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Wetland and Stream Delineation Report

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1.0 INTRODUCTION

1.1 Project Description

Sol Systems is proposing to construct a new 4.7 megawatt ground-mounted solar energy system with a battery storage system on a portion of the Dell Ave Site (the Project Site). The Project Site is 58.87 acres in size and is located on Dell Avenue in the Town of Yorktown, Westchester County, New York (see Figure 1 of Appendix A).

1.2 Report Purpose

This document presents the results of a wetland and stream delineation conducted by TRC on behalf of Sol Systems on April 27 and April 28, 2021. This report was prepared to document all observed wetlands and surface waters (including rivers, streams, ponds, lakes, etc.) regardless of jurisdictional status. However, within this report, the description of potential jurisdictional areas to regulatory agencies is provided and lends itself towards assessing regulated buffers and implementing setbacks (as required by state and Sol Systems' internal process) during Project-related planning, to the extent practical. Specific tasks undertaken to prepare this report included:

(1) a desktop review of existing and publicly available federal and state agency resources;

(2) a field delineation of all surveyed aquatic features that were observed within the Project Site (and not including any off-site electrical interconnection routes, which have not been identified to date) utilizing a handheld Global Positioning System (GPS) with reported sub-meter accuracy; and

(3) the development of a detailed description of the delineated wetland and other aquatic features including any assumed level of government agency jurisdiction for each resource based on hydrology, vegetation, and hydric soils data collected in the field.

Wetland and stream resources documented during the site visit are included in this report. Conclusions proposed herein provide information necessary to support a permit application to the United States Army Corps of Engineers (USACE or Corps), the New York State Department of Environmental Conservation (NYSDEC), the New York City Department of Environmental Protection (NYCDEP), and the Town of Yorktown.

2.0 REGULATORY AUTHORITY

2.1 United States Army Corps of Engineers

In accordance with Section 404 of the Clean Water Act (CWA), the USACE asserts jurisdiction over Waters of the United States (WOTUS). WOTUS are defined as wetlands, streams, and other aquatic resources under the regulatory authority of Title 33 Code of Federal Regulations (CFR) Part 328 and the United States Environmental Protection Agency (EPA) per Title 40 CFR Part 230.3(s). Wetlands are defined as "*those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions*" (EPA, 2001).

The USACE also regulates navigable waters under Section 10 of the Rivers and Harbor Act (33 U.S.C. 401 et seq.), which requires a permit be issued by the USACE prior to the construction of any structure in or over a navigable water of the United States, as well as any proposed action (such as excavation/dredging or deposition of materials) that would affect the course, location, condition, or capacity of the navigable water, even if the proposed activity is outside the boundaries of the stream in associated wetlands.

2.1.1 Historical Context

On June 5, 2007, the EPA and the Department of Army issued a memorandum outlining jurisdictional guidance on WOTUS. The document outlined major key points resulting from the United States Supreme Court decision in the matter of *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (531 U.S. 159, January 9, 2001) and *Rapanos v. United States* (547 U.S. 715, June 19, 2006). This document defined the federal jurisdiction over WOTUS relative to the CWA.

Applying this approach, the USACE asserted jurisdiction over Traditional Navigable Waters (TNWs), adjacent wetlands, as well as certain non-navigable tributaries of TNWs that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (i.e., typically three months) and wetlands that directly abut such tributaries.

The USACE decided jurisdiction on a case-by-case basis, applying a significant nexus determination, over certain other classes of water. Generally, swales or erosional features and certain ditches were not determined jurisdictional.

2.1.2 Current Status

On June 22, 2020, the Navigable Waters Protection Rule (NWPR) took effect.

NWPR outlines categories of waters considered jurisdictional, as well as those considered non-jurisdictional. The four categories of waters that are considered WOTUS, and thus jurisdictional to the USACE, include the following:

1. Territorial seas and TNWs:

- Under the final rule, the territorial seas and TNWs include large rivers and lakes—such as the Mississippi River, the Great Lakes, Chesapeake Bay, and the Erie Canal—and tidally-influenced waterbodies used in interstate or foreign commerce.

2. Tributaries of such waters:

   - Tributaries include perennial and intermittent rivers and streams that contribute surface flow to TNWs in a typical year.

   - These naturally occurring surface water channels must flow more often than just after a single precipitation event—that is, tributaries must be perennial or intermittent.

   - Tributaries can connect to a TNW or territorial sea in a typical year either directly or through other WOTUS, through channelized non-jurisdictional surface waters, through artificial features (including culverts and spillways), or through natural features (including debris piles and boulder fields).

   - Ditches are to be considered tributaries only where they satisfy the flow conditions of the perennial and intermittent tributary definition and either were constructed in or relocate a tributary or were constructed in an adjacent wetland and contribute perennial or intermittent flow to a TNW in a typical year.

3. Lakes, ponds, and impoundments of jurisdictional waters:

   - Lakes, ponds, and impoundments of jurisdictional waters are jurisdictional where they contribute surface water flow to a TNW or territorial sea in a typical year either directly or through other WOTUS, through channelized non-jurisdictional surface waters, through artificial features (including culverts and spillways), or through natural features (including debris piles and boulder fields).

   - Lakes, ponds, and impoundments of jurisdictional waters are also jurisdictional where they are flooded by a “water of the United States” in a typical year.

4. Adjacent wetlands:

   - Wetlands that physically touch other jurisdictional waters are “adjacent wetlands.”

   - Wetlands separated from a “water of the United States” by only a natural berm, bank or dune are also “adjacent.”

   - Wetlands inundated by flooding from a “water of the United States” in a typical year are “adjacent.”

   - Wetlands that are physically separated from a jurisdictional water by an artificial dike, barrier, or similar artificial structure are “adjacent” so long as that structure allows for

a direct hydrologic surface connection between the wetlands and the jurisdictional water in a typical year, such as through a culvert, flood or tide gate, pump, or similar artificial feature.

- An adjacent wetland is jurisdictional in its entirety when a road or similar artificial structure divides the wetland if the structure allows for a direct hydrologic surface connection through or over that structure in a typical year.

Twelve exclusions from the WOTUS definition, or non-jurisdictional waters, include: groundwater; ephemeral streams; stormwater runoff and stormwater control features; ditches that are not jurisdictional; prior converted cropland; artificial lakes and ponds; artificially irrigated areas, including agricultural areas that would revert to uplands were the irrigation to cease; groundwater recharge, water reuse, and wastewater recycling structures; waste treatment systems; water-filled depressions incidental to mining or construction activity; and all other waters not listed as jurisdictional.

2.2 New York State Department of Environmental Conservation

The Freshwater Wetlands Act (Article 24 and Title 23 of Article 71 of the Environmental Conservation Law [ECL]) gives the NYSDEC jurisdiction over state-protected wetlands and an adjacent 100-foot protective upland buffer area. To implement this Act, regulations were promulgated by the state under 6 New York Codes, Rules, and Regulations (NYCRR) Parts 663 and 664. Part 663 establishes regulations that:

(1) define the procedural requirements to be followed in undertaking different activities in wetlands and in areas adjacent to wetlands;

(2) establish standards governing the issuance of permits by the NYSDEC pursuant to the Act; and

(3) govern the department's implementation of the Act.

Part 664 of the regulations designates wetlands into four class ratings, with Class I being the highest or best quality wetland and Class IV being the lowest. In general, wetlands regulated by the state are those 12.4 acres (5 hectares) in size or larger. The NYSDEC can regulate smaller wetlands, including those without connections to other aquatic resources if they are considered to be of “unusual local importance.” The Freshwater Wetlands Act requires the NYSDEC to map all state-protected wetlands to allow landowners and other interested parties a means of determining where state jurisdictional wetlands exist. Authority under an Article 24 permit is required from the NYSDEC for any disturbance to a state-protected wetland or the adjacent buffer area, including the removal of vegetation.

Article 15 of the ECL (Protection of Waters) provides the NYSDEC with regulatory jurisdiction over any activity that disturbs the bed or banks of protected streams. Small lakes and ponds with a surface area of 10 acres or less, located within the course of a protected stream, are considered to be part of a stream and are subject to regulation under the stream protection category of Article

15. A protected stream is defined in the ECL as any stream, or particular portion of a stream, that has been assigned by the NYSDEC any of the following classifications or standards: AA, A, B, C(T), or C(TS) (6 NYCRR Part 701). State water quality classifications of unprotected watercourses include Class C and Class D waterbodies. These classifications are defined below.

- A classification of AA or A indicates that the best use of the stream is as a source of water supply for drinking, culinary or food processing purposes, primary and secondary contact recreation, and fishing.
- The best usages of Class B waters are primary and secondary contact recreation and fishing.
- The best usage of Class C waters is fishing. Streams designated (T) indicate that they support trout, while those designated (TS) support trout spawning.
- Waters with a classification of D are suitable for fishing and non-contact recreation.

Per 6 NYCRR Chapter X, Subchapter B, "*All streams or other bodies of water which are not shown on the reference maps herein shall be assigned to Class D, as set forth in Part 701, supra, except that any continuous flowing (perennial) natural stream which is not shown on the reference maps shall have the same classification and assigned standards as the waters to which it is directly tributary*." An Article 15 permit is required from the NYSDEC for any disturbance to a stream classified or with applicable classification and/or standard as C(T) or higher.

2.3 New York City Department of Environmental Protection

New York City's water supply system includes the Catskill/Delaware Watersheds and the Croton Watershed. The Project Site is located within the Croton Watershed (see Section 4.4.1). Under New York State's Public Health Law, the NYCDEP regulates certain activities within the watershed, including a land-clearing or land-grading project involving 2 acres, or more, located within 100 feet of a watercourse or wetland, or within 300 feet of a reservoir, reservoir stem or controlled lake, or on a slope exceeding 15 percent.

2.4 Town of Yorktown

According to the Freshwater Wetlands and Watercourse Protection Law of the Town of Yorktown, freshwater wetlands in the Town of Yorktown are defined as:

- Watercourses and waterbodies;
- Lands and waters that meet the criteria provided in the Freshwater Wetlands Act (see Section 2.2); and
- All areas greater than 1,000 square feet that comprise hydric soils and/or are inundated or saturated by those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of hydrophytic vegetation.

The Town of Yorktown regulates activities in wetlands and wetland/course buffers. Wetland buffers are defined as areas at least 100 feet away from the edge of wetlands. Watercourse buffers are defined as areas at least 100 feet from the banks of the watercourses, or the high-water mark, whichever is more.

