICALLY DESIGNATED AS "CONSTRUCTION ISSUE", THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION OR IMPROVEMENTS DEPICTED HEREIN, CONTRACTORS SHALL NOTIFY THE DESIGN ENGINEER TO OBTAIN CONSTRUCTION DOCUMENTS.

JAROSLAVA VONDER
N.Y. LIC. NO. 050533

SIGNATURE DATE
PROFESSIONAL LAND SURVEYOR

PRO□ECT

TA□ MAP SECTION 55.22, BLOCK 1, LOT 1
TA□ MAP SECTION 55.3□, BLOCK 1, LOT 31
□ILLAGE OF SUFFERN - TOWN OF RAMAPO
ROCKLAND COUNTY, NEW YORK

TA□ MAP SECTION 55.06, BLOCK 1, LOT 1
□ILLAGE OF MONTEBELLO - TOWN OF RAMAPO
ROCKLAND COUNTY, NEW YORK

SHEET TITLE

WETLANDS SUR□EY

PRO□ECT NO.□0553□-0001	DRAWN BY□ B.□F.
SCALE□ 1"□100'	CHECKED BY□ □□.
DATE□3/23/2016	SHEET 1 OF 1

U.S. Fish and Wildlife Service
National Wetlands Inventory

Old Mill 1 Figure 3

February 26, 2019

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Figure 4

Environmental Resource Mapper

February 26, 2019

1:9,028

0 0.1 0.2 0.4 mi

0 0.175 0.35 0.7 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

NYS Department of Environmental Conservation
Not a legal document

LEGEND

△ WL-D12	WETLANDS FLAG LOCATION & NUMBER
— - - —	WETLANDS LIMIT LINE
(shaded box)	WETLANDS AREA

REFERENCES:

1. TOWN OF RAMAPO TAX MAPS.
2. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON AUGUST 9, 1960 IN LIBER 719, PAGE 991.
3. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON AUGUST 9, 1960 IN LIBER 719, PAGE 987.
4. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON NOVEMBER 7, 1960 IN LIBER 724, PAGE 347.
5. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON AUGUST 13, 1965 IN LIBER 796, PAGE 892.
6. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON APRIL 29, 1971 IN LIBER 889, PAGE 384.
7. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON MAY 3, 1971 IN LIBER 889, PAGE 588.
8. DEED RECORDED IN THE ROCKLAND COUNTY CLERK'S OFFICE ON SEPTEMBER 29, 1975 IN LIBER 968, PAGE 34.

NOTES:

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2. VERTICAL DATUM REFERS TO NAVD 1988.
3. PLANIMETRIC & TOPOGRAPHIC INFORMATION SUPPLIED BY CLIENT FROM PHOTOGRAPHY DATED JANUARY, 1998.
4. LIMITED PLANIMETRIC AND UTILITY INFORMATION SHOWN HEREON WAS FIELD VERIFIED BY PAULUS, SOKOLOWSKI AND SARTOR, L.L.C. DURING APRIL, 2015.
5. THE PROPERTY IS LOCATED IN ZONE 'X' AND ZONE 'AE' AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP COMMUNITY/PANEL NUMBER 36087C0132G WITH AN EFFECTIVE DATE OF MARCH 3, 2014.
6. SUBJECT TO ANY EASEMENTS OR RESTRICTIONS OF RECORD THAT A CURRENT ACCURATE TITLE SEARCH MAY DISCLOSE.
7. THIS SURVEY IS ONLY VALID IF THE SURVEYORS EMBOSSED SEAL IS AFFIXED.

0 15' 30' 60'
Drawing Scale

Figure 5

CAPITAL ENVIRONMENTAL CONSULTANTS, INC.

