Appendix D

Wetland Delineation Reports

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Wetland Delineation Report

For the

Smith Pond
Project L
Living With The Bay

Village of Rockville Centre, Nassau County, New York

October 2017

Prepared for:

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1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) field delineated wetlands on approximately 51-acres of municipally owned land, identified as Smith Pond, located in Morgan Days Park in the Village of Rockville Centre, Nassau County, New York (hereafter referred to as Site). The wetland delineation effort was conducted on July 19, 20 and 25, 2017 and was performed in support of the New York Governors Office of Storm Recovery (GOSR), Living with the Bay, Smith Pond Project (Project). A survey of the aquatic flora of Smith Pond was conducted during an initial site reconnaissance conducted on July 13, 2017. The results of this survey are provided in a separate document.

The survey area for this wetlands delineation effort was generally bound by Peninsula Boulevard to the north, residential and commercial properties to the east, Merrick Road to the south and Ocean Avenue to the west (Figure 1, Site Location Map). The forested southwestern corner of the Site was not surveyed during this delineation effort due to time constraints and the understanding that proposed Project related activities would not occur in this area. This report provides a description of the wetlands and surface waterbodies identified within the Site. Included are a Site description, methods used to delineate wetlands, information reviewed (concerning wetlands and soils), field survey results (relating to vegetation, soils, and hydrology for wetlands; and streams), a summary, and a literature cited section. Appendices attached include data forms, and select site photographs.

2.0 SITE DESCRIPTION

The Site consists of approximately 51 aces and includes 25.8 acres of open water (Smith Pond), 3.7 acres of palustrine wetlands, 11.5 acres of upland deciduous forest, and 7.5 acres of developed lands. Approximately 2.5 acres of the Site were not surveyed. Developed lands included maintained lawns, paved parking areas and sport fields/paved courts. Topography throughout the Site is relatively flat ranging from 10 to 20 feet National Geodetic Vertical Datum of 1929 (USGS, 2017). The Site is generally bound by Peninsula Boulevard to the north, residential and commercial properties to the east, Merrick Road to the south and Ocean Avenue to the West As identified above, the southwestern corner of the Site was not surveyed as part of this delineation effort. Smith Pond is hydrologically fed by the Mill River and Pines Brook, located in the northwestern and northeastern corners of the Site, respectively. An unnamed ephemeral drainage also discharges surface water runoff to the western side of the pond from Ocean Avenue. Water from the pond empties into a triangular shaped concrete detention basin over a concrete and wooden weir, continues off-Site southward underground through concrete culverts for an estimated 750 feet, and then discharges into the northern extent of the tidal portion of the Mill River. The limits of the concrete and timber weir were not field delineated as part of this effort as it is understood that it would be land surveyed in support of associated engineering designs. According to the New York State Department of Environmental Conservation (NYSDEC), naturally reproducing fish species in Smith Pond include largemouth bass (*Micropterus salmoides*) chain pickerel (*Esox niger*) bluegill (*Lepomis macrochirus*), pumpkinseed (*L. gibbosus*), yellow perch (*Perca flavescens*), white perch (*Morone americana*), carp (Cyprinidae), goldfish (*Carassius auratus auratus*), brown bullhead (*Ameiurus nebulosus*) and American eel (*Anguilla rostrate*) (NYSDEC, 2017a).

3.0 METHODS

Wetland boundaries were delineated in the field using the Routine Onsite Determination Method, as described in the Corps of Engineers Wetlands Delineation Manual (USACE, 1987), along with region-specific methods and guidelines provided in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (USACE, 2012) and the Routine Delineation Procedure, as described in the 1985 New York State Freshwater Wetlands Delineation Manual (Browne et al. 1995). The USACE method incorporates a three-parameter approach using vegetation, soils, and hydrology to determine the presence

of freshwater wetlands. The hydrophytic vegetation criterion is mandatory under New York State's Freshwater Wetlands Act. Hydric soils and hydrology provide additional information and are used as needed to document the presence of a wetland and the location of its boundary.

To satisfy both USACE and NYSDEC methodology, the presence of a wetland was field verified by analyzing dominant vegetation, soil classification, and hydrology at least one sample station within each mapped wetland. Observations from fifteen (15) sample stations, eight (8) wetlands and seven (7) upland areas, were recorded at the Site. Wetland and surface waterbody boundaries and sample stations were recorded using a Trimble© handheld Global Positioning System (GPS). This unit generally provides sub-meter accuracy; however, accuracy can range within three to five meters.

Wetland boundary GPS survey data was collected for the uppermost interface between wetland and upland. For Smith Pond, this generally included the landward edge of the palustrine fringe wetlands; however, in the few cases where fringe wetlands were absent, this upper limit included the limits of the mean high waterline of the lacustrine system. With the exception of the northwest corner of the Pond, the approximate width of the palustrine wetland (i.e., boundary between the palustrine and lacustrine systems) was also recorded in the field. Dense vegetation and/or unstable substrate prevented an accurate field assessment of the palustrine/lacustrine interface in this area. The lacustrine boundary at this location was estimated using aerial imagery. Nomenclature for delineated wetlands consisted of an alphabetic coding, which identified the Site, Smith Pond Wetland (SPW) and sequential numbers that identified the individual feature (i.e., SPW01 through SPW06). A denotation of "SS" was used at the end of the wetland identifier to indicate the wetland and upland sample stations (i.e., SPW01-SS01).