3.0 WETLAND AND STREAM DELINEATION METHODOLOGY

Prior to initiating field investigations, TRC conducted a desktop review of publicly available data to determine the potential presence of federal and state mapped wetlands and streams within the Project Site. TRC wetland scientists subsequently performed field investigations to identify aquatic features within the Project Site. Delineations for wetlands and streams were performed in accordance with criteria set forth in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) (1987 Manual) and the 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (USACE, 2012) (Supplement). Data was collected from a sample plot in each delineated wetland. Depending on the size of the delineated area and any change in cover type, multiple sample plots of the delineated wetland may have been taken. Delineation data was recorded on USACE Wetland Determination Forms (Appendix C). The boundaries of wetlands were demarcated with pink survey ribbon labeled "wetland delineation" and located with a GPS unit with reported sub-meter accuracy.

3.1 Hydrology

The presence of wetland hydrology is determined based on primary and secondary indicators established by the USACE. The 1987 Manual defines the presence of wetland hydrology when at least one primary indicator or two secondary indicators are identified. Wetland hydrology is present if one or more primary indicator is present; however, if primary indicators are absent, two or more secondary indicators are required to determine the presence of wetland hydrology. If other probable wetland hydrology evidence was found on-site, then such characteristics were subsequently documented on the USACE Wetland Determination Form. Wetland hydrology indicators are grouped into 18 primary and 11 secondary indicators as presented in the Supplement.

Wetland hydrology may influence the characteristics of vegetation and soils due to anaerobic and reducing conditions (Environmental Laboratory, 1987). This influence is dependent on the frequency and duration of soil inundation or saturation which, in turn, is dependent on a variety of factors including topography, soil stratigraphy, and soil permeability, in conjunction with precipitation, runoff, and stormwater and groundwater influence.

3.2 Vegetation

Hydrophytic vegetation is defined in the 1987 Manual as:

"*…the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present*" (Environmental Laboratory, 1987).

Plants are categorized according to their occurrence in wetlands. Scientific names and wetland indicator statuses for vegetation are those listed in the *National Wetland Plant List, version 3.4* (USACE, 2018) (NWPL). Due to regional differences in wetland vegetation, among other

characteristics, the USACE divided the United States into regions to improve the accuracy and efficiency of wetland delineations. The indicator statuses specific to the "Northcentral and Northeast Region" as defined by the USACE apply to the Project Site. The official short definitions for wetland indicator statuses are as follows.

- Obligate Wetland (OBL): Almost always occur in wetlands.
- Facultative Wetland (FACW): Usually occur in wetlands but may occur in non-wetlands.
- Facultative (FAC): Occur in wetlands and non-wetlands (50/50 Mix).
- Facultative Upland (FACU): Usually occur in non-wetlands but may occur in wetlands.
- Upland (UPL): Almost never occur in wetlands.

For species with no indicator status in the Project Site's region, the indicator status assigned to the species in the nearest adjacent region is applied. Plants that are not included on the NWPL within the Project Site's region, nor an adjacent region, are given no indicator status, and are not included in dominance calculations. Plants that are not listed in any region on the NWPL are considered as UPL on USACE Wetland Determination Forms.

Vegetation in both upland and wetland communities was characterized using areal methods for instituting plot measurement. In accordance with USACE methodology, a plot radius of 30 feet around the soil sample location was applied to tree species, a 15-foot radius for saplings/shrubs, and a five-foot radius was utilized for herbaceous plants. After the measurement of percent coverage was determined for each species, an application of the 50/20 rule of dominance determination was utilized to define the presence or absence of overall hydrophytic dominance at sample plots. In using the 50/20 rule, the plants that comprise each stratum are ranked from highest to lowest in percent cover. The species that cumulatively equal or exceed 50 percent of the total percent cover for each stratum are dominant species, and any additional species that individually provides 20 percent or more percent cover is also considered a dominant species of its respective strata. The total cover for each stratum, and subsequently the plot, could exceed 100 percent due to vegetation overlap.

Where the wetland boundary results of this approach differ meaningfully from the approach outlined within the *New York State Freshwater Wetland Delineation Manual* (Browne et al., 1995), the difference is described within this report if needed to address NYSDEC Article 24 jurisdiction. Though not common, two wetland boundaries, a state and a federal boundary, may arise from subtle differences in the definition of vegetative strata, sampling technique, and wetland indicators between the USACE and the NYSDEC.

Cover types are also assigned to each wetland. The delineated resources were classified in accordance with the system presented in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (Federal Geographic Data Committee [FGDC], 2013). Field

biologists assign cover types to wetlands based on this classification standard and utilize this document.

3.3 Soils

Hydric soil indicators were determined utilizing the Supplement with added provision from the *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils*, Version 8.2 (United States Department of Agriculture [USDA] Natural Resources Conservation Service [NRCS], 2018). Soil characteristics were documented, such as matrix color, layer depth, presence of organic/peat layers, and evidence of redoximorphic features, which may include indicators such as saturation, redoxification, gleyed matrices, manganese mottling, and hydrogen sulfide odor. Soil test pits were dug using a spade shovel to a depth of approximately 20 inches or more. Refusal of soil sample to 20 inches occurred in some instances due to the presence of hardpan layer, rock, or hard fill materials and was documented. Soil color was described using the Munsell Soil Color Book (Munsell Color, 2015) and texture was determined using the USDA feel method (Thien, 1979).

Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin (USDA NRCS, 2006) (MLRA Handbook) was referenced to determine the hydric soil indicators that apply to the Project Site. Per the MLRA Handbook, the Project Site is within Major Land Resource Area 144A (New England and Eastern New York Upland, Southern Part) of Land Resource Region (LLR) R (Northeastern Forage and Forest Region). Hydric soil indicators that do not apply to this MLRA were not considered on the wetland determination data forms.

3.4 Streams

Streams within the Project Site were identified by the presence of an OHWM, which is the line established by the fluctuations of water (33 CFR 328.3). The OHWM line is indicated by physical characteristics such as: a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other characteristics of the surrounding areas. TRC biologists used the definitions for perennial and intermittent streams found in *The Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (FGDC, 2013) when classifying delineated streams. Ephemeral streams have flowing water primarily from rainfall runoff and are above the water table. Stream data were entered on TRC's stream data forms.

Streams were delineated with blue flagging and stream points of the delineated boundaries were located with a handheld GPS unit set for sub-meter accuracy. Streams greater than six feet wide were delineated bank to bank. Streams less than six feet wide, sub-meter GPS point capture and post-processing (differential correction) still yields imprecise stream bank measurements due to the narrow nature of the stream. In these circumstances, centerline delineations were applied to maintain accurate representation of stream sinuosity for planning and impact calculation purposes. Stream widths were measured and documented within Stream Data Forms (Appendix C).

4.0 PHYSICAL SITE CHARACTERISTICS

4.1 Resources

The following publicly available resources were used in the investigation, delineation, and report preparation:

- United States Geological Survey (USGS) Ossining New York 7.5-minute quadrangle;
- USDA Ecoregion Maps;
- USGS National Hydrography Dataset;
- USGS Hydrologic Unit Maps;
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 36119C0133F, effective 9/28/2007 and 36119C0134F, effective 9/28/2007;
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping;
- NYSDEC Environmental Resource Mapper (ERM);
- USDA NRCS Web Soil Survey; and
- Recent aerial orthoimagery.

4.2 Vegetation and Ecological Communities

The Project Site resides in the Eastern Broadleaf Forest (Oceanic) Province and Lower New England Section ecoregion of the United States as defined by the USDA Forest Service (Bailey et al., 1995). Ecoregions are ecosystems of regional extent. The USDA identifies ecoregions by ecosystem characteristics into the following classifications:

- Domains: the largest ecosystem, which are groups of related climates and which are differentiated based on precipitation and temperature.
- Divisions: represent the climates within domains and are differentiated based on precipitation levels and patterns as well as temperature.
- Provinces: Subdivisions of divisions, which are differentiated based on vegetation or other natural land covers.
- Sections: Subdivisions of provinces based on terrain features, sections are the finest level of detail described for each subregion.

- Mountainous Areas: Mountainous areas that exhibit different ecological zones based on elevation.

The Eastern Broadleaf Forest (Oceanic) Province is characterized by a temperate deciduous forest dominated by tall broadleaf trees. Forest vegetation in this province is divided into three major associations: mixed mesophytic, Appalachian oak, and pine-oak (Bailey et al., 1995). The forest vegetation of the Lower New England Section includes oak-hickory, white-red-jack pine, maple-beech-birch, and aspen-birch cover types (McNab et al., 2007).

Similarly, the NYSDEC has divided New York State into specific ecological regions (Ecozones). Boundaries of the Ecozones of New York State were derived from Will et al. (1982) and Dickinson (1983) and then further modified by the NYSDEC. The Ecozones of New York State have been classified into Major and Minor Zones. The Project Site is located within the Manhattan Hills Major Zone, which does not have any Minor Zones. The Manhattan Hills Major Zone is in the oak natural vegetation zone and young stands of pioneer hardwoods and oaks are common.

Recent aerial orthoimagery of the Project Site and surrounding vicinity indicates that the Project Site is covered by forest. Furthermore, and based off a more in-depth site review conducted during the delineation effort, the Project Site contains the following ecological communities as defined by *Ecological Communities of New York State* (second edition) (Edinger et al., 2014):

- Intermittent stream
- Unconfined river
- Impounded marsh
- Shallow emergent marsh
- Red maple-hardwood swamp
- Appalachian oak-hickory forest
- Beech-maple mesic forest

4.3 Physiography and Soil Characteristics

4.3.1 Physiography and Topography

The Project Site is within the Manhattan Prong Physiographic Province of New York State. This Physiographic Province is defined by low, hilly terrain with a gentle relief (New York State Geological Survey, 2018).

As shown on the USGS Ossining, NY 7.5-minute quadrangle, the Project Site is defined by a valley dipping gently to the southwest between a ridge along the western portion of the Project Site and a hill, known as Hog Hill, in the northeastern corner of the Project Site (see Figure 1 in Appendix A). The valley broadens out in the southern portion of the Project Site where it reaches

its lowest elevation of approximately 220 feet above mean sea level (AMSL). A saddle is between the ridge and Hog Hill in the northern portion of the Project Site. The terrain slopes steeply to the east from the saddle to Hog Hill. The highest elevation is approximately 510 feet AMSL at the top of Hog Hill in the northeastern corner of the Project Site. Despite the presence of sections of steeper terrain, the average slope across the entire Project Site is approximately 5 percent, and the Project Site's topography would be considered gently sloping.

4.3.2 Site Soils

The USDA NRCS Web Soil Survey is an online resource mapping tool that provides soil data and information for the nation. This information is produced by the National Cooperative Soil Survey (NCSS), in partnership with federal, regional, state, and local agencies; and private entities and institutions.