25 Old Mill Road
Suffern, New York

No.	DATE	REVISION	BY

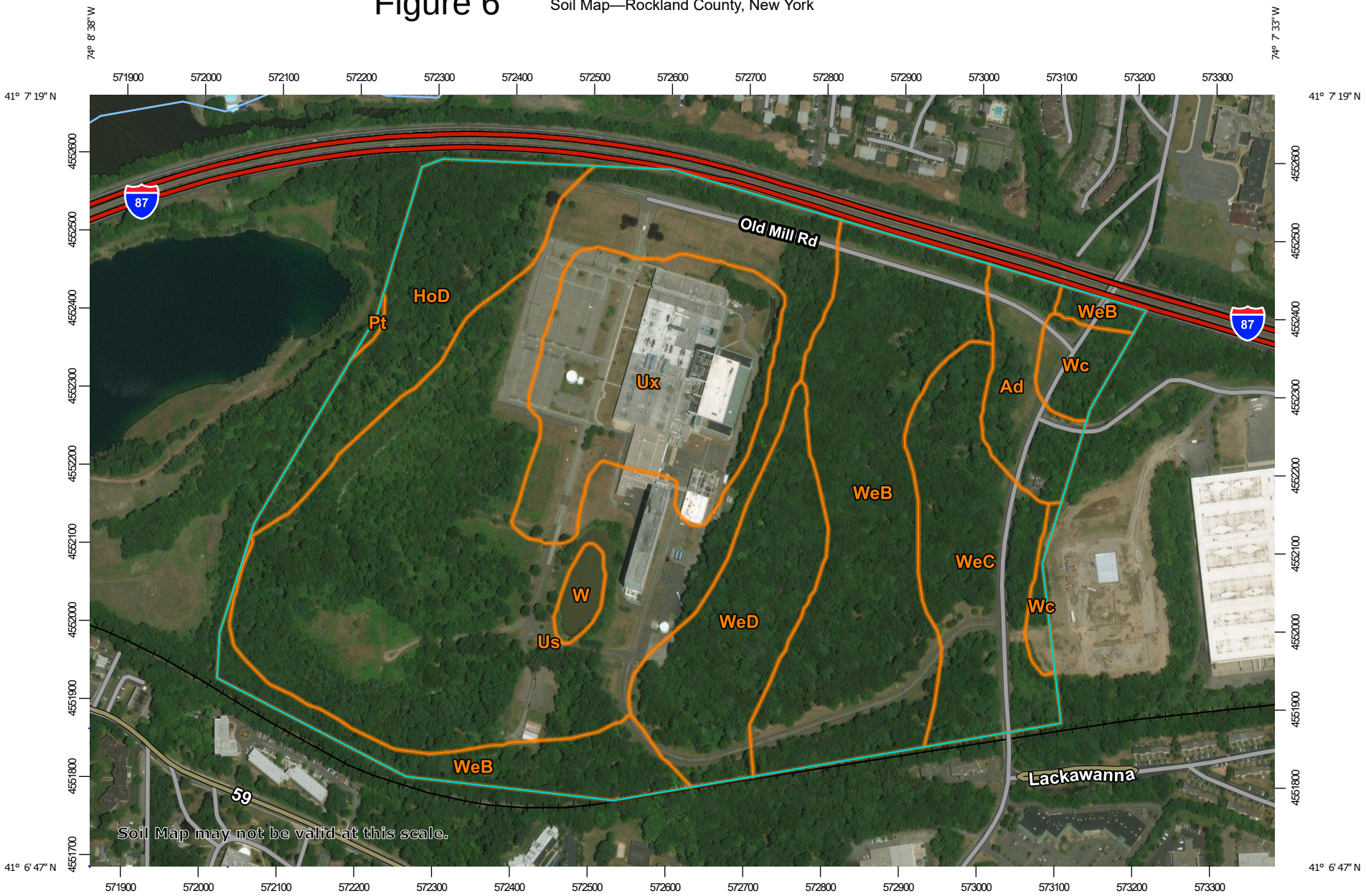
REFERENCES:
Paulus, Sokolowski and Sartor, LLC, Warren, NJ, Tax Map Section 55.22, Block 1, Lot 1,
Tax Map Section 55.37, Block 1, Lot 31, Suggern, NY, Wetlands Survey, 3/23/2016.

WATERS OF THE U.S.

Date: 6/10/2019
Scale: As Noted
Sheet No.: 1
File No.: 19016_ACOE_Figures
Sheet Reference No.: WUS-1

Figure 6

Soil Map—Rockland County, New York



Map Scale: 1:6,960 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

TABLES

Table 1 - Wetland and Tributary Classifications						
		NWI Description		DKMC Description		
Name	NWI (or Cowardin per Capital*)	NWI Description	DKMC	Landscape/Waterbody	Landform/Gradient	Water Flow Path
Wetland A	PFO1/SS1Ed/ PFO1B	- Palustrine, Forested, Broad-Leaved Deciduous - Scrub-Shrub, Broad-Leaved Deciduous, Seasonally Flooded/Saturated, Partially Drained/Ditched - Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Saturated	LS1FPflTB	Lotic Stream, perennial	Floodplain flat	bidirectional throughflow
Wetland B	PFO1E*	Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated	TE3FLOU	Terrene non-riparian	Flat	Outflow
Wetland C	PFO1E*	Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated	TE3SLTH	Terrene non-riparian	Slope	Throughflow
Wetland D	PEM5*	Palustrine, Emergent, Phragmites australis	TE1BAOU	Terrene headwater	Basin	Outflow
Wetland E	PFO1*	Palustrine, Forested, Broad-Leaved Deciduous	TE3SLTH	Terrene non-riparian	Slope	Throughflow
Tributary 1	R5UBH	Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded	ST1b	Stream	Channelized	Perennial flow duration
Tributary 2	R4SB*	Riverine, Intermittent, Streambed	ST4	Stream		Intermittent
Tributary 3	R4SB*	Riverine, Intermittent, Streambed	ST4	Stream		Intermittent
Tributary 4	R4SBCx	Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated	ST4	Stream		Intermittent
Tributary 5	R3UBH/R4SBC	- Riverine Upper Perennial, Unconsolidated Bottom, Permanently Flooded - Riverine, Intermittent, Streambed, Seasonally Flooded	ST1b	Stream	Channelized	Perennial flow duration
Pond 1	PuBHx	Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated	TE3PD2dTA	Pond, dammed/impounded, industrial	Terrene non-riparian	Throughflow artificial
Ditch 1	R4SB7Kx	Riverine, Intermittent, Streambed, Vegetated, Artificially flooded, Excavated	ST7b	Stream	Artificial, ditch	
Ditch 2	R4SB7x	Riverine, Intermittent, Streambed, Vegetated, Excavated	ST7b	Stream	Artificial, ditch	