Dominant vegetation in each stratum (tree, shrub, herbaceous, and vine) was identified using appropriate regional field guides and assigned a wetland indicator status obtained from US Army Corps of Engineers, 2016. Cover classes for wetlands were based on the National Wetland Inventory (NWI) classification hierarchy (Cowardin et al., 1979). Cover classes were assigned by determining the most abundant cover class in the wetland. A wetland was assigned multiple cover classes if more than one class comprised at least 30 percent areal coverage. Soil borings were obtained by using a hand held augur, and were extracted to a depth of 20 inches when possible. Soil characteristics were recorded in standard soil log format and soil colors were determined by using a Munsell Soil Color Chart (Kollmorgen Corporation, 2000). Primary and secondary indicators of hydrology were also visually assessed and recorded.

The centerline of one (1) stream feature, the unnamed ephemeral drainage from Ocean Avenue, (SPS01) was also delineated. Field data recorded for the stream included substrate composition, bank width and depth, water flow direction, and bank vegetation. Wetland and stream data sheets and associated photographs recorded during the field efforts are provided in Appendices A and B, respectively.

4.0 INFORMATION REVIEW

4.1 MAPPED WETLANDS AND SURFACE WATERBODIES

Federal and State data regarding mapped wetlands were reviewed for the Site. Data from the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) (2017a), identifies one 45.38-acre lake (Smith Lake), one 0.61-acre unnamed freshwater pond and portions of three riverine wetlands (one identified as Mill River) totaling approximately 400 linear feet within the Site (Figure 2, NWI Mapped Wetlands). Mill River and one of the unnamed riverine wetlands (identified elsewhere in this report as Pines Brook) discharge to the Pond from the northwest and northeast, respectively. The remaining riverine wetland discharges from Smith Pond to the south (USFWS, 2017). These referenced features are classified as follows:

- Lake (referred elsewhere in this report as Smith Pond) - Lacustrine Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded (L1UBHh).
- Freshwater Pond –Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated (PUBHx).
- Riverine Wetlands - Lower Perennial, Unconsolidated Bottom, Permanently Flooded (R2UBH).

The NYSDEC identifies similar features within the Site boundaries with the exclusion of the freshwater pond in the northeastern corner of the Site (Figure 3, NYSDEC Mapped Wetlands). Pursuant to 6 NYCRR Part 701, the NYSDEC classifies Smith Pond, Mill River and the unnamed riverine wetland to the northeast of the Pond as Class C, Fresh Surface Waters. The unnamed riverine wetland discharging from the pond is classified as Class SC, Saline Surface Waters (NYSDEC, 2017b). The best usage for Class C and Class SC waters is fishing. These waters are suitable for fish, shellfish and wildlife propagation and survival. The water quality is generally suitable for primary and secondary contact recreation; however, other factors may limit the use for these purposes.

The State also identifies the area associated with Smith Pond as a State regulated wetland including 90.1 acres. The NYSDEC Wetland ID is identified as L-3 and the Class is listed as 1 (NYSDEC, 2017b). The NYSDEC Freshwater Wetlands Act (1975) rank wetlands in one of four classes ranging from Class 1, which provide the most benefits, to Class IV, which provide the fewest benefits. As a state regulated wetland, a 100-foot wide regulated wetland “adjacent area” would also apply to the Smith Pond wetland.

4.2 SOIL SURVEY

According to the United States Department of Agriculture, Natural Resources Conservation Services, Custom Soil Resource Report for Nassau County, New York (USDA/NRCS, 2017), six (6) mapped soil units occur within the Site. These soil units include Swansea muck, 0 to 1 percent slopes, coastal lowland (Ma); Sudbury sandy loam (Su); Udipsamments, wet substratum (Ue); Udorthents, refuse substratum (Uf); Urban land (Ug); and Urban Land-Riverhead Complex, 0 to 3 percent slopes (UrA). The remaining portion of the Site, the central portion, is mapped as Water (W). Two of the mapped soil units (Ma and Su), are identified as hydric soils or containing hydric inclusions. Su and Ma soils occupy the northern portion of the Site, Ue and Ug soils occur along the eastern portion of the Site, Ug soils dominate the southern portion of the Site and UrA, Uf, Ug and Su soils occur in the western portion of the Site. Mapped soil units are provided on Figure 4, NRCS Soil Survey.