A total of 13 soil map units were identified within the Project Site. Soil map units can represent a type of soil, a combination of soils, or miscellaneous land types. Soil map units are usually named for the predominant soil series or land types within the map unit. All soil map units identified within the Project Site by the NRCS soil survey are outlined in Table 1. Refer to Figure 2 of Appendix A for graphically depicted soil map units at the Project Site.

Table 1. Mapped Soils within the Project Site

Map Unit Symbol	Map Unit Name	Slope (%)	Drainage Class	Hydric Rating (%)	Acres in Project Site	Percent of Project Site (%)
ChB	Charlton fine sandy loam	3-8	Well drained	1	0.59	1.00
ChC	Charlton fine sandy loam	8-15	Well drained	0	4.11	6.99
ChD	Charlton fine sandy loam	15-25	Well drained	0	0.50	0.85
CrC	Charlton-Chatfield complex, vey rocky	0-15	Well drained	5	7.38	12.53
CsD	Charlton-Chatfield complex, vey rocky	15-35	Well drained	6	5.46	9.27
CuD	Chatfield-Hollis-Rock outcrop complex	15-35	Well drained	4	5.72	9.72
Ff	Fluvaquents-Udifluvents complex, frequently flooded	0-3	Poorly drained	59	2.62	4.45
HnC	Hinckley loamy sand	8-15	Excessively drained	0	0.05	0.09

Table 1. Mapped Soils within the Project Site

Map Unit Symbol	Map Unit Name	Slope (%)	Drainage Class	Hydric Rating (%)	Acres in Project Site	Percent of Project Site (%)
HrF	Hollis-Rock outcrop complex	35-60	Somewhat excessively drained	4	6.80	11.55
RdB	Ridgebury complex	3-8	Poorly drained	58	2.12	3.61
Sh	Sun loam	0-3	Very poorly drained	100	8.78	14.92
UdB	Unadilla silt loam	2-6	Well drained	0	0.82	1.39
WdB	Woodbridge loam	3-8	Moderately well drained	7	13.92	23.64

Soil drainage in the Project Site is primarily well drained, with 65.39 percent of the Project Site's soils classified as well drained or moderately well drained, 22.98 percent classified as poorly drained or very poorly drained, and 11.64 percent classified as excessively drained or somewhat excessively drained.

The 1987 Manual defines a hydric soil as "*a soil that in its undrained condition, is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation*" (Environmental Laboratory, 1987).

Three of the soil map units within the Project Site contain higher percentages (33 percent or more) of mapping units with hydric soil inclusions suggestive of the presence of a wetland feature on site (Table 1). Hydric Soil Rating indicates the percentage of a map unit that meet the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are comprised predominantly of hydric soils may have small areas of minor non-hydric components in the higher positions on the landform, and map units that comprised predominantly of non-hydric soils may have small areas of minor hydric components in the lower positions on the landform. As such, each map unit is rated based on its respective components and the percentage of each component within the map unit. Although a soil series is given a general hydric soil rating on the online databases, this is for reference only and does not supersede site specific conditions in the field documenting hydric soil presence.

Due to limitations imposed by the small scale of the soil survey mapping, it is not uncommon to identify wetlands within areas not mapped as hydric soil while areas mapped as hydric often do not support wetlands. This concept is emphasized by the NRCS:

"*Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.*"

4.4 Hydrology

4.4.1 Hydrologic Mapping

The USGS has divided and sub-divided the country into hydrologic units based primarily on drainage basins and watershed boundaries. The main hydrologic unit levels are regions, sub-regions, basins, sub-basins, watersheds, and sub-watersheds. The hydrologic units are nested within each other, from the largest geographic area (regions) to the smallest geographic area (sub-watersheds). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to twelve digits based on the six levels of classification in the hydrologic unit system. In addition to the HUCs, each hydrologic unit is assigned a name corresponding to the unit's principal hydrologic feature, or to a cultural or political feature within the unit.

The region hydrologic unit level contains either the drainage area of a major river or the combined drainage areas of a series of rivers. Regions receive a two-digit code. The following hydrologic unit levels are designated by the addition of another two digits with each level. Each sub-region includes the area drained by a river system, a reach of a river and its tributaries in that reach, a closed basin or basins, or a group of streams forming a coastal drainage area.

Specifically, the Project Site is located within the USGS defined Lower Hudson sub-basin (HUC 02030101), Croton River watershed (HUC 0203010103), and the Bailey Brook-Croton River sub-watershed (HUC 020301010307).

The Lower Hudson sub-basin is approximately 479,464 acres in area. A total of 16.3 percent of the sub-basin is wetland or open water. Annual precipitation ranges from 44 to 52 inches (NRCS, 2011).

The Croton River watershed (HUC 0203010103) provides 10 percent of the water supply to New York City. The New Croton Reservoir, located approximately 700 feet northwest of the Project Site, has a water quality rating of AA, meaning it is best used for drinking water. The NYCDEP regulates certain activities within the Croton River watershed to protect the drink water supply of New York City (see Section 2.3).

The NYSDEC also classifies watersheds more generally within the State of New York. Unlike mapping efforts outlined by the USGS above, the NYSDEC utilizes the definitions of watersheds and drainage basins interchangeably. New York's waters (lakes, rivers, wetlands, streams etc.) were determined to fall within one of 17 major drainage basins as defined by the NYSDEC. The NYSDEC defines these drainage basins or watersheds as an area of land that drains water into a specific key body of water within or adjacent to the State of New York and include networks of rivers, streams, and lakes and the land area surrounding them. The NYSDEC classified watersheds are separated by high elevation geographic features (mountains, hills, ridges). Correspondingly, each major drainage basin is entirely defined and subdivided by a collection of

associated USGS sub-basins (USGS HUC 8-digit codes). The Lower Hudson sub-basin (HUC 02030101) is part of the larger Lower Hudson River major drainage basin.

The Project Site is located within the Lower Hudson River major drainage basin of New York. Water quality in this major drainage basin varies widely due to a variety of pollutants and sources. Major water quality concerns in this major drainage basin include municipal wastewater, combined sewer overflows, and urban/stormwater runoff.

4.4.2 Hydrologic Character

The most dominant surface waterbody within the Project Site is a minor tributary to the New Croton Reservoir. This minor tributary flows into Cornell Brook off site to the northwest.

Most aquatic features within the Project Site act primarily as drainages to this minor tributary to the New Croton Reservoir.

The Project Site receives 47.2 inches of precipitation annually on average based on information stored for Town of Yorktown, New York (National Oceanic and Atmospheric Administration, 2020).

In addition to precipitation, hydrology on site originates from surface flow from the surrounding uplands and overbank flow from the minor tributary to the New Croton Reservoir. The Project Site drains relatively to the south west.

On-site hydrological conditions experienced during the survey included saturation in all wetlands identified, with 0.82 inch of rain accumulating during the week leading up to the delineation.

4.4.3 FEMA Flood Zone Mapping

FEMA maintains materials developed to support flood hazard mapping for the National Flood Insurance Program. According to Panels 36119C0133F, effective 9/28/2007 and 36119C0134F, effective 9/28/2007 (FEMA, 2007), the Project Site is not located within a flood zone (Figure 3 of Appendix A).

4.5 Federal and State Mapped Wetlands and Streams

The USFWS is the principal agency tasked with providing information to the public on the status and trends of wetlands on a national scale. The USFWS NWI is a publicly available resource that provides detailed information on the abundance, characteristics, and distribution of nationwide wetlands (where mapped). NWI wetlands do not exclusively carry any federal jurisdiction with their mapped boundaries. These wetlands are utilized as a reference guide by TRC field biologists to conduct a more informed site survey in the delineation of wetlands and streams potentially subject to federal jurisdiction under the CWA within in the Project Site.

Review of the NWI mapping during the preliminary desktop analysis indicated that there are five federally mapped features totaling 1.26 acres within the Project Site (see Figure 3 of Appendix

A). NWI mapping data indicates that a riverine, upper perennial, unconsolidated bottom, permanently flooded (PUBHh) wetland is the most dominant feature at the Project Site.

Review of NYSDEC mapping through access to the online NYSDEC ERM indicates that there are no NYSDEC-mapped freshwater wetlands within the Project Site. A Class I NYSDEC-mapped freshwater wetland (Wetland ID: O-33) is approximately 94 feet northwest of the Project Site, and the 100-foot adjacent area this NYSDEC-mapped freshwater wetland is within the Project Site (see Figure 3 of Appendix A). These features are regulated under Article 24 of the ECL (see Section 2.2).

Based on available NYSDEC stream classification mapping, there is one mapped stream within the Project Site, a Class B(TS) stream that is a minor tributary to the New Croton Reservoir (Regulatory ID: 864-463.1) (see Figure 3 of Appendix A). Approximately 514 cumulative linear feet of this state-protected stream are within the Project Site. State-protected streams are protected per Article 15 of the ECL (See Section 2.2).

5.0 RESULTS

5.1 General Overview

The Project Site contains primarily forested land. Dominant vegetation at the Project Site included sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), eastern white pine (*Pinus strobus*), shagbark hickory (*Carya ovata*), northern red oak (*Quercus rubra*), tuliptree (*Liriodendron tulipifera*), Japanese barberry (*Berberis thunbergii*), multiflora rose (*Rosa multiflora*), garlic mustard (*Alliaria petiolata*), and eastern woodland sedge (*Carex blanda*).The estimated diameter at breast height (DBH) of the trees ranged from approximately 8 to 18 inches, with a few individuals attaining DBH measurements of over 24 inches.

Weather conditions were normal for the time of year.

On April 27 and April 28, 2021, TRC identified and delineated one wetland and five streams within the Project Site (See Figure 4 of Appendix A). A total of 22.19 percent (13.06 acres) of the 58.87-acre Project Site is classified as wetland. Table 2 and Table 3 below detail the wetland and streams delineated within the Project Site. Representative photographs were taken of each delineated wetland community and stream within the Project Site and are included in Appendix B. Descriptions of each wetland and stream are provided below. Completed wetland determination data forms and TRC stream data forms are provided in Appendix C.

5.2 Delineated Wetlands

Wetland W-MJR-1 is a 13.06-acre palustrine forest (PFO)/palustrine emergent (PEM)/palustrine unconsolidated bottom (PUB) wetland located in the southern and eastern portions of the Project site and extends off sit to the east, south, and north. Wetland W-MJR-1 is mapped an NWI PUB wetland; however, the boundaries delineated were larger than the NWI mapping indicates. The wetland overlaps with the 500-foot check zone around NYSDEC-mapped freshwater wetland O-33. Hydrology originates from rainfall on site, surface runoff from the surrounding uplands, and overbank flow. Indicators of wetland hydrology include surface water (A1), high water table (A2), saturation (A3), inundation visible on aerial imagery (B7), saturation visible on aerial imagery (C9), geomorphic position (D2), and the FAC-neutral test (D5). Dominant vegetation includes red maple, American elm (*Ulmus americana*), common reed (*Phragmites australis*), multiflora rose, Japanese barberry, skunk cabbage (*Symplocarpus foetidus*), tussock sedge (*Carex stricta*), and water purslane (*Lythrum portula*). Soils have a silty clay loam to clay texture. The hydric soil indicators observed were depleted below dark surface (A11) and a depleted matrix (F3).