*Not defined on NWI mapper, provided by Capital

DKMC = Dichotomous Key and Mapping Codes for Wetland Landscape Position, Landform, Water Flow Path, and Waterbody Type: Version 3.0; December 2014

NWI - National Wetland Inventory

Table 2 - Wetland Center Coordinates			
Location	**Latitude**	**Longitude**	**Area onsite (acres)**
Center of Site	41°07'04.5"N	74°08'03.3"W	162.13
Wetland A	41°07'06.3"N	74°08'19.3"W	12.13
Wetland B	41°06'54.5"N	74°08'22.0"W	1.08
Wetland C	41°06'52.0"N	74°08'15.5"W	1.74
Wetland D	41°06'52.0"N	74°08'02.7"W	0.17
Wetland E	41°06'53.6"N	74°08'04.5"W	0.46
Pond	41°06'59.8"N	74°08'11.3"W	2.05

Table 3 - Tributary Description					
Tributary	**Start**	**End**	**Order**	**Classification**	**Length (feet)**
1	41°06'50.4"N 74°08'11.6"W	41°07'17.2"N 74°08'15.4"W	2nd	a water that contributes flow directly to the Mahwah River, a TNW (o)(1)(iii)	3,310
2	41°06'51.2"N 74°08'18.3"W	41°06'52.3"N 74°08'16.8"W	1st	a water that contributes flow through another water to the Mahwah River, a TNW (o)(1)(iii)	217
3	41°06'53.0"N 74°08'03.3"W	41°06'57.6"N 74°08'17.1"W	1st	a water that contributes flow through another water to the Mahwah River, a TNW (o)(1)(iii)	1,379
4	41°07'02.4"N 74°08'24.9"W	41°07'07.9"N 74°08'19.0"W	1st	a water that contributes flow through another water to the Mahwah River, a TNW (o)(1)(iii)	750
5	41°07'03.6"N 74°07'48.1"W	41°07'11.0"N 74°07'47.6"W	2nd	a water that contributes flow directly to the Mahwah River, a TNW (o)(1)(iii)	485

Table 4 - 2015 Clean Water Rule Evaluation		
Name	**Jurisdictional under 2015 CWR**	**2015 Clean Water Rule Definition**
Wetland A	Yes	40 CFR 230.3(o)(1)(vi) Adjacent wetlands
Wetland B	Yes	40 CFR 230.3(o)(1)(vi) Adjacent wetlands
Wetland C	Yes	40 CFR 230.3(o)(1)(vi) Adjacent wetlands
Wetland D	Yes	40 CFR 230.3(o)(1)(vi) Adjacent wetlands
Wetland E	Yes	40 CFR 230.3(o)(1)(vi) Adjacent wetlands
Tributary 1	Yes	40 CFR 230.3(o)(1)(v) / 40 CFR 230.3(o)(3)(iii) Tributary to TNW
Tributary 2	Yes	40 CFR 230.3(o)(1)(v) / 40 CFR 230.3(o)(3)(iii) Tributary to TNW
Tributary 3	Yes	40 CFR 230.3(o)(1)(v) / 40 CFR 230.3(o)(3)(iii) Tributary to TNW
Tributary 4	Yes	40 CFR 230.3(o)(1)(v) / 40 CFR 230.3(o)(3)(iii) Tributary to TNW
Tributary 5	Yes	40 CFR 230.3(o)(1)(v) / 40 CFR 230.3(o)(3)(iii) Tributary to TNW
Pond 1	Yes	40 CFR 230.3(o)(1)(vi) Adjacent water
Ditch 1	No	40 CFR 230.3(o)(2)(iii)(A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
Ditch 2	No	40 CFR 230.3(o)(2)(iii)(A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

Appendix A

WETLAND DELINEATION FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 25 Old Mill Road, Suffern, NY 10901 City/County: Rockland Sampling Date: 3/26/2019

Applicant/Owner: Mark Yunger State: NY Sampling Point: #1 UP

Investigator(s): Greg Fleischer & Kelly DeGuzman Section, Township, Range: SBLs 55.22-1-1, 55.37-1-31,55.06-1-1

Landform (hillside, terrace, etc.): Riparian/Floodplain Wetland Local relief (concave, convex, none): Concave Slope %: 0-8

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.11777 Long: 74.13864 Datum: NAD83