The following summarizes the characteristics of the referenced mapped soil units:

Ma soils – Swansea soils are very poorly drained soils associated with concave surfaces. These soils are identified as hydric and are often associated with bogs, marshes and swamps. Depth to water table is between 0 and 6 inches. Parent material includes highly decomposed organics material over loose sandy and gravelly glaciofluvial deposits. Slopes range from 0 to 1 percent and the depth to restrictive features is generally more than 80 inches.

Su soils – Sudbury soils are soils of outwash plains associated with summits and concave landforms. These soils are identified as having hydric inclusions. Depth to water table in these moderately well drained soils is between 18 and 36 inches. Parent material includes sandy and gravelly glaciofluvial deposits derived mainly from crystalline rock. Slopes range from 0 to 3 percent and the depth to restrictive features is generally more than 80 inches.

Ue soils – Udipsamments are moderately well drained soils consisting of 0 to 72 inches of coarse sand. Slopes range from 0 to 3 percent and the depth to restrictive features is generally more than 80 inches. Depth to water table is also identified as greater than 80 inches.

Uf soils – Udorthents include well drained refuse substratum and similar soils. Slopes range from 0 to 15 percent and the depth to restrictive features is generally more than 80 inches. Depth to water table ranges from 36 to 72 inches.

Ug soils- Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas.

UrA soils – Urban Land-Riverhead Complex soils include approximately 65 percent Urban soils and 20 percent Riverhead soils. Riverhead soils occupy outwash plains and summit moraines. They are well drained soils with slopes ranging from 0 to 3 percent.

4.3 THREATENED AND ENDANGERED SPECIES

Based on information obtained from the U.S. Fish and Wildlife Information, Planning, and Consultation System (IPaC System) (USFWS, 2017b), four federally listed wildlife species and two federally listed plant species may be affected by activities at the Site location. A copy of the referenced USFWS IPaC report is provided in Appendix C. These species include the federally listed threatened northern long-eared bat (*Myotis septentrionalis*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), and seabeach amaranth (*Amaranthus pumilus*); and the federally listed endangered roseate tern (*Sterna dougallii dougallii*) and sandplain gerardia (*Agalinis acuta*). Habitat descriptions for these species follow:

Northern long-eared bat – During the summer, the northern-long eared bat roosts singly or in colonies under bark or in cavities of both live and dead trees. They rarely roost in human structures such as barns and sheds. They emerge at dusk to feed on moths, flies, leafhoppers, caddisflies and beetles, which they catch in the understory of forested areas. According to the NYSDEC Northern Long-eared Bat Occurrences by Town (NYSDEC, 2016), there were no confirmed summer or winter occurrences of northern long-eared bat in Nassau County. Additionally, the USFWS Hibernacula and Maternity Roost Tree Location Information (USFWS, 2016) did not list any northern long-eared bat roost or hibernacula in Nassau County.

Piping plover – Piping lovers breed on coastal beaches from Newfoundland to North Carolina. They feed on marine worms, crustaceans and insects they forage from the sand. Recovery efforts include conservation of breeding and wintering habitat and protecting breeding birds, eggs and chicks from predators and human disturbance.

Red knot – Red knot winter at the southern tip of South America, northern Brazil, the Caribbean, and the southeastern and Gulf coasts of the U.S and breed in the tundra of the central Canadian Arctic. During the spring migration they stop over selected areas along the Atlantic Coast to rest and refuel. Red knots feed on invertebrates, especially small clams, mussels, and snails, but also crustaceans, marine worms, and horseshoe crab eggs. Threats to the red knot include coastal development; shoreline stabilization; dredging; reduced food availability at stopover areas; and human disturbance.

Seabeach amaranth - Seabeach amaranth is an annual plant that occurs on coastal beaches from New York to South Carolina. Flowering begins as soon as plants reach sufficient size (June or July) and continues until the plants die between September and December. It is native to Atlantic Coast beaches and barrier islands. The primary habitat consists of over wash flats at accreting ends of islands, lower fore dunes, and upper strands of non-eroding beaches; but the species occasionally establishes small temporary populations in other habitats, including sound-side beaches, blowouts in fore dunes, inter-dunal areas, and on sand and shell material deposited for beach replenishment or as dredge spoil. Seabeach amaranth usually grows on a nearly pure sand substrate, occasionally with shell fragments mixed in.

Roseate tern – The Roseate terns nests on outer coastal beach and island habitats from Nova Scotia to New York. They nest on densely vegetated rocky coastal islands, outer beaches or salt marsh islands. Roseate terns are "plunge-divers" and forage almost exclusively on small fish.

Sandplain gerardia - Sandplain gerardia is primarily a species of the Coastal Plain as a maritime grassland species. It was once a common species in some areas of Long Island. It now survives in remnant grasslands where it requires some disturbance that provides bare soil areas.

According to the NYSDEC Environmental Resource Mapper (NYSDEC, 2017b), there are no significant natural communities on or near the Site. The southern, approximately seventy five percent of the Site, is identified as being in the vicinity of one or more rare animals. No information regarding the species is provided.