A vernal pool was identified within Wetland W-MJR-1. Three wood frog (*Lithobates sylvaticus*) tadpoles were observed in the vernal pool. This vernal pool was an isolated depression lacking an inlet or outlet. Pool depth at the time of the visit was 6 inches. The estimated hydroperiod of the vernal pool was ephemeral due to a lack of wetland vegetation. The vernal pool had a substrate of bare mineral soil and leaf-litter.

Wetland W-MJR-1 is likely USACE-jurisdictional as it is a wetland adjacent to a tributary of a TNW. A minor tributary to the New Croton Reservoir flows through Wetland W-MJR-1 before

flowing into the Cornell Brook off site. The Cornell Brook flows into the New Croton Reservoir, which is hydrologically connected to the Hudson River, a TNW, by the Croton River.

Wetland W-MJR-1 is likely NYSDEC-jurisdictional as extends off site towards NYSDEC-mapped freshwater wetland O-33, overlaps with the 500-foot check zone of NYSDEC-mapped freshwater wetland O-33, and is more than 12.4 acres.

Wetland W-MJR-1 is jurisdictional under the Town of Yorktown as it is greater than 1,000 square feet.

Table 2. Delineated Wetlands at the Project Site

Wetland Field Designation	Cover Type Classification[1] and Acreage				Total Wetland Acreage within Project Site	NWI Cover Type[1]	NYSDEC Wetland ID	NYSDEC Wetland Class	Potential Jurisdiction	Associated Buffer	Latitude of Centroid	Longitude of Centroid
	PEM	PSS	PFO	PUB								
W-MJR-1	1.93	-	10.76	0.37	13.06	PUB	O-33	Class I	USACE/ NYSDEC/ Yorktown	100 feet	41.210200°	-73.780004°
Total Wetland Acreage Delineated:					**13.06**							

[1]PEM – palustrine emergent; PSS – palustrine scrub-shrub; PFO – palustrine forested; PUB – palustrine unconsolidated bottom

5.3 Delineated Streams

Stream S-MJR-1 is an approximately 6-foot wide, 6 inches deep, perennial stream with 2-3 feet high banks. Approximately 854 linear feet were delineated within the Project Site. The streambed consists of sand and silt/clay substrate. The stream originates from off site to the south of the Project Site and flows west and north off site. This stream is a known tributary of the New Croton Reservoir, corresponds to a mapped NWI riverine feature, and corresponds to a Class B(TS) protected NYSDEC-mapped stream. Stream S-MJR-1 is USACE jurisdictional as a tributary to a TNW. Stream S-MJR-1 flows through Wetland W-MJR-1 before flowing into the Cornell Brook off site. The Cornell Brook flows into the New Croton Reservoir, which is hydrologically connected to the Hudson River, a TNW, by the Croton River. Stream S-MJR-1 is jurisdictional under the Town of Yorktown.

Stream S-MJR-2 is an approximately 6-foot wide, 4 inches deep, intermittent stream with 1-2 feet high banks. Approximately 454 linear feet were delineated within the Project Site. The streambed consists of a silt/clay substrate. The stream originates from the PUB portion of Wetland W-MJR-1 and flows south into Stream S-MJR-1. This stream corresponds to a mapped NWI riverine feature. Stream S-MJR-2 is a Class B(TS) protected NYSDEC-unmapped stream, because it flows, at least seasonally, into S-MJR-1, which is a Class B(TS) protected NYSDEC-mapped stream. Stream S-MJR-2 is USACE jurisdictional as a tributary to a TNW, because it flows into S-MJR-1. Stream S-MJR-2 is jurisdictional under the Town of Yorktown.

Stream S-MJR-3 is an approximately 2-foot wide, 2 inches deep, intermittent/ephemeral stream with 1-foot high banks. Approximately 741 linear feet were delineated within the Project Site. The streambed consists of a silt/clay substrate. The stream originates in the northern PFO portion of Wetland W-MJR-1 and flows south through W-MJR-1. The intermittent portion of Stream S-MJR-3 is USACE jurisdictional as a tributary to a TNW, because it flows through W-MJR-1. Stream S-MJR-3 is jurisdictional under the Town of Yorktown.

Stream S-MJR-4 is an approximately 3-foot wide, 2 inches deep, intermittent stream with 0.5-foot high banks. Approximately 525 linear feet were delineated within the Project Site. The streambed consists of a silt/clay substrate. The stream originates in the eastern PFO portion of Wetland W-MJR-1 and flows west through W-MJR-1. This stream corresponds to a mapped NWI riverine feature. Stream S-MJR-4 is USACE jurisdictional as a tributary to a TNW, because it flows through W-MJR-1. Stream S-MJR-4 is jurisdictional under the Town of Yorktown.

Stream S-MJR-5 is an approximately 2-foot wide, 2 inches deep, intermittent stream with 2.5-foot high banks. Approximately 89 linear feet were delineated within the Project Site. The streambed consists of a silt/clay substrate. The stream originates in the eastern PFO portion of Wetland W-MJR-1 and flows south into Stream S-MJR-5. Stream S-MJR-5 is USACE jurisdictional as a tributary to a TNW, because it flows through W-MJR-1. Stream S-MJR-5 is jurisdictional under the Town of Yorktown.

Table 3. Delineated Streams at the Project Site

Stream Field Designation	Flow Regime Classification	Linear Feet within Project Site	NYSDEC Stream Name and Regulation ID Number	NYSDEC Classification and Standard	Potential Jurisdiction	Associated Buffer	Latitude of Centroid	Longitude of Centroid
S-MJR-1	Perennial	854	Minor tributary to New Croton Reservoir (864-463.1)	Class B(TS)	USACE/ NYSDEC/ Yorktown	100 feet	41.209006°	-73.78335°
S-MJR-2	Intermittent	453	-	Class B(TS)	USACE/ NYSDEC/ Yorktown	100 feet	41.209281°	-73.781011°
S-MJR-3	Intermittent/ Ephemeral	741	-	Class D	USACE/ Yorktown	100 feet	41.211678°	-73.779530°
S-MJR-4	Intermittent	525	-	Class D	USACE/ Yorktown	100 feet	41.209700°	-73.779031°
S-MJR-5	Intermittent	89	-	Class D	USACE/ Yorktown	100 feet	41.209830°	-73.7790640°
Total Stream Length Delineated:		**2,661**						

6.0 CONCLUSIONS

A total of one wetland and five streams were delineated at the Project Site. TRC's analysis indicates that Wetland W-MJR-1 would likely be considered jurisdictional by the USACE, as this wetland is adjacent to a tributary of a TNW. Wetland W-MJR-1 may potentially be considered jurisdictional by the NYSDEC, because it extends off site towards a NYSDEC-mapped freshwater wetland, overlaps with the 500-foot check zone of a NYSDEC-mapped freshwater wetland, and is more than 12.4 acres. Wetland W-MJR-1 is likely jurisdictional under the Town of Yorktown as it is greater than 1,000 square feet.

All five delineated streams are likely USACE jurisdictional as they have surface connections to WOTUS. Stream S-MJR-1 is a NYSDEC-mapped protected stream and S-MJR-2 is a NYSDEC-unmapped protected stream because it flows into Stream S-MJR-1. All five delineated streams are likely jurisdictional under the Town of Yorktown.

Final determination of the jurisdictional status of the wetlands and streams identified on the Project Site must be made by the USACE, NYSDEC, and the Town of Yorktown upon completion of detailed reviews

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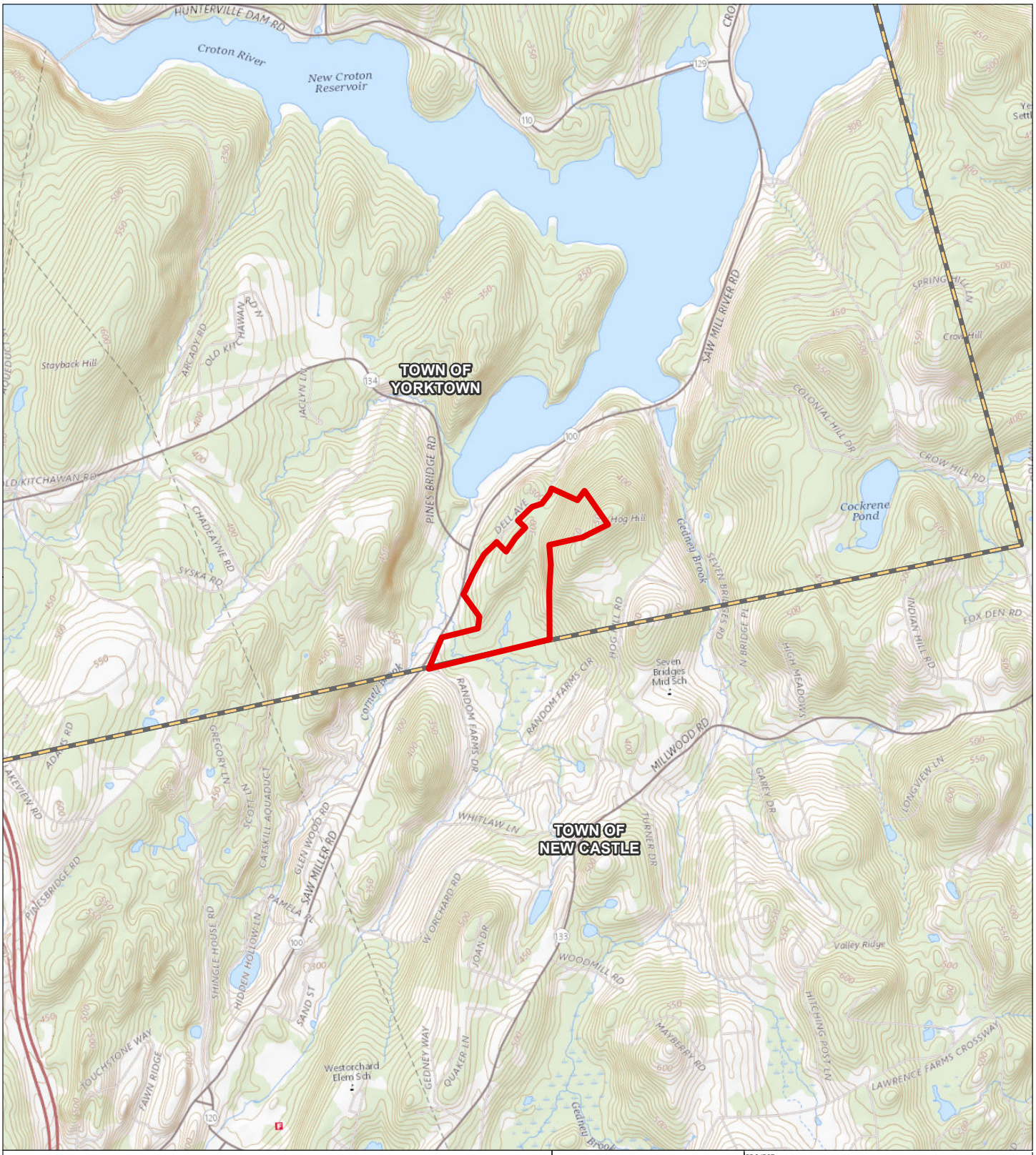
APPENDIX A
Figures