Soil Map Unit Name: Us - Udorthents, smoothed NWI classification: PFO1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: #1 UP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	50	Yes	FACW
2. *Quercus rubra*	50	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	100	=Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1. *Ostrya virginiana*	50	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	50	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Rubus idaeus*	10	Yes	FACU
2. *Viola sororia*	5	Yes	FAC
3. *Allium canadense*	5	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	5	x 3 =	15
FACU species	115	x 4 =	460
UPL species	0	x 5 =	0
Column Totals:	170 (A)		575 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point #1 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1						Loamy/Clayey	Silt Loam
6-12	10YR 4/6						Loamy/Clayey	Sandy Loam - Small Aggregates

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Large Rocks

Depth (inches): 12

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 25 Old Mill Road, Suffern, NY 10901 City/County: Rockland Sampling Date: 3/26/2019

Applicant/Owner: Mark Yunger State: NY Sampling Point: #1 WET

Investigator(s): Greg Fleischer & Kelly DeGuzman Section, Township, Range: SBLs 55.22-1-1, 55.37-1-31,55.06-1-1

Landform (hillside, terrace, etc.): Riparian/Floodplain Wetland Local relief (concave, convex, none): Concave Slope %: 0-8

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.11777 Long: 74.13864 Datum: NAD83

Soil Map Unit Name: Us - Udorthents, smoothed NWI classification: PFO1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
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- ___ Thin Muck Surface (C7)
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- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches): 11

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: #1 WET

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Cornus florida*	20	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1. *Lindera benzoin*	30	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	30	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex stricta*	20	Yes	OBL
2. *Symplocarpus foetidus*	60	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	130 (A)		220 (B)

Prevalence Index = B/A = 1.69

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

X 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Adventitious roots (Spicebush)

SOIL

Sampling Point #1 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 2/1						Loamy/Clayey	Silt Loam - Slightly Moist
11-20	10YR 5/1	80	10YR 5/6	20	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 25 Old Mill Road, Suffern, NY 10901 City/County: Rockland Sampling Date: 3/26/2019

Applicant/Owner: Mark Yunger State: NY Sampling Point: #2 UP

Investigator(s): Greg Fleischer & Kelly DeGuzman Section, Township, Range: SBLs 55.22-1-1, 55.37-1-31,55.06-1-1

Landform (hillside, terrace, etc.): Riparian/Floodplain Wetland Local relief (concave, convex, none): Concave Slope %: 0-8

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.11777 Long: 74.13864 Datum: NAD83

Soil Map Unit Name: Us - Udorthents, smoothed NWI classification: PFO1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: #2 UP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	No	FAC
2. *Quercus rubra*	30	Yes	FACU
3. *Juglans nigra*	40	Yes	FACU
4. *Ulmus americana*	5	No	FACW
5. *Liriodendron tulipifera*	20	No	FACU
6. *Juniperus virginiana*	5	No	FACU
7.			
	120	=Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Viola sororia*	10	Yes	FAC
2. *Allium canadense*	5	Yes	FACU
3. *Rubus idaeus*	5	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	30	x 3 =	90
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	140 (A)		520 (B)

Prevalence Index = B/A = 3.71

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point #2 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/3	100					Loamy/Clayey	
4-10	10YR 4/4	100					Loamy/Clayey	Large rocks
10-16	10YR 3/2	100					Loamy/Clayey	Large rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 25 Old Mill Road, Suffern, NY 10901 City/County: Rockland Sampling Date: 3/26/19

Applicant/Owner: Mark Yunger State: NY Sampling Point: #2 WET

Investigator(s): Greg Fleischer & Kelly DeGuzman Section, Township, Range: SBLs 55.22-1-1, 55.37-1-31,55.06-1-1

Landform (hillside, terrace, etc.): Riparian/Floodplain Wetland Local relief (concave, convex, none): Concave Slope %: 0-8

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.11777 Long: 74.13864 Datum: NAD83

Soil Map Unit Name: Us - Udorthents, smoothed NWI classification: PFO1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No ____	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: #2 WET

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	35	Yes	FACW
2. *Cornus florida*	30	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	65	=Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	100	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	100	x 3 =	300
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	165 (A)		490 (B)

Prevalence Index = B/A = 2.97

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point #2 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Loamy/Clayey	
6-14	10YR 4/1	90	10YR 3/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
14-17	10YR 4/1	90	10YR 3/6	10	C	M	Loamy/Clayey	Prom. Reox conce and small aggregates
17-18	10YR 4/2	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ? Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 25 Old Mill Road, Suffern, NY 10901 City/County: Rockland Sampling Date: 3/26/2019

Applicant/Owner: Mark Yunger State: NY Sampling Point: #3 UP

Investigator(s): Greg Fleischer & Kelly DeGuzman Section, Township, Range: SBLs 55.22-1-1, 55.37-1-31,55.06-1-1

Landform (hillside, terrace, etc.): Riparian/Floodplain Wetland Local relief (concave, convex, none): Concave Slope %: 0-8

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.11777 Long: 74.13864 Datum: NAD83