The New York Nature Explorer database (NYSDEC, 2017c) was also reviewed for the Smith Pond Site. The referenced database identifies one state listed endangered plant species, slender crabgrass (*Digitaria filiformis*) as historically occurring within the Site. Slender crabgrass inhabits dry, open, sandy areas. A copy of the referenced New York Nature Explorer report is provided in Appendix C. Consultation with the New York Natural Heritage Program is recommended to confirm if any NYSDEC documented threatened or endangered species are located within the Site.

5.0 FIELD SURVEY RESULTS

5.1 WETLANDS

Four (4) wetlands were field delineated within the Site on July 19, 20 and 25, 2017 by Mr. Richard Delahunty, Professional Wetland Scientist (PWS) and Ms. Jenny Potrikus, both of Tetra Tech. The wetlands included lacustrine littoral unconsolidated bottom, aquatic bed and emergent (L2UB, L2AB and L2EM, respectively), and palustrine forested/scrub shrub (PFO/PSS) and PFO/palustrine emergent (PEM) systems associated with Smith Pond and contiguous fringe wetlands, respectively (Wetland SPW01/SPW02/SPW04); a PFO/PSS/PEM/palustrine open water (POW) wetland located in the north eastern corner of the Site (Wetland SPW03); and two palustrine forested wetlands located in the south western portion of the Site (Wetlands SPW05 and SPW06). Wetland SPW05 included PFO and PSS covertypes and Wetland SPW06 included PFO, PSS and PEM covertypes. The delineation of Smith Pond included the outer wetland boundary of the Pond (wetland boundary SPW02) and two islands (wetland boundaries SPW01 [easternmost island] and SPW04 [westernmost island]). Although connected hydrologically to Smith Pond through a stone box culvert, Wetland SPW03 was delineated as a separate feature. The delineation of Wetlands SPW05 and SPW06 was limited to the eastern edges of the features and the western edges of these features remain un-delineated. Based on topography and proximity, there is a high potential for these features to be connected. Data from fifteen (15) sample stations were recorded in support of the delineations, five for wetland boundary SPW02 and two (2) each for the remaining five wetland boundaries. The locations of the delineated wetland boundaries and sample stations are presented on Figure 5, Delineated Wetlands.

5.1.1 Vegetation

Dominant vegetation by wetland follow:

Wetland SPW01/SPW02/SPW04 (Smith Pond) - As identified above, wetland SPW01/SPW02/SPW04 consisted of both lacustrine and palustrine wetlands. The lacustrine component (L2AB and L2EM) was dominated by spatterdock (*Nuphar advena*) and hornwort (*Anthocerotopsida*). Other common aquatic species identified within Smith Pond by Mr. John Schaffer, Tetra Tech Aquatic Ecologist during the July 13, 2017 Site reconnaissance included: false loosestrife (*Ludwigia polycarpa*), white water lily (*Nymphaea alba*), duckweed (*Lemnaceae*), water meal (*Wolffia* sp.), American waterweed (*Elodea canadensis*) and bladderwort (*Utricularia* sp.). Observations were limited to a shoreline survey and not an open water survey so occurrence is subjective and based on encounters at shoreline survey locations. Fringe palustrine wetlands primarily included scrub shrub and forested components.

An emergent wetland component was also identified in the northwestern corner of the Pond. Scrub shrub dominated fringe wetlands were more common on the eastern shore and forested/scrub shrub wetlands were more prevalent on the western shore. These wetland communities generally ranged in width up to approximately 6 feet; however, a wider palustrine forested/scrub shrub/emergent community was identified in the northwestern corner of the Pond. Based on aerial imagery, this area extended to a width of approximately 200 feet. Fringe wetlands surrounded most of the smaller eastern island, but only occurred along the northern shore of the larger western island. Dominant tree species of the Smith Pond fringe wetlands included red maple (*Acer rubrum*) and black willow (*Salix nigra*). Dominant shrubs included buttonbush (*Cephalanthus occidentalis*), sweet pepperbush (*Clethra alnifolia*), and swamp azalea (*Rhododendron viscosum*). Herbaceous plants in the forested/scrub shrub wetlands were fairly nonexistent, but when present primarily consisted of poison ivy (*Toxicodendron radicans*). In the northwestern corner of the Site the emergent component of the wetland complex also included spatterdock, Pennsylvania smartweed (*Polygonum pensylvanicum*) and purple loosestrife (*Lythrum salicaria*).

Wetland SPW03 – Wetland SPW03 is located in the northeastern corner of the Site and is associated with Pines Brook. Dominants in the moderate tree canopy included black gum (*Nyssa sylvatica*) and red maple. The moderate shrub and herbaceous layers were dominated by spice bush (*Lindera benzoin*) and skunk cabbage (*Symplocarpus foetidus*) and poison ivy, respectively.

Wetland SPW05 – Wetland SPW05 is located in the southwestern corner of the Site. The moderate tree and shrub canopies were dominated by black gum and red maple and northern arrow-wood (*Viburnum dentatum*) and sweet pepperbush, respectively. The sparse herbaceous layer was dominated by northern arrow-wood seedlings and the sparse vine stratum was dominated by round leaf greenbrier (*Smilax rotundifolia*).