SITE BOUNDARY
VILLAGE BOUNDARY
MUNICIPAL BOUNDARY

0 1,000 2,000
Feet
1:24,000
1 Inch = 2,000 Feet

N

Base Map: USGS Topo Maps, Exri; Data Sources: TRC, Esri

PROJECT: **SOL SYSTEMS DELL AVE**
TOWN OF YORKTOWN
WESTCHESTER COUNTY, NY

TITLE: **SITE LOCATION MAP**

DRAWN BY:	S. MOTURI	PROJECT NO:	431302
CHECKED BY:	M. REGAN		
APPROVED BY:	C. DUNCAN		**FIGURE 1**
DATE:	MAY 2021		

Wannalancit Mills
650 Suffolk Street
Lowell, MA 01854
(978-970-5600)

TRC - GIS

Coordinate System: NAD 1983 2011 StatePlane New York East FIPS 3101 Ft US (Foot US)
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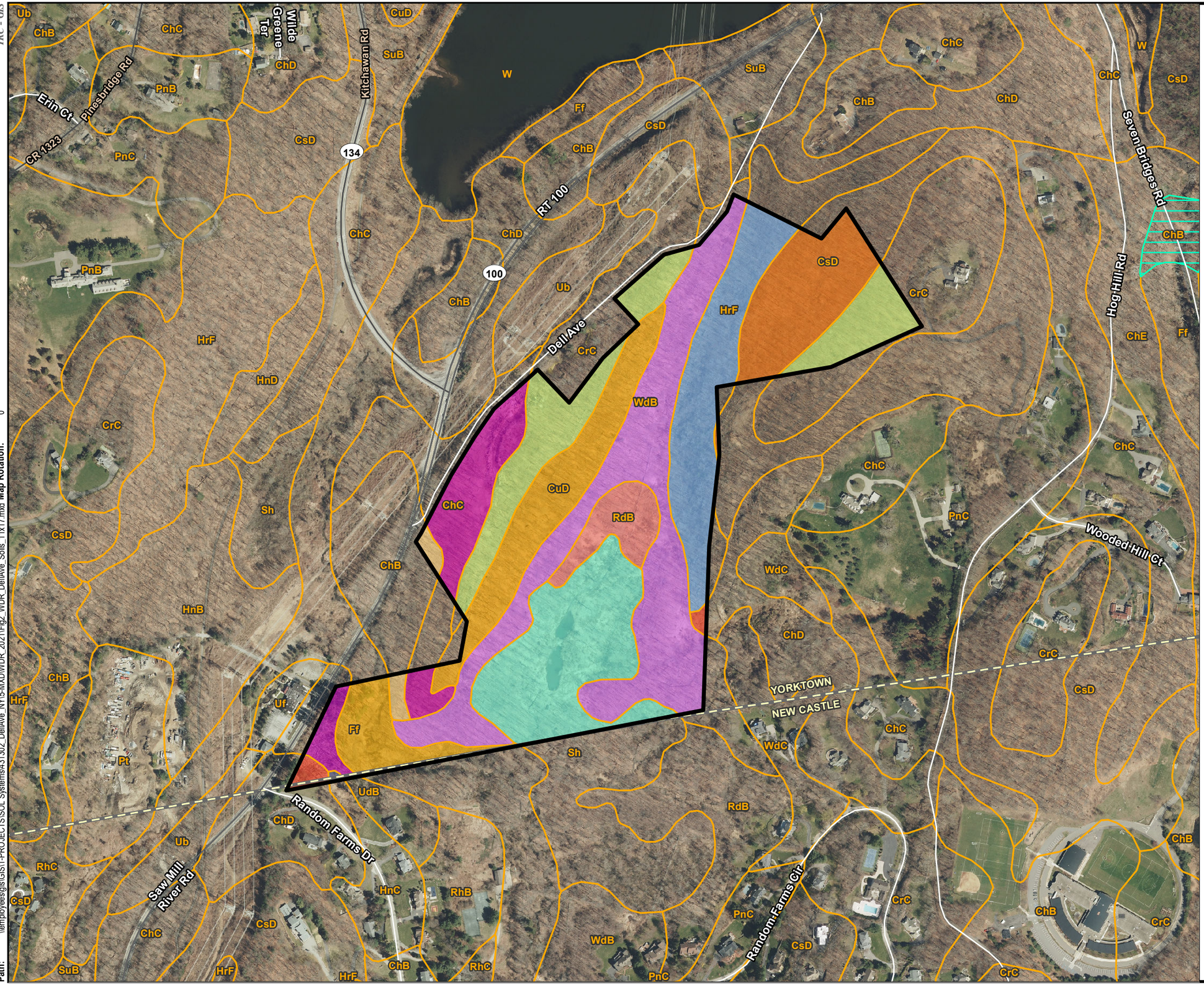

LEGEND

- SITE BOUNDARY
- MUNICIPAL BOUNDARY
- MINERAL SOILS GROUP CLASS 3
- SOIL MAP UNIT
- CHB - CHARLTON FINE SANDY LOAM, 3 TO 8 PERCENT SLOPES
- CHC - CHARLTON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES
- CHD - CHARLTON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES
- CRC - CHARLTON-CHATFIELD COMPLEX, 0 TO 15 PERCENT SLOPES, VERY ROCKY
- CSD - CHATFIELD-CHARLTON COMPLEX, 15 TO 35 PERCENT SLOPES, VERY ROCKY
- CUD - CHATFIELD-HOLLIS-ROCK OUTCROP COMPLEX, 15 TO 35 PERCENT SLOPES
- FF - FLUVAQUENTS-UDIFLUVENTS COMPLEX, FREQUENTLY FLOODED
- HNC - HINCKLEY LOAMY SAND, 8 TO 15 PERCENT SLOPES
- HRF - HOLLIS-ROCK OUTCROP COMPLEX, 35 TO 60 PERCENT SLOPES
- RDB - RIDGEBURY COMPLEX, 3 TO 8 PERCENT SLOPES
- SH - SUN LOAM
- UDB - UNADILLA SILT LOAM, 2 TO 6 PERCENT SLOPES
- WDB - WOODBRIDGE LOAM, 3 TO 8 PERCENT SLOPES

NOTES

1. BASEMAP IMAGERY FROM NYSGIS, DIGITAL ORTHO PHOTOS, 2018.
2. MINERAL SOILS ARE ACQUIRED FROM NYSERDA, 2018
3. SOILS ARE FROM USDA-NRCS WESTCHESTER COUNTY, 2020

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1:4,800

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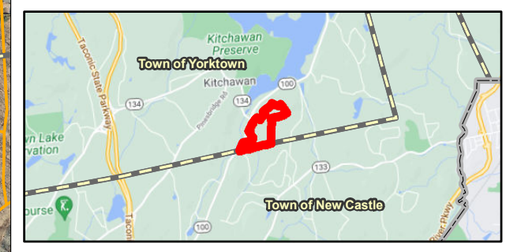

PROJECT:

SOL SYSTEMS DELL AVE

TOWN OF YORKTOWN
WESTCHESTER COUNTY, NY

TITLE:

SOILS MAP

DRAWN BY:	S. MOTURI	PROJ NO.:	431302
CHECKED BY:	M. REGAN		
APPROVED BY:	C. DUNCAN		**FIGURE 2**
DATE:	MAY 2021		

TRC

WANNALANCIT MILLS
650 SUFFOLK STREET
LOWELL, MA 01854

FILE NO.: Fig2_WDR_DellAve_Soils_11x17.mxd

TRC - GIS

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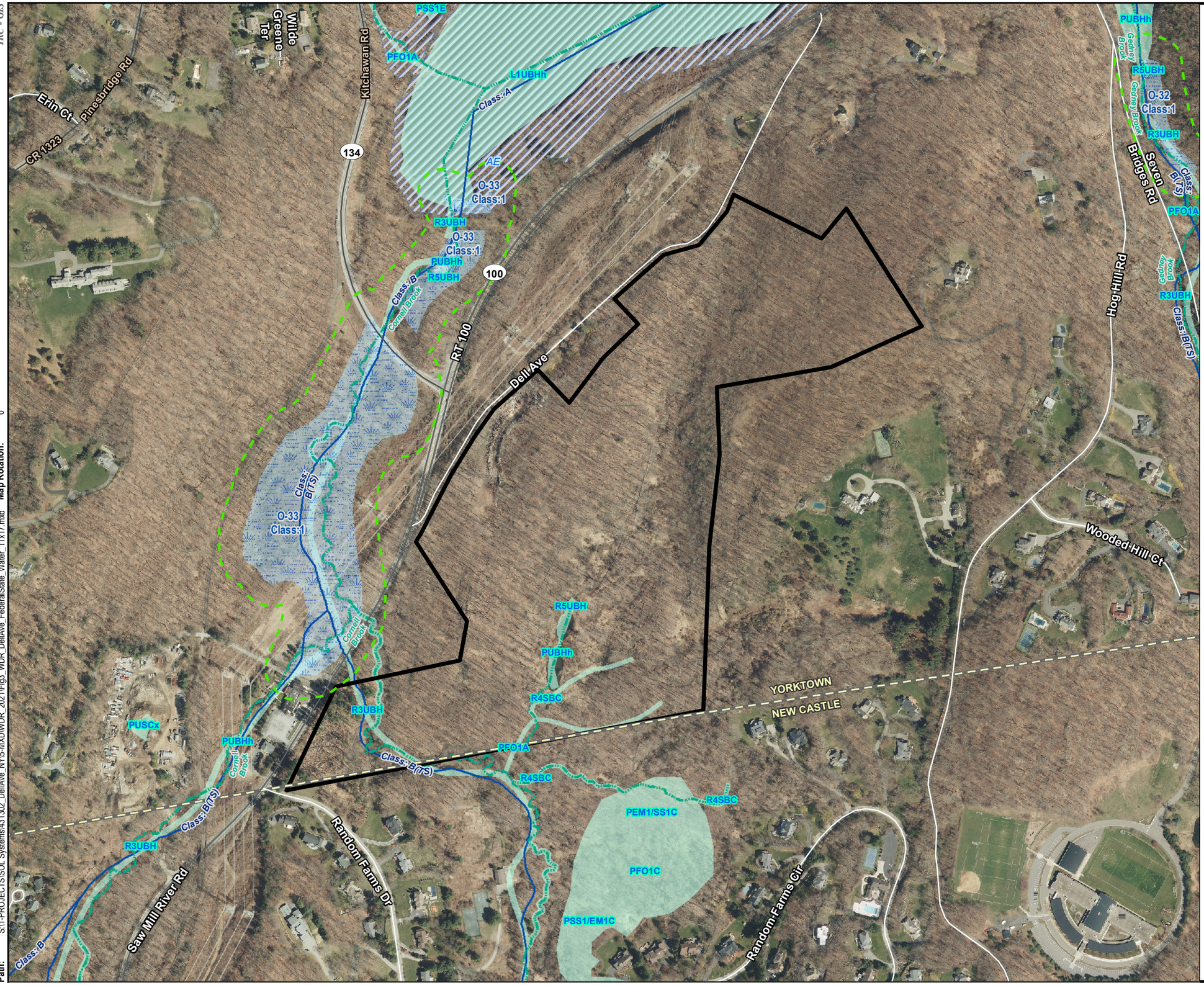