Soil Map Unit Name: Us - Udorthents, smoothed NWI classification: PFO1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ? Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes x	No ____	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: #3 UP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Betula populifolia*	50	Yes	FAC
2. *Quercus rubra*	30	Yes	FACU
3. *Pinus strobus*	10	No	FACU
4. *Juniperus virginiana*	5	No	FACU
5. *Platanus occidentalis*	20	No	FACW
6.			
7.			
	115	=Total Cover	

Sapling/Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	

Herb Stratum (Plot size: 5)			
1. *Microstegium vimineum*	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25	=Total Cover	

Woody Vine Stratum (Plot size: 30)			
1. *Toxicodendron radicans*	10	Yes	FAC
2.			
3.			
4.			
	10	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	85	x 3 =	255
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	150 (A)		475 (B)

Prevalence Index = B/A = 3.17

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point #3 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 5/3						Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 25 Old Mill Road, Suffern, NY 10901 City/County: Rockland Sampling Date: 3/26/2019

Applicant/Owner: Mark Yunger State: NY Sampling Point: #3 WET

Investigator(s): Greg Fleischer & Kelly DeGuzman Section, Township, Range: SBLs 55.22-1-1, 55.37-1-31,55.06-1-1

Landform (hillside, terrace, etc.): Riparian/Floodplain Wetland Local relief (concave, convex, none): Concave Slope %: 0-8

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.11777 Long: 74.13864 Datum: NAD83

Soil Map Unit Name: Us - Udorthents, smoothed NWI classification: PFO1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Historic disturbance to soil likely

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: #3 WET

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	60	Yes	FAC
2. *Platanus occidentalis*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1. *Phragmites australis*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Carex stricta*	10	Yes	OBL
2. *Symplocarpus foetidus*	5	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	30	x 2 =	60
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		255 (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

_X_ 3 - Prevalence Index is ≤3.0[1]

_X_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Adventitious roots

SOIL

Sampling Point #3 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	100					Mucky Peat	
3-9	10YR 2/1	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ? Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Large Rocks

Depth (inches): 9

Hydric Soil Present? **Yes** ___ **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 25 Old Mill Road, Suffern, NY 10901 City/County: Rockland Sampling Date: 3/26/2019

Applicant/Owner: Mark Yunger State: NY Sampling Point: #4 UP

Investigator(s): Greg Fleischer & Kelly DeGuzman Section, Township, Range: SBLs 55.22-1-1, 55.37-1-31,55.06-1-1

Landform (hillside, terrace, etc.): Riparian/Floodplain Wetland Local relief (concave, convex, none): Concave Slope %: 0-8

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.11777 Long: 74.13864 Datum: NAD83

Soil Map Unit Name: Us - Udorthents, smoothed NWI classification: PFO1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Historic disturbance to soil likely

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No ____	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: #4 UP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	70	Yes	
2. *Prunus serotina*	10	No	FACU
3.			
4.			
5.			
6.			
7.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Viola sororia*	5	Yes	FAC
2. *Rubus idaeus*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	20 (A)		75 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point #4 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					Loamy/Clayey	
2-11	10YR 3/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rocks

Depth (inches): 11

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 25 Old Mill Road, Suffern, NY 10901 City/County: Rockland Sampling Date: 3/26/2019

Applicant/Owner: Mark Yunger State: NY Sampling Point: #4 WET

Investigator(s): Greg Fleischer & Kelly DeGuzman Section, Township, Range: SBLs 55.22-1-1, 55.37-1-31,55.06-1-1

Landform (hillside, terrace, etc.): Riparian/Floodplain Wetland Local relief (concave, convex, none): Concave Slope %: 0-8

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.11777 Long: 74.13864 Datum: NAD83

Soil Map Unit Name: Us - Udorthents, smoothed NWI classification: PFO1/SS1Ed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No X	**within a Wetland?** **Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Historic disturbance to soil likely

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 11
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 8

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: #4 WET

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus occidentalis*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 30)			
1. *Lindera benzoin*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	20	Yes	FACW
2. *Symplocarpus foetidus*	20	Yes	OBL
3. *Viola sororia*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	40	x 2 =	80
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		115 (B)

Prevalence Index = B/A = 1.77

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point #4 WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	95	10YR 6/8	5	C	M	Loamy/Clayey	Prominent redox concentrations
16-17	10YR 4/2	95	10YR 3/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Appendix B

SITE PHOTOGRAPHS

3/26/2019 – Looking north along Wetland A/Tributary 1 from approximately flag A-62

3/26/2019 Looking northeast at Wetland A/Tributary 1 from approximately flag A- 57