Wetland SPW06 - Wetland SPW06 is located in the southwestern corner of the Site proximal to Wetland SPW05. Similar dominants as observed at Wetland SPW05 included red maple, northern arrow-wood, and green briar. Other dominants also included unidentified sedge (*Carex* sp.) and sensitive fern (*Onoclea sensibilis*) in the herbaceous layer.

The upland communities contiguous to the delineated wetlands consisted of deciduous forests. Dominants included white mulberry (*Morus alba*), black locust (*Robinia pseudoacacia*), black cherry (*Prunus serotine*), Norway maple (*Acer platanoides*), red oak (*Quercus rubra*), white oak (*Quercus alba*), red maple and gray birch (*Betula populifolia*) in the tree stratum. Dominants in the upland shrub layer included saplings of the above listed tree species, multiflora rose (*Rosa multiflora*) and sassafras (*Sassafras albidum*). Dominant herbaceous species included white snakeroot (*Ageratina altissima*), Virginia creeper (*Parthenocissus quinquefolia*), poison ivy and Canada mayflower (*Maianthemum canadense*). Dominant vines included Virginia creeper, poison ivy, green briar, grape (*Vitis* sp.) and English ivy (*Hedera helix*).

5.1.2 Soils

On-site soils were reviewed using a hand held augur. Soil samples were advanced to a depth of 20 inches unless a restrictive layer was encountered. Fifteen (15) soil samples were reviewed, eight (8) from wetland areas and seven (7) from contiguous upland areas. As previously identified in Section 4.2, the Soil Survey for Nassau County identifies six (6) mapped soil units, including Ma, Su, Ue, Uf, Ug and UrA, at the Site. Ma and Su soils were identified as hydric soils.

The following summarizes the soil observation results by wetland:

Wetland SPW01/SPW02/SPW04 (Smith Pond) – Wetland soils associated with the fringe wetlands around Smith Pond included back organics and sand over a dark grayish brown to dark brown sand and a very dark brown silty sand with organics. Wetland soils observed at the easternmost island included a dark grayish brown sandy clay

over a very dark gray clay sand. Redox features included strong brown mottles. Wetland soils at the western island included a dark brown loam over a gray sandy clay with dark reddish brown redox features. Five of the six mapped soil types, excluding UrA, occupy a portion of the Smith Pond fringe wetlands. Soil types associated with the eastern and western islands are identified as water (W). Observed wetland soils associated with Wetland SPW01/SPW02/SPW04 closely reflect those characterized as mapped Ma or Su soils.

Wetland SPW03 – Wetland soils at this location included a very dark brown loam and a dark gray sandy clay over a dark grayish brown to very dark gray sandy silt with gravel. Dark yellowish brown redox features were also present. Observed soils of this wetland closely reflect the predominant mapped Ma soil type of this area.

Wetland SPW05 – Soils at this wetland included a very dark brown loam and a very dark gray to black sandy clay over a brown sand. Observed soils closely reflect the mapped Su soil type of this area.

Wetland SPW06 - The wetland soils associated with this wetland included a black over dark gray sandy clay. Observed soils closely reflect the mapped Su soil type of this area.

Upland soils contiguous to the delineated wetlands primarily consisted of very dark gray dark to yellowish brown sandy soils. These soils closely represent the sandy mapped soils of the Site.

5.1.3 Hydrology

The following summarizes the associated wetland hydrology that was observed at the four (4) identified wetland areas during the delineated effort.

SPW01/SPW02/SPW04 – As stated above, wetland SPW01/SPW02/SPW04 primarily consists of a lacustrine system (Smith Pond). This system supports fringe wetlands that extend up to six feet landward from the pond edge. Surface water enters the pond from the north through Mill River and Pines Brook and discharges to a triangular shaped retention basin to the south, which is then culverted to the tidal portion of Mill River to the south of Route 27 and Merrick Road. The wooden and concrete weir at the ponds discharge prevents any tidal influence from the southern extent of Mill River. Smith Pond extends to a depth of greater than four feet, supports several species of aquatic plants and is evident on aerial imagery. Primary indicators of wetland hydrology within the associated fringe wetlands include a high water table observed at a depth of zero to six inches and saturated soils at the soil surface. Drift deposits were also observed at several locations.

SPW03 – Local relief in the form of a concave surface was evident in this wetland. The topography within the wetland area was less than 5 percent. Surface water hydrology (Pines Brook) enters the wetland from concrete culverts to the north and discharges into Smith Pond through a stone box culvert. Primary indicators of wetland hydrology included a high water table observed at a depth of eight inches and saturated soils at the soil surface. Pockets of ponded water were also observed within the wetland.