LEGEND

- SITE BOUNDARY
- STREAMS (NYSDEC)
- WATERBODIES (NHD)
- WETLANDS (NYSDEC)
- WETLANDS (NWI)
- 100-FT WETLAND ADJACENT AREA (NYSDEC)
- 100 YEAR FLOODPLAIN (FEMA)
- MUNICIPAL BOUNDARY

NOTES

1. WHOLE MAP EXTENT IS WITHIN 500-YEAR FLOODPLAIN
2. BASEMAP IMAGERY FROM NYSGIS, DIGITAL ORTHO PHOTOS, 2018.
3. FLOODPLAIN INFORMATION ACQUIRED FROM FEMA FLOOD MAP SERVICE CENTER.
4. NATIONAL HYDROGRAPHY DATASET (NHD) DATA ACQUIRED FROM NHD.USGS.GOV.
5. NATIONAL WETLANDS INVENTORY (NWI) DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, WETLANDS MAPPER.
6. NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION WETLANDS & WATERBODIES DATA ACQUIRED FROM DEC.NY.GOV.
7. NATURAL HERITAGE IMPORTANT AREAS (NYNHP) ARE ACQUIRED FROM NYSGIS

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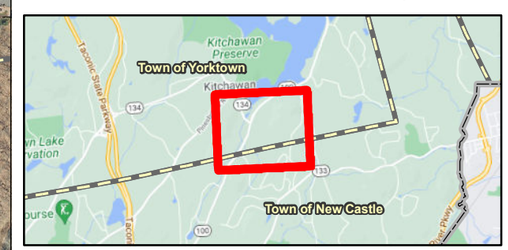

PROJECT:

SOL SYSTEMS DELL AVE

TOWN OF YORKTOWN
WESTCHESTER COUNTY, NY

TITLE:

FEDERAL AND STATE MAPPED RESOURCES

DRAWN BY:	S. MOTURI	PROJ NO.:	431302
CHECKED BY:	M. REGAN		
APPROVED BY:	C. DUNCAN		**FIGURE 3**
DATE:	MAY 2021		

TRC

WANNALANCIT MILLS
650 SUFFOLK STREET
LOWELL, MA 01854

FILE NO.: Fig3_WDR_DellAve_FederalState_Water_11x17.mxd

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DETAIL MAP EXTENT

134

Dell Ave

S-MJR-3

PFO

W-MJR-1-UPL-2

W-MJR-1-PFO

PUB

W-MJR-1

PEM

S-MJR-4

S-MJR-5

PUB

W-MJR-1-PUB

S-MJR-2

W-MJR-1

YORKTOWN

NEW CASTLE

100

RT 100

S-MJR-1

W-MJR-1-PEM

PEM

W-MJR-1-UPL-1

PFO

W-MJR-1

PFO

W-MJR-1

PFO

Random Farms Dr

LEGEND

- SITE BOUNDARY
- INVASIVEPLANT
- VERNAL POOL
- USACE WETLAND PLOT
- USACE UPLAND PLOT
- STREAM FLAG
- WETLAND FLAG
- DELINATED EPHEMERAL STREAM
- DELINATED INTERMITTENT STREAM
- DELINATED PERENNIAL STREAM
- DELINEATED SURFACE WATER
- DELINEATED WETLAND BOUNDARY LINE
- DELINEATED WETLAND
- 100-FT WETLAND ADJACENT AREA (NYSDEC AND YORKTOWN)
- 100-FT STREAM BUFFER (YORKTOWN)
- MUNICIPAL BOUNDARY

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1 " = 200 '

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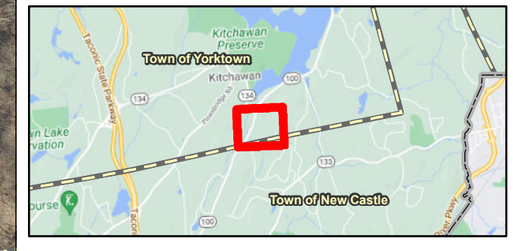

PROJECT:

SOL SYSTEMS DELL AVE

TOWN OF YORKTOWN
WESTCHESTER COUNTY, NY

TITLE:

DELINEATED RESOURCES

DRAWN BY:	S. MOTURI	PROJ NO.:	431302
CHECKED BY:	M. REGAN		
APPROVED BY:	C. DUNCAN		**FIGURE 4**
DATE:	MAY 2021		

TRC

WANNALANCIT MILLS
650 SUFFOLK STREET
LOWEL, MA 01854

FILE NO.: Fig4_WDR_DellAve_Delineation_11x17.mxd

APPENDIX B
Photograph Log

1. *Overview of the palustrine emergent (PEM) cover type portion of wetland W-MJR-1, facing southwest. Photograph taken April 27, 2021.*

2. *Overview of the perennial stream S-MJR-1, facing southeast. Photograph taken April 27, 2021.*

3. *Overview of the PEM cover type portion of wetland W-MJR-1, facing east. Photograph taken April 27, 2021.*

4. *Overview of the palustrine forested (PFO) cover type portion of wetland W-MJR-1, facing southwest. Photograph taken April 27, 2021.*

5. *Overview of the PEM cover type portion of wetland W-MJR-1, facing west. Photograph taken April 28, 2021.*

6. *Overview of the intermittent stream S-MJR-2, facing east. Photograph taken April 28, 2021.*

7. *Overview of the palustrine unconsolidated bottom (PUB) cover type portion of wetland W-MJR-1, facing northeast.*

Photograph taken April 28, 2021.

8. *Overview of the PUB cover type portion of wetland W-MJR-1, facing west.*

Photograph taken April 28, 2021.

9. *Overview of the intermittent stream S-MJR-3, facing northeast.*

Photograph taken April 28, 2021.

10. *Overview of the PFO cover type portion of wetland W-MJR-1, facing southwest.*

Photograph taken April 28, 2021.

11. *Overview of the intermittent stream S-MJR-4, facing northwest. Photograph taken April 28, 2021.*

12. *Overview of the intermittent stream S-MJR-5, facing southwest Photograph taken April 28, 2021.*

13. *Overview of the upland forest along the ridge in the western portion, facing northeast. Photograph taken April 27, 2021.*

14. *Overview of rock wall, facing southeast. Photograph taken April 27, 2021.*

15. *Overview of the upland forest along the ridge in the western portion, facing northwest. Photograph taken April 28, 2021.*

16. *Overview of well house observed, facing northwest. Photograph taken April 28, 2021.*

17. *Vernal pool observed in wetland W-MJR-1, facing north.*
Photograph taken April 28, 2021.

18. *Overview of steep slopes observed in the northestern portion of the Project Site, facing northeast.*
Photograph taken April 28, 2021.

APPENDIX C
Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dell Ave **City/County:** Westchester, Westchester **Sampling Date:** 2021-April-28
Applicant/Owner: SolSystems **State:** NY **Sampling Point:** W-MJR-01_PEM-1
Investigator(s): Matt Regan, Brian Corrigan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Depression **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 144A of LRR R **Lat:** 41.2093672296 **Long:** -73.7833477837 **Datum:** WGS84
Soil Map Unit Name: Fluvaquents-Udifluvents complex, frequently flooded **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ 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 ____		
Hydric Soil Present?	Yes _✓_ No ____	**Is the Sampled Area within a Wetland?**	**Yes _✓_ No ____**
Wetland Hydrology Present?	Yes _✓_ No ____	**If yes, optional Wetland Site ID:**	W-MJR-01

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

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):	18	**Wetland Hydrology Present?** Yes _✓_ No ____
Saturation Present? (includes capillary fringe)	Yes _✓_ No ____	Depth (inches):	12	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MJR-01_PEM-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Berberis thunbergii*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Symplocarpus foetidus*	90	Yes	OBL
2. *Microstegium vimineum*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= 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	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals	115	(A)	170 (B)
Prevalence Index = B/A =	1.5		

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 ____

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

SOIL

Sampling Point: W-MJR-01_PEM-1

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 3/2	100					Sandy Clay Loam	
4 - 18	10YR 4/2	95	7.5YR 4/4	5	C	M	Sandy Clay Loam	

[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) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
___ 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)

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)**
___ Dark Surface (S7) **(LRR K, L)**
___ 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 (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Soil Photos

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dell Ave **City/County:** Westchester, Westchester **Sampling Date:** 2021-April-28
Applicant/Owner: SolSystems **State:** NY **Sampling Point:** W-MJR-01_PFO-1
Investigator(s): Matt Regan, Brian Corrigan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Swamp **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 144A of LRR R **Lat:** 41.2110882439 **Long:** -73.7804218289 **Datum:** WGS84
Soil Map Unit Name: Ridgebury complex, 3 to 8 percent slopes **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ 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 ____		
Hydric Soil Present?	Yes _✓_ No ____	**Is the Sampled Area within a Wetland?**	**Yes _✓_ No ____**
Wetland Hydrology Present?	Yes _✓_ No ____	**If yes, optional Wetland Site ID:**	W-MJR-01