3/26/2019 Looking south at Wetland A from approximately flag A- 32

3/26/2019 Looking north at Wetland A/Tributary 4 from flag A- 17

3/26/2019 Looking west at Wetland A from approximately flag A- 121

3/26/2019 Looking east at Wetland B from approximately flag B-19

3/26/2019 Looking north at Wetland C from approximately flag C-39

3/26/2019 Looking south at Tributary 2 entering site at Flags C-41 and C-42

3/26/2019 Looking south at Tributary 1 entering site from under railroad bed

3/26/2019 Looking southeast at diverted Tributary 1 at compromised culvert

3/26/2019 Looking at water source for Tributary 1, south of railroad bed

3/26/2019 Looking south at Wetland D from approximately flag D-5

3/26/2019 Looking north at Wetland E/Tributary 3 from internal roadway

3/26/2019 Tributary 5 inlet in northeast portion of the Property

3/26/2019 Tributary 5 outlet in northeast portion of the Property

Appendix C

ACOE JD CHECKLIST

ACOE Checklist of Information Included with Requests for Jurisdictional Determinations (JD)

1) Name, mailing address and phone number of:
   a) Current Property Owner
      i) Mr. Mark Yunger, 15 Melnick Drive, PO Box 95, Monsey, NY 10952
   b) Applicant
      i) Mr. Mark Yunger, 15 Melnick Drive, PO Box 95, Monsey, NY 10952
   c) Wetland Delineator
      i) Greg Fleischer – PWS, Capital Environmental Consultants, Inc., 159 Green Street, Kingston, NY 12401, (845) 383-1114.
   d) Wetland Consultant
      i) Greg Fleischer – PWS, Capital Environmental Consultants, Inc., 159 Green Street, Kingston, NY 12401, (845) 383-1114.
2) Site Location Map
   a) Figure 1 – Site Location Map showing the property on the USGS Geological Survey 7.5 Minute Quadrangle, Ramsey, NJ.
   b) Site and Wetlands

Table 2 - Wetland Center Coordinates

Location	Latitude	Longitude	Area onsite (acres)
Center of Site	41°07'04.5"N	74°08'03.3"W	162.13
Wetland A	41°07'06.3"N	74°08'19.3"W	12.13
Wetland B	41°06'54.5"N	74°08'22.0"W	1.08
Wetland C	41°06'52.0"N	74°08'15.5"W	1.74
Wetland D	41°06'52.0"N	74°08'02.7"W	0.17
Wetland E	41°06'53.6"N	74°08'04.5"W	0.46

   c) Tributaries

Table 3 - Tributary Description

Tributary	Start	End	Order	Classification	Length (feet)
1	41°06'50.4"N 74°08'11.6"W	41°07'17.2"N 74°08'15.4"W	2nd	a water that contributes flow directly to the Mahwah River, a TNW (o)(1)(iii)	3,310
2	41°06'50.4"N 74°08'11.6"W	41°06'52.3"N 74°08'16.8"W	1st	a water that contributes flow through another water to the Mahwah River, a TNW (o)(1)(iii)	217
3	41°06'53.0"N 74°08'03.3"W	41°06'57.6"N 74°08'17.1"W	1st	a water that contributes flow through another	1,379

				water to the Mahwah River, a TNW (o)(1)(iii)	
4	41°07'02.4"N 74°08'24.9"W	41°07'07.9"N 74°08'19.0"W	1st	a water that contributes flow through another water to the Mahwah River, a TNW (o)(1)(iii)	750
5	41°07'03.6"N 74°07'48.1"W	41°07'11.0"N 74°07'47.6"W	2nd	a water that contributes flow directly to the Mahwah River, a TNW (o)(1)(iii)	485

3) See attached report -
   a) Purpose of Request
      i) Approved Jurisdictional Determination of Water of the U.S. for the subject property.
   b) Proposed project
      i) The Applicant would like to determine future site development potential.
   c) Parcel size/Review area
      162.1 acres (148,033 square meters)

4) Delineation Report
   a) Current site use
      i) Presently consists of a manufacturing facility building, associated structures and parking lots and vacant land.
      ii) Historic site use[1]
         (1) The eastern portion of the site has remained relatively undisturbed since as early as 1952.
         (2) The western portion of the site was historically used for agriculture until between 1953 and 1965.
         (3) In 1965, it is observed that the site contains a manufacturing facility building.
         (4) In 1974, it is observed that the building and associated parking lots have expanded and an additional building has been constructed.
         (5) In 1995, it is observed that the facility has expanded to the south.
         (6) The site has remained relatively unchanged since 1995.
   b) NWI map
      i) Figure 3
   c) NYSDEC freshwater wetland map
      i) Figure 4
   d) NYSDEC tidal wetland map
      i) N/A
   e) NRCS soil map