SPW05 – Local relief in the form of a slight concave surface was evident in this wetland. Based on topography, surface water hydrology through overland flow would enter the wetland area from the west and be detained by an elevated berm associated with Smith Pond. No obvious hydrologic connection to the pond was observed. The topography within the wetland area was less than 5 percent. Primary indicators of wetland hydrology included a high water table observed at a depth of eight inches and saturated soils at the soil surface.

SPW06 - Local relief in the form of a slight concave surface was evident in this wetland. Based on topography, surface water hydrology through overland flow would enter the wetland area from the northwest and be detained by the elevated berm associated with Smith Pond. As with wetland SPW05, no obvious hydrologic connection to the pond was observed. The topography within the wetland area was less than 5 percent. Primary indicators of

wetland hydrology included a high water table observed at a depth of eight inches and saturated soils at the soil surface.

5.2 SURFACE WATERBODIES

Smith Pond covers approximately half (51 percent) of the Site area. As identified above, this feature was surveyed within the boundaries of wetland SPW01/SPW02/SPW04. Other mapped surface waterbodies within the Site included Mill River to the northwest and south of the Pond and Pines Brook to the northeast. These mapped riverine systems were less discernable in the field and were surveyed within the confines of wetlands SPW01/SPW02/SPW04 and SPW03, respectively. The mapped riverine component of Mill River to the immediate south of Smith Pond consisted of the aforementioned triangular shaped concrete detention basin. As this feature was entirely man-made, the delineation of Smith Pond terminated at the wooden and concrete weir, with the understanding that this feature would be land surveyed in support of Project related engineering efforts. One ephemeral drainage feature was identified in the western part of the Site. Based on topography, the feature transported surface water run-off east into Smith Pond from Ocean Avenue. A description of this feature, delineated as SPS01 follows:

SPS01 – This stream is located in the northwestern portion of the Site. It is an ephemeral stream with a bank width of approximately 5 feet and a gradual bank depth of approximately 0.5 to 1.0 foot with a substrate that consisted of silts and sand. The stream extended approximately 300 linear feet from Ocean Avenue to Smith Pond. This stream was dry at the time of the field effort; however, based on topography, flow would be to the east towards Smith Pond. Bank vegetation was dominated by upland deciduous forest.

5.3 INVASIVE PLANT SPECIES

Plant species within the Site were dominated by opportunistic species common to disturbed urban environments. Several invasive species of all strata (i.e., tree, shrub, herb and vine) were observed within the Site. An invasive species management plan should be developed as part of the Project to reduce the potential spread of these species. Invasive species observed within the Site included the following:

- Norway maple – mature and young saplings were located throughout the Site; however, they were more prevalent in the northwestern corner.
- English Ivy – observed at various locations in dense stands; particularly along the western portion of the Site.
- Garlic mustard (*Alliaria petiolate*) – observed in small numbers in the upland forested areas of the Site.
- Tree-of-heaven (*Ailanthus altissima*) – mature trees prevalent along the eastern edge of the Site between the Pond and the developed portions of the Site.
- Black locust – mature trees located throughout the Site.
- Oriental bittersweet (*Celastrus orbiculatus*) - located throughout the Site.
- Japanese Knotweed (*Fallopia japonica*) - located throughout the Site; however, dense stands occur along the eastern edge of the Site between the Pond and associated paved parking areas.
- Mugwort (*Artemisia vulgaris*) – located throughout the Site with dese stands occurring along the northern portion of the Site.
- Multiflora rose – located throughout the Site.
- Purple loosestrife – a few individual plants were observed scattered around the Pond edges and dense stands were observed in the northwestern corner of the Pond at the Mill River confluence.
- Broad-leaved helleborine (*Epipactis helleborin*) – a small stand was observed in the northwestern portion of the Site.
- Hydrilla (*Hydrilla verticillata*) - according to the NYSDEC (NYSDEC, 2014), this species has been identified as occurring in Smith Pond; however, none were observed during Tetra Tech's site reconnaissance.

5.4 THREATENED AND ENDANGERED SPECIES

During an initial site reconnaissance, conducted on July 13, 2017, an osprey (*Pandion haliaetus*) was observed flying over Smith Pond. The species is listed by the NYSDEC as a species of special concern. No associated nests were observed at the Site. A roost tree was observed on the eastern side of the pond south of the existing observation deck. The tree was proximal to the pond with several dead limbs and an abundance of bird scat was observed on the vegetation below. Although not observed, the tree could be used by osprey or by a multitude of other bird species during foraging activities.

The federally listed threatened northern long-eared bat, piping plover, red knot, and seabeach amaranth; the federally listed endangered roseate tern and sandplain gerardia, and the state listed endangered slender crabgrass were not observed during the wetland delineation effort. Suitable habitat for these listed wildlife and plant species was not prevalent at the Smith Pond Site. Although approximately 23 percent of the Site consisted of upland forest, trees with exfoliating bark or snags (i.e., northern long-eared bat summer roosting habitat) were not in abundance. Due to the disturbed nature of the Site and the surrounding urban environment, the presence of listed species at the Site is anticipated to be minimal. Consultation with the New York Natural Heritage Program is recommended to confirm if any NYSDEC documented threatened or endangered species are located within the Site.