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

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):	5	**Wetland Hydrology Present?** Yes _✓_ No ____
Saturation Present? (includes capillary fringe)	Yes _✓_ No ____	Depth (inches):	0	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MJR-01_PFO-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	Yes	FAC
2. *Ulmus americana*	10	Yes	FACW
3. *Carya ovata*	5	No	FACU
4.			
5.			
6.			
7.			
	35	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Rosa multiflora*	15	Yes	FACU
2. *Berberis thunbergii*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Carex stricta*	30	Yes	OBL
2. *Lythrum portula*	30	Yes	OBL
3. *Symplocarpus foetidus*	10	No	OBL
4. *Microstegium vimineum*	10	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= 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:	6	(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	70	x 1 =	70
FACW species	10	x 2 =	20
FAC species	30	x 3 =	90
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals	140	(A)	300 (B)
Prevalence Index = B/A =	2.1		

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 ____

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

SOIL

Sampling Point: W-MJR-01_PFO-1

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 - 8	2.5Y 5/1	90	2.5Y 6/6	10	C	M	Clay	
8 - 18	2.5Y 5/1	80	2.5Y 6/6	20	C	M	Clay	

[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) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
___ 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)

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)**
___ Dark Surface (S7) **(LRR K, L)**
___ 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 (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

Hydrology Photos

Soil Photos

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dell Ave **City/County:** Westchester, Westchester **Sampling Date:** 2021-April-28
Applicant/Owner: SolSystems **State:** NY **Sampling Point:** W-MJR-01_PUB-1
Investigator(s): Matt Regan, Brian Corrigan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Pond **Local relief (concave, convex, none):** Concave **Slope (%):** 0 to 1
Subregion (LRR or MLRA): MLRA 144A of LRR R **Lat:** 41.2097044755 **Long:** -73.7806910556 **Datum:** WGS84
Soil Map Unit Name: Sun Loam **NWI classification:** PUB
Are climatic/hydrologic conditions on the site typical for this time of year? Yes _✓_ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ 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 ____		
Hydric Soil Present?	Yes _✓_ No ____	**Is the Sampled Area within a Wetland?**	**Yes _✓_ No ____**
Wetland Hydrology Present?	Yes _✓_ No ____	**If yes, optional Wetland Site ID:**	W-MJR-01

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

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):	36
Water Table Present?	Yes _✓_ No ____	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes _✓_ No ____	Depth (inches):	0

Wetland Hydrology Present? Yes _✓_ No ____

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MJR-01_PUB-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	0	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:		(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	0	(A)	0 (B)
Prevalence Index = B/A =			

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 ____

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

Wetland is a pond..

SOIL

Sampling Point: W-MJR-01_PUB-1

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
-								

[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) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
___ 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)

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)**
___ Dark Surface (S7) **(LRR K, L)**
___ 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 (TF12)
_✓_ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes _✓_ No ____

Remarks:

According to the USDA NRCS the mapped soil type is classified as hydric. Due to inundation a clear soil profile was unobtainable. Soils are assumed to be hydric.

Photo of Sample Plot North

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dell Ave **City/County:** Westchester, Westchester **Sampling Date:** 2021-April-28
Applicant/Owner: SolSystems **State:** NY **Sampling Point:** W-MJR-01_UPL-1
Investigator(s): Matt Regan, Brian Corrigan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 144A of LRR R **Lat:** 41.209471752 **Long:** -73.7829525769 **Datum:** WGS84
Soil Map Unit Name: Charlton fine sandy loam, 8 to 15 percent slopes **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ 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 ✓		
Hydric Soil Present?	Yes ____ No ✓	**Is the Sampled Area within a Wetland?**	**Yes ____ No ✓**
Wetland Hydrology Present?	Yes ____ No ✓	**If yes, optional Wetland Site ID:**	

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

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):	**Wetland Hydrology Present?** Yes ____ No ✓
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MJR-01_UPL-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	35	Yes	FACU
2. *Acer rubrum*	20	Yes	FAC
3. *Prunus serotina*	5	No	FACU
4.			
5.			
6.			
7.			
	60	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Berberis thunbergii*	35	Yes	FACU
2. *Carex blanda*	0	No	FAC
3.			
4.			
5.			
6.			
7.			
	35	= Total Cover	

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

Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= 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:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals	100	(A)	375 (B)
Prevalence Index = B/A =	3.8		

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 ✓

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

SOIL

Sampling Point: W-MJR-01_UPL-1

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	7.5YR 3/2	100					Sandy Loam	
3 - 10	10YR 4/3	100					Silty Clay Loam	
10 - 18	7.5YR 5/6	100					Sandy Clay Loam	

[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) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
___ 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)

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)**
___ Dark Surface (S7) **(LRR K, L)**
___ 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 (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

Photo of Sample Plot Sketch

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dell Ave **City/County:** Westchester, Westchester **Sampling Date:** 2021-April-28
Applicant/Owner: SolSystems **State:** NY **Sampling Point:** W-MJR-01_UPL-2
Investigator(s): Matt Regan, Brian Corrigan **Section, Township, Range:**
Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** Convex **Slope (%):** 1 to 3
Subregion (LRR or MLRA): MLRA 144A of LRR R **Lat:** 41.2111424329 **Long:** -73.780696001 **Datum:** WGS84
Soil Map Unit Name: Woodbridge loam, 3 to 8 percent slopes **NWI classification:**
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ 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 ✓		
Hydric Soil Present?	Yes ____ No ✓	**Is the Sampled Area within a Wetland?**	**Yes ____ No ✓**
Wetland Hydrology Present?	Yes ____ No ✓	**If yes, optional Wetland Site ID:**	

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

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):	**Wetland Hydrology Present?** Yes ____ No ✓
Saturation Present? (includes capillary fringe)	Yes ____ No ✓	Depth (inches):	

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

Remarks:

VEGETATION -- Use scientific names of plants.

Sampling Point: W-MJR-01_UPL-2

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Carya ovata*	35	Yes	FACU
2. *Acer rubrum*	20	Yes	FAC
3. *Quercus rubra*	10	No	FACU
4. *Liriodendron tulipifera*	5	No	FACU
5.			
6.			
7.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Berberis thunbergii*	15	Yes	FACU
2. *Rosa multiflora*	10	Yes	FACU
3. *Rubus allegheniensis*	5	No	FACU
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Alliaria petiolata*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= 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	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	85	x 4 =	340
UPL species	0	x 5 =	0
Column Totals	105	(A)	400 (B)

Prevalence Index = B/A = 3.8

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 ✓

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

SOIL

Sampling Point: W-MJR-01_UPL-2

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 - 13	10YR 3/2	100					Sandy Clay Loam	
13 - 18	10YR 4/4	100					Clay Loam	

[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) **(LRR R, MLRA 149B)**
___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
___ 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)

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)**
___ Dark Surface (S7) **(LRR K, L)**
___ 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 (TF12)
___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: None

Depth (inches):

Hydric Soil Present? Yes ____ No ✓

Remarks:

Soil Photos

Photo of Sample Plot North

Photo of Sample Plot East

Photo of Sample Plot South

Photo of Sample Plot West

STREAM AND WATERBODY INVENTORY

RESOURCE: S-MJR-01

CLIENT: SOLSYSTEMS

Project Name: *Dell Ave*

STREAM / WATERBODY OVERVIEW

Stream/Water ID	S-MJR-01	**Classification**	Perennial
Stream Name		**Date**	2021-04-27 12:27:58
Address	100–198 Somerstown Tpke Westchester NY 10562 US,		
Location Description			
Evaluator(s)	Matt Regan, Brian Corrigan		
Latitude, Longitude (WGS84)	41.20920462072008, -73.78333412117676		

STREAM / WATERBODY CHARACTERISTICS

Flow Stage	Moderate	**Flow Direction**	N
Average Depth	6	**Perceptible Flow**	Yes
Channel Substrate	Sand, Silt/Clay	**Obstruction**	NA
Channel Gradient	< 2% (< 1 deg) Gentle	**Canopy Closure (Est.)**	0 to 10%
Is floodplain present?	No	**Bankfull Width (ft)**	NA
Probed Stream Depth	0 to 6 inches	**Existing Water Width (ft)**	6
Top of Bank (ft)	8	**Presumed Regulatory Authority**	USACE and State
Ordinary High Water Mark (ft)	6	**Water Quality**	Clear
OHWM Indicators	Natural Line Impressed on Bank, Matted, Bent, or Absent Vegetation		
Water Quality Comments			
Bank Substrate(s)	Silt/Clay		
Aquatic Habitat(s)			
Observed Use			
Observed Fauna(s)			
RTE Present?	No	**RTE Species & Evidence**	

Bank	Bank Height (ft)	Bank Slope	Bank Erosion Potential
LEFT BANK	2	8 to 15% (5 to 9 deg) Moderately Sloping	
RIGHT BANK	3	15 to 25% (9 to 14 deg) Steeply Sloping	Moderate

NOTES:

STREAM / WATERBODY PHOTO(S)

Upstream Photo:

Downstream Photo:

Across Stream Photo:

STREAM AND WATERBODY INVENTORY

RESOURCE: S-MJR-02

CLIENT: SOLSYSTEMS

Project Name: *Dell Ave*

STREAM / WATERBODY OVERVIEW

Stream/Water ID	S-MJR-02	**Classification**	Intermittent
Stream Name		**Date**	2021-04-28 12:08:49
Address	Westchester NY 10562 US,		
Location Description			
Evaluator(s)	Matt Regan, Brian Corrigan		
Latitude, Longitude (WGS84)	41.20928433261924, -73.78098291351812		

STREAM / WATERBODY CHARACTERISTICS

Flow Stage	Moderate	**Flow Direction**	S
Average Depth	4	**Perceptible Flow**	Yes
Channel Substrate	Silt/Clay	**Obstruction**	NA
Channel Gradient	< 2% (< 1 deg) Gentle	**Canopy Closure (Est.)**	
Is floodplain present?	No	**Bankfull Width (ft)**	NA
Probed Stream Depth	0 to 6 inches	**Existing Water Width (ft)**	5
Top of Bank (ft)	7	**Presumed Regulatory Authority**	USACE and State
Ordinary High Water Mark (ft)	6	**Water Quality**	Clear
OHWM Indicators	Natural Line Impressed on Bank, Matted, Bent, or Absent Vegetation		
Water Quality Comments			
Bank Substrate(s)	Silt/Clay		
Aquatic Habitat(s)			
Observed Use			
Observed Fauna(s)	Snakes, Frogs		
RTE Present?	No	**RTE Species & Evidence**	

Bank	Bank Height (ft)	Bank Slope	Bank Erosion Potential
LEFT BANK	2	15 to 25% (9 to 14 deg) Steeply Sloping	Moderate
RIGHT BANK	1	8 to 15% (5 to 9 deg) Moderately Sloping	Low