[1] https://www.historicaerials.com/viewer

    i) Figure 6
f) Watershed
    i) Hackensack-Passaic Watershed (HUC 02030103)
g) Watershed size
    i) 725,172 acres
h) Average annual rainfall/snowfall
    i) 48-50 inches
i) Wetland/Tributary relationship
    i) Tributary 1 drains onsite from a culvert beneath the railroad tracks along the southern property boundary. Tributary 1 flows through Wetland C. Tributary 1 exits Wetland C via a culvert northernly into Wetland A. The portion of Tributary 1 that lies within Wetland A falls within the 100-year floodplain. Tributary 1 continues draining northernly through the western portion of the property bisecting the majority of Wetland A and exits the site under the NYS Thruway draining into the Mahwah River.
    ii) Tributary 2 drains onto the site from a culvert beneath the railroad tracks along the southern property boundary. Tributary 2 drains to Tributary 1 at a confluence located within Wetland C. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.
    iii) Tributary 3 drains Wetland D via a culvert beneath the internal roadway into Wetland E. Tributary 3 drains northwesterly through Wetland E and then drains westerly towards Wetland C. Tributary 3 drains to Tributary 1 at a confluence located within Wetland C. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.
    iv) Tributary 4 drains northernly through Wetland A into Tributary 1 at a confluence located within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.
    v) Tributary 5 drains westerly onto the site from beneath Hemion Road. Tributary 5 and exits the site under Old Mill Road and the NYS Thruway eventually draining into the Mahwah River.
    vi) Wetland A is associated with a Tributary 1 and Tributary 4, as it is located within the active floodplain and is subject to frequent overbank flooding (i.e. every other year on average). Wetland A typically drains to Tributary 1 and Tributary 4. Tributary 4 drains northernly through Wetland A into Tributary 1 at a confluence located within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.
    vii) Wetland B is located above the 100-year floodplain of Tributary 1 and its hydrology is maintained by groundwater seepage and runoff/precipitation. Wetland B drains to Wetland A via a culvert beneath the internal roadway. Wetland A drains to Tributary 1, which exits the site under the NYS Thruway draining into the Mahwah River.
    viii) Wetland C is not located within the 100-year floodplain of Tributary 1 or Tributary 2, its hydrology is maintained by groundwater seepage and runoff/precipitation. Wetland C drains into Tributary 1. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

ix) Wetland D is located in a steep depressional area that collects stormwater runoff and potentially a seep from beneath the railroad bed. Wetland D drains to Wetland E via a culvert beneath the internal roadway. Wetland D drains and forms Tributary 3. Tributary 3 drains through Wetland E into Tributary 1, which exits the site under the NYS Thruway draining into the Mahwah River.
x) Wetland E is not located within the 100-year floodplain of Tributary 3, its hydrology is maintained by groundwater seepage and runoff/precipitation. Wetland E drains into Tributary 3. Tributary 3 drains into Tributary 1, which exits the site under the NYS Thruway draining into the Mahwah River.
xi) Pond 1 is a dammed/impounded waterbody originally established within a historically existing wetland for industrial stormwater purposes. There is a man-made connection from Tributary 3 into the pond. Ditch 1 conveys water from Pond 1 to Tributary 1 at a confluence within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.
xii) Ditch 1 conveys water from Pond 1 to Tributary 1 at a confluence within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.
xiii) Ditch 2 collects stormwater runoff during rain events from upgradient sources and conveys the runoff to Tributary 1 at a confluence within Wetland A. Tributary 1 exits the site under the NYS Thruway draining into the Mahwah River.

j) River miles to TNW
   i) 0.066 miles
k) Aerial miles to TNW
   i) 0.066 miles
l) Tributary substrate
   i) Tributary 1
      (1) Upper reach (railroad to base of Wetland C) – Gravel/cobble
      (2) Lower reach (base of Wetland C to NYS Thruway - Silt
   ii) Tributary 2 - Silt
   iii) Tributary 3 – Sand and silt
   iv) Tributary 4 – Organic and silt
   v) Tributary 5 – Boulders/cobble
m) Potential pollutants
   i) There are currently no potential pollutants associated with the wetlands onsite. No evidence of dumping or disposal of hazardous materials was identified during site visits.
n) Potential habitat for species
   i) No state or federally threatened or endangered species were identified on the project site during the wetland evaluation.
   ii) NYS NHP was contact in April of 2019 and did not return any identified state or federally threatened or endangered species within the vicinity of the Property.
o) Vegetative cover types onsite:
   i) Wetland A: The New York State Natural Heritage Program (NYSNHP) 'Floodplain Forest' community best describes the vegetative community associated with the palustrine wetland.

(1) Wetland plants:
    (a) flowering dogwood (*Cornus florida*) (FACU),
    (b) green ash (*Fraxinus pennsylvanica*) (FACW),
    (c) spicebush (*Lindera benzoin*) (FACW),
    (d) tussock sedge (*Carex stricta*) (OBL),
    (e) Japanese stiltgrass (*Microstegium vimineum*)(FAC) and
    (f) skunk cabbage (*Symplocarpus foetidus*) (OBL).
(2) Upland vegetation residing beyond the wetland/upland interface included:
    (a) red maple (*Acer rubrum*) (FAC),
    (b) black walnut (*Juglans nigra*) (FACU),
    (c) American elm (*Ulmus americana*) (FACW),
    (d) tulip-tree (*Liriodendron tulipifera*) (FACU),
    (e) eastern red cedar (*Juniperus virginiana*) (FACU),
    (f) silver maple (*Acer saccharinum*) (FACW),
    (g) red oak (*Quercus rubra*) (FACU),
    (h) ironwood (*Ostrya virginiana)* (FACU),
    (i) raspberry (*Rubus idaeus)* (FACU),
    (j) common blue violet (*Viola sororia)* (FAC) and
    (k) meadow garlic (*Allium canadense*) (FACU).

ii) Wetlands B, C, D and E: The NYSNHP 'red maple-hardwood swamp' community best describes the vegetative community associated with the palustrine wetland.
(1) Wetland plants:
    (a) red maple (*Acer rubrum*) (FAC),
    (b) sycamore (*Platanus occidentalis*) (FACW),
    (c) common reed (*Phragmites australis*) (FACW),
    (d) spicebush (*Lindera benzoin*) (FACW),
    (e) tussock sedge (*Carex stricta*) (OBL),
    (f) common blue violet (*Viola sororia*) (FAC) and
    (g) skunk cabbage (*Symplocarpus foetidus*) (OBL).
(2) Upland plants:
    (a) gray birch (*Betula populifolia*) (FAC),
    (b) red oak (*Quercus rubra*) (FACU),
    (c) silver maple (*Acer saccharinum*) (FACW),
    (d) black cherry (*Prunus serotina*) (FACU),
    (e) white pine (*Pinus strobus*) (FACU),
    (f) eastern red cedar (Juniperus virginiana) (FACU),
    (g) sycamore (*Platanus occidentalis*) (FACW),
    (h) common blue violet (*Viola sororia*) (FAC),
    (i) raspberry (*Rubus idaeus)* (FACU) and
    (j) japanese stiltgrass (*Microstegium vimineum*) (FAC).

iii) Wetland Delineation Forms
(1) Appendix A

iv) Site photographs of all representative areas of the site (taken during the growing season), including any connections between tributaries or between tributaries and wetlands.
    (1) Appendix B

5) Surveyed delineation drawing, including the following:
    a) Drawing date
        i) Figure 2 – Topographic Survey, prepared by Paulius, Sokolowski, and Sartor, LLC, on March 23, 2016.
    b) Scale
        i) Figure 2 – 1" =100'
    c) Revision dates
        i) N/A
    d) North arrow
        i) Figure 2
    e) Existing topographic contours
        i) Figure 2
    f) Benchmarks
        i) Figure 2
    g) Stamp of a licensed surveyor
        i) Figure 2
    h) Boundary lines of the parcel and wetlands with acres shown
        i) Figure 5 - Waters of the U.S., prepared by Capital, dated June 10, 2019
    i) Boundary lines of the project site with acres shown
        i) Figure 5
    j) Delineation flags shown as points that are connected by straight lines (or extend off site at parcel boundaries), and are identified on the drawing with the corresponding number and/or letter that is written on the flag in the field
        i) Figure 5
    k) Appropriate hatching and/or shading to identify the extent of waters of the US, including jurisdictional wetlands, and any "isolated" or non-jurisdictional waterbodies or wetlands
        i) Figure 5
    l) All defined tributaries on the site, identified either via flagging or a standard tributary symbol that is in the legend, and locations of any other connections between waters (e.g. culverts, ditches and/or swales)
        i) Figure 5
    m) Table outlining the acres of the waters of the US, and "isolated" or non-jurisdictional waters, in addition to the linear feet of all tributaries within the boundaries of the project site or parcel.
        i) Table 2, Table 3 and Figure 5.

Appendix D

ACOE AQUATIC RESOURCES SPREADSHEET

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
Wetland A	NEW YORK	PFO	RIVERINE	Area	12.13	ACRE		41.11840500	-74.13870200	Mahwah River
Wetland B	NEW YORK	PFO	MINSOILFLT	Area	1.08	ACRE		41.115132	-74.13943800	Mahwah River
Wetland C	NEW YORK	PFO	SLOPE	Area	1.74	ACRE		41.11444100	-74.13764700	Mahwah River
Wetland D	NEW YORK	PEM	DEPRESS	Area	0.17	ACRE		41.11443400	-74.13408000	Mahwah River
Wetland E	NEW YORK	PFO	SLOPE	Area	0.46	ACRE		41.11488400	-74.134573	Mahwah River
Tributary 1	NEW YORK	R5UB		Linear	3,310	FOOT		41.11400000	-74.136556	Mahwah River
Tributary 2	NEW YORK	R4SB		Linear	217	FOOT		41.11423100	-74.13841600	Mahwah River
Tributary 3	NEW YORK	R4SB		Linear	1,379	FOOT		41.11472200	-74.13425000	Mahwah River
Tributary 4	NEW YORK	R4SB		Linear	750	FOOT		41.11733300	-74.14025000	Mahwah River
Tributary 5	NEW YORK	R3UB		Linear	485	FOOT		41.11766700	-74.13002800	Mahwah River
Pond 1	NEW YORK	PUB		Area	2.05	ACRE		41.11452800	-74.13800600	Mahwah River
Ditch 1	NEW YORK	R4SB		Linear	704	FOOT		41.11721800	-74.13761900	Mahwah River
Ditch 2	NEW YORK	R4SB		Linear	423	FOOT		41.11838300	-74.13744200	Mahwah River