6.0 SUMMARY

Approximately 29.5 acres of freshwater wetlands and 300 linear feet of ephemeral stream were delineated within the 51-acre Smith Pond Site on July 19, 20 and 25, 2017 by Mr. Richard Delahunty, PWS and Ms. Jenny Potrikus, both of Tetra Tech. The wetlands included approximately 25.8 acres of lacustrine wetlands and 3.7 acres of palustrine wetlands. The lacustrine system (Smith Pond) was dominated by various species of aquatic plants and the palustrine wetlands included forested (PFO), scrub shrub (PSS) and emergent (PEM) covertypes. The State identifies the area associated with Smith Pond as a State regulated wetland. As a state regulated wetland, a 100-foot wide regulated wetland “adjacent area” would also apply to the Smith Pond wetland. The one delineated stream was ephemeral in nature and based on topography, conveyed surface water runoff from Ocean Avenue to the western side of Smith Pond. A copy of the Wetland Delineation Map is provided as Figure 5.

Federal and State species listed as either threatened or endangered were not observed at the Site during the delineation effort. Consultation with the New York Natural Heritage Program is recommended to confirm if any NYSDEC documented threatened or endangered species are located within the Site. Upland, and to a lesser degree wetland, plant species within the Site were dominated by opportunistic species common to disturbed urban environments. Several invasive species of all strata (i.e., tree, shrub, herb and vine) were observed within the Site. An invasive species management plan should be developed as part of the Project to reduce the potential spread of these species.

7.0 REFERENCES

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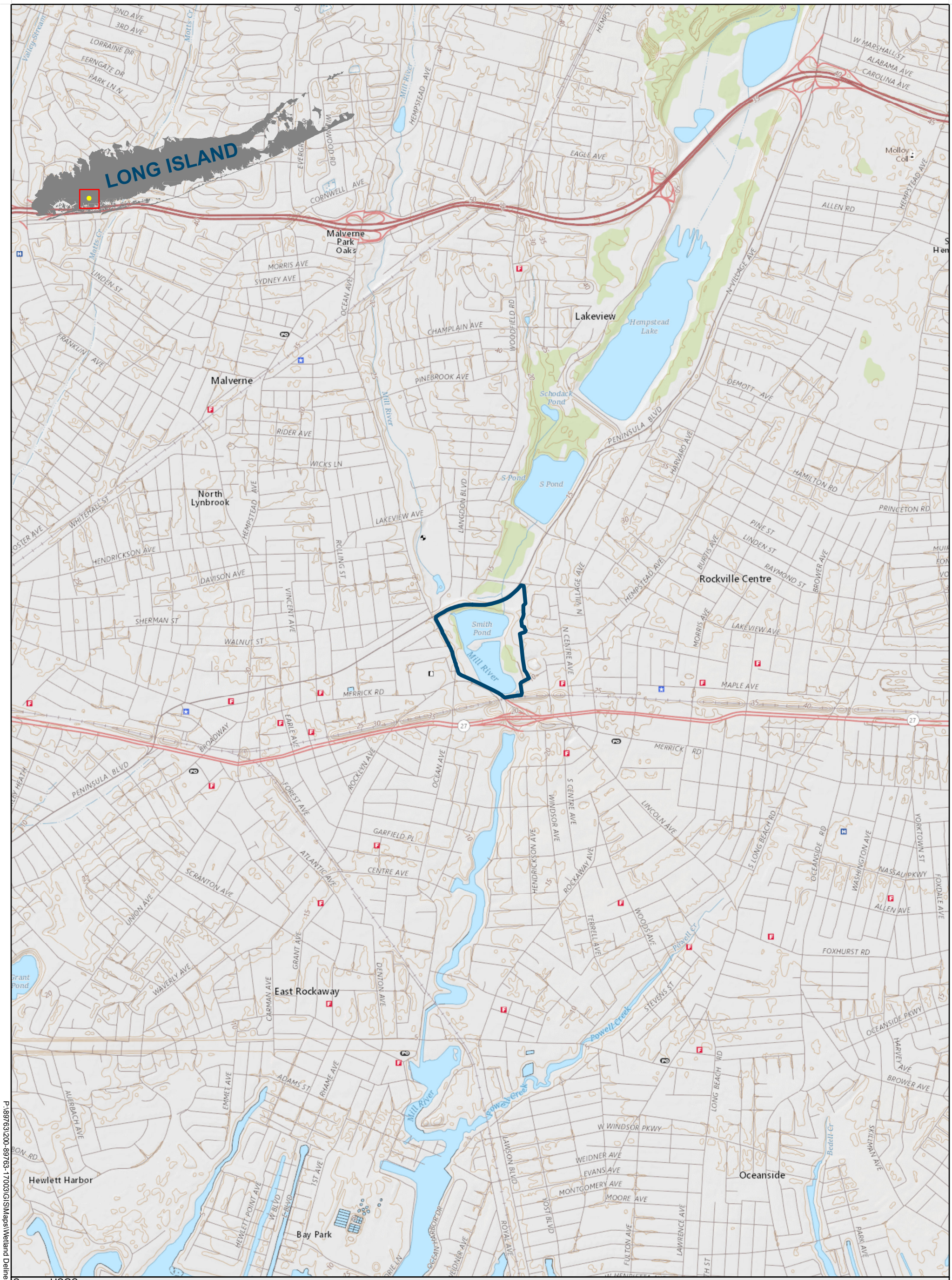
FIGURES



Source: USGS

LEGEND

Site Boundary

TETRA TECH

N

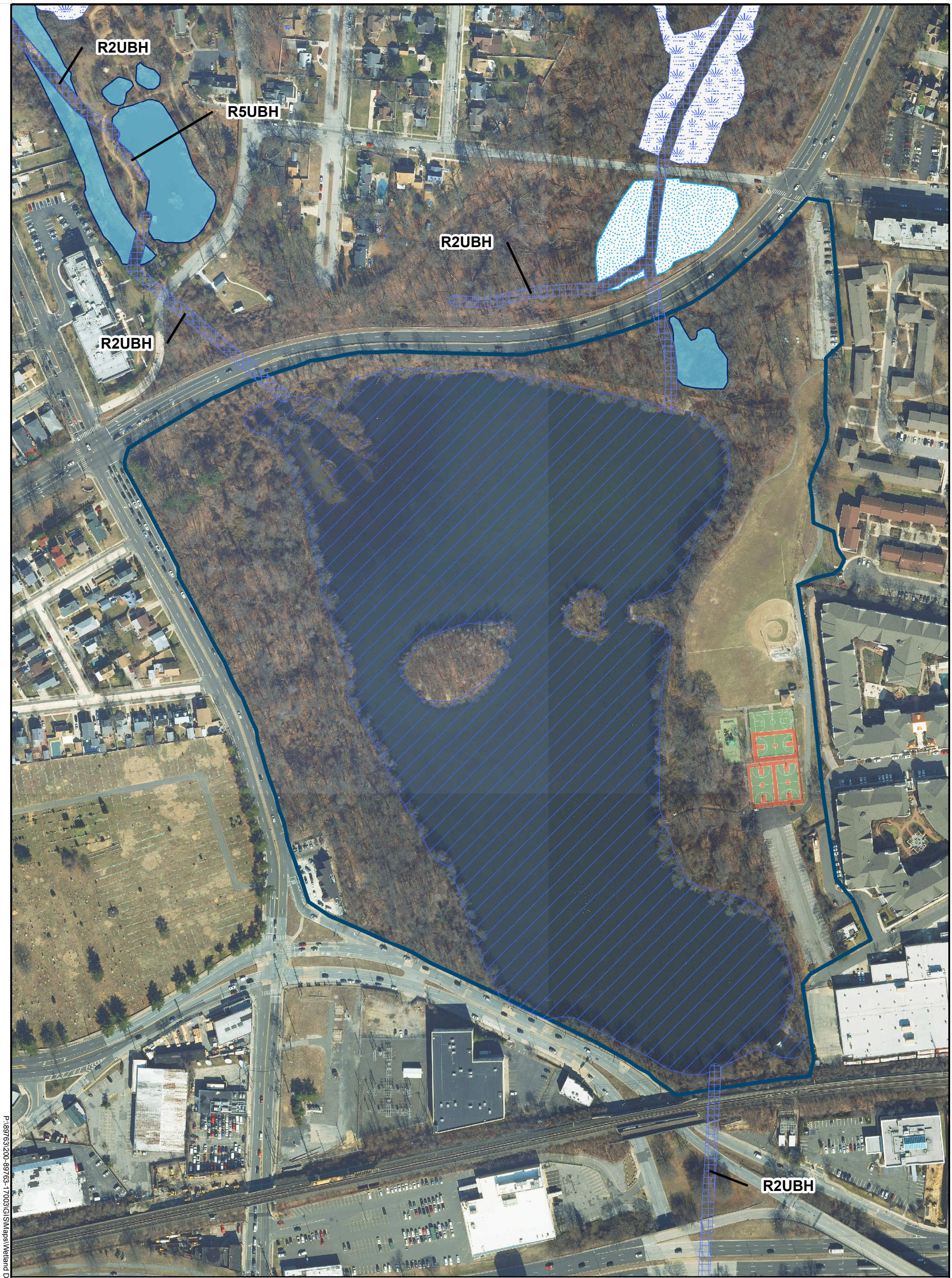
0 1,000 2,000 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
SMITH POND

Site Location Map

FIGURE 1

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\SP Site Map.mxd [KEVIN.OBEY 9/25/2017]



Source: National Wetlands Inventory (NWI); 2016 Nassau County Orthoimagery

LEGEND

Site Boundary

Wetland Type/Classification