NOTES:

STREAM / WATERBODY PHOTO(S)

Upstream Photo:

Downstream Photo:

Across Stream Photo:

STREAM AND WATERBODY INVENTORY

RESOURCE: S-MJR-03

CLIENT: SOLSYSTEMS

Project Name: *Dell Ave*

STREAM / WATERBODY OVERVIEW

Stream/Water ID	S-MJR-03	**Classification**	Ephemeral
Stream Name		**Date**	2021-04-28 16:33:39
Address	Westchester NY 10562 US,		
Location Description			
Evaluator(s)	Matt Regan, Brian Corrigan		
Latitude, Longitude (WGS84)	41.2120952877, -73.7791761105		

STREAM / WATERBODY CHARACTERISTICS

Flow Stage	Low	**Flow Direction**	S
Average Depth	1	**Perceptible Flow**	Yes
Channel Substrate	Silt/Clay	**Obstruction**	NA
Channel Gradient	< 2% (< 1 deg) Gentle	**Canopy Closure (Est.)**	60 to 70%
Is floodplain present?	No	**Bankfull Width (ft)**	NA
Probed Stream Depth	0 to 6 inches	**Existing Water Width (ft)**	2
Top of Bank (ft)	2	**Presumed Regulatory Authority**	
Ordinary High Water Mark (ft)	2	**Water Quality**	Clear
OHWM Indicators	Natural Line Impressed on Bank, Matted, Bent, or Absent Vegetation		
Water Quality Comments			
Bank Substrate(s)	Silt/Clay		
Aquatic Habitat(s)			
Observed Use			
Observed Fauna(s)			
RTE Present?	No	**RTE Species & Evidence**	

Bank	Bank Height (ft)	Bank Slope	Bank Erosion Potential
LEFT BANK	0.5	8 to 8% (0 to 5 deg) Nearly Level to Gently Sloping	Low
RIGHT BANK	0.5	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping	Low

NOTES:

STREAM / WATERBODY PHOTO(S)

Upstream Photo:

Downstream Photo:

Across Stream Photo:

STREAM AND WATERBODY INVENTORY

RESOURCE: S-MJR-03

CLIENT: SOLSYSTEMS

Project Name: *Dell Ave*

STREAM / WATERBODY OVERVIEW

Stream/Water ID	S-MJR-03	**Classification**	Intermittent
Stream Name		**Date**	2021-04-28 16:07:59
Address	Westchester NY 10562 US,		
Location Description			
Evaluator(s)	Matt Regan, Brian Corrigan		
Latitude, Longitude (WGS84)	41.211565970481566, -73.77966083593087		

STREAM / WATERBODY CHARACTERISTICS

Flow Stage	Moderate	**Flow Direction**	S
Average Depth	2	**Perceptible Flow**	Yes
Channel Substrate	Cobble/Gravel, Silt/Clay	**Obstruction**	NA
Channel Gradient	< 2% (< 1 deg) Gentle	**Canopy Closure (Est.)**	
Is floodplain present?	No	**Bankfull Width (ft)**	NA
Probed Stream Depth	0 to 6 inches	**Existing Water Width (ft)**	2
Top of Bank (ft)	2	**Presumed Regulatory Authority**	U.S. Army Corp
Ordinary High Water Mark (ft)	2	**Water Quality**	Clear
OHWM Indicators	Natural Line Impressed on Bank, Matted, Bent, or Absent Vegetation		
Water Quality Comments			
Bank Substrate(s)	Silt/Clay		
Aquatic Habitat(s)			
Observed Use			
Observed Fauna(s)	Frogs, Turtles		
RTE Present?	No	**RTE Species & Evidence**	

Bank	Bank Height (ft)	Bank Slope	Bank Erosion Potential
LEFT BANK	1	8 to 15% (5 to 9 deg) Moderately Sloping	Moderate
RIGHT BANK	1	8 to 15% (5 to 9 deg) Moderately Sloping	Moderate

NOTES:

STREAM / WATERBODY PHOTO(S)

Upstream Photo:

Downstream Photo:

Across Stream Photo:

STREAM AND WATERBODY INVENTORY

RESOURCE: S-MJR-04

CLIENT: SOLSYSTEMS

Project Name: *Dell Ave*

STREAM / WATERBODY OVERVIEW

Stream/Water ID	S-MJR-04	**Classification**	Intermittent
Stream Name		**Date**	2021-04-28 17:04:03
Address	Westchester NY 10562 US,		
Location Description			
Evaluator(s)	Matt Regan, Brian Corrigan		
Latitude, Longitude (WGS84)	41.20993187654876, -73.77968212596492		

STREAM / WATERBODY CHARACTERISTICS

Flow Stage	Low	**Flow Direction**	W
Average Depth	2	**Perceptible Flow**	Yes
Channel Substrate	Silt/Clay	**Obstruction**	NA
Channel Gradient	< 2% (< 1 deg) Gentle	**Canopy Closure (Est.)**	0 to 10%
Is floodplain present?	No	**Bankfull Width (ft)**	NA
Probed Stream Depth	0 to 6 inches	**Existing Water Width (ft)**	3
Top of Bank (ft)	3	**Presumed Regulatory Authority**	U.S. Army Corp
Ordinary High Water Mark (ft)	3	**Water Quality**	
OHWM Indicators	Natural Line Impressed on Bank, Matted, Bent, or Absent Vegetation		
Water Quality Comments			
Bank Substrate(s)	Silt/Clay		
Aquatic Habitat(s)			
Observed Use			
Observed Fauna(s)			
RTE Present?	No	**RTE Species & Evidence**	

Bank	Bank Height (ft)	Bank Slope	Bank Erosion Potential
LEFT BANK	0.5	8 to 8% (0 to 5 deg) Nearly Level to Gently Sloping	Low
RIGHT BANK	0.5	0 to 8% (0 to 5 deg) Nearly Level to Gently Sloping	Low

NOTES:

STREAM / WATERBODY PHOTO(S)

Upstream Photo:

Downstream Photo:

Across Stream Photo:

Across Stream Photo:

STREAM AND WATERBODY INVENTORY

RESOURCE: S-MJR-05

CLIENT: SOLSYSTEMS

Project Name: *Dell Ave*

STREAM / WATERBODY OVERVIEW

Stream/Water ID	S-MJR-05	**Classification**	Intermittent
Stream Name		**Date**	2021-04-28 17:36:29
Address	Westchester NY 10562 US,		
Location Description			
Evaluator(s)	Matt Regan, Brian Corrigan		
Latitude, Longitude (WGS84)	41.2098815851, -73.7790303492		

STREAM / WATERBODY CHARACTERISTICS

Flow Stage	Moderate	**Flow Direction**	S
Average Depth	2	**Perceptible Flow**	Yes
Channel Substrate	Silt/Clay	**Obstruction**	NA
Channel Gradient	< 2% (< 1 deg) Gentle	**Canopy Closure (Est.)**	30 to 40%
Is floodplain present?	No	**Bankfull Width (ft)**	NA
Probed Stream Depth	0 to 6 inches	**Existing Water Width (ft)**	2
Top of Bank (ft)	3	**Presumed Regulatory Authority**	U.S. Army Corp
Ordinary High Water Mark (ft)	2	**Water Quality**	Clear
OHWM Indicators	Natural Line Impressed on Bank, Matted, Bent, or Absent Vegetation		
Water Quality Comments			
Bank Substrate(s)	Silt/Clay		
Aquatic Habitat(s)			
Observed Use			
Observed Fauna(s)			
RTE Present?	No	**RTE Species & Evidence**	

Bank	Bank Height (ft)	Bank Slope	Bank Erosion Potential
LEFT BANK	2.5	8 to 15% (5 to 9 deg) Moderately Sloping	Moderate
RIGHT BANK	2.5	8 to 15% (5 to 9 deg) Moderately Sloping	Moderate

NOTES:

STREAM / WATERBODY PHOTO(S)

Upstream Photo:

Downstream Photo:

Across Stream Photo:

TRC

NEW YORK VERNAL POOL SURVEY ASSESSMENT FORM

Project Name: SolSystems Dell **Survey Date:** 4-28-2021
Lead Surveyor(s): Matt Regan **Assistant:** Brian Corrigan

VERNAL POOL INFROMATION

Feature Name: PVP 1
GPS Record (Check One): Center point: X Boundary: ____
GPS/Flagging Comments: ____
Estimated pool size (ft^2): 50

Landscape Description:

X Isolated depression ____ Floodplain depression ____ Pool associated with larger complex
____ Other/Comments: ____
Land use/forest condition within 100 ft of pool: ____

Habitat Types that best apply to this pool:

X Forested Swamp ____ Wet meadow ____ Floodplain ____ Dug pond or borrow pit
____ Shrub Swamp ____ Emergent marsh ____ Beaver impoundment ____ Lake or Pond cove
____ Roadside Ditch ____ ATV or Skidder rut X Upland depression
____ Other: ____
Comments: ____

Vegetation:

Canopy Closure (%) 25 Dominant species: Black birch

In-pool vegetation:
____ Terrestrial nonvascular spp. ____ Wet site ferns ____ Wet site graminoids
____ Wet site shrubs ____ Dry site ferns ____ Aquatic vascular spp.
X No vegetation in pool

Substrate/Soil description:

X Bare mineral soil X Leaf -litter ____ Muck/organic matter
____ Other: ____

TRC VERNAL POOL SURVEY ASSESMENT FORM

Pool Hydrology:

Pool depth (inches) on date of visit: 6

Estimated hydroperiod and rationale:

___ Permanent
X Ephemeral
___ Semi-permanent (drying partially all years and completely in drought)
___ Unknown

Explain: lack of wetland veg

Type of inlet or outlet:

X No inlet or outlet
___ Permanent inlet or outlet
___ Intermittent inlet or outlet
___ Other/unknown

Vernal Pool Indicator Information:

Record observations of vernal pool obligate indicator species below:

Indicator Species	Egg Mass Count	Salamander Larvae/Tadpoles Present	Adults Observed
Spotted Salamander (*Ambystoma maculatum*)			
Blue Spotted Salamander (*Ambystoma laterale*)			
Jefferson Salamander (*Ambystoma jeffersonianum*)			
Wood Frog (*Lithobates sylvaticus*)		3	

Was entire pool surveyed for egg masses?	X Yes	___ No	(% surveyed ____)
Fairy shrimp observed?	___ Yes	X No	
Fish present?	___ Yes	X No	
Bullfrog or Green Frog tadpoles present?	___ Yes	X No	

Other vernal pool information? (other wildlife use, hydrology remarks, disturbances etc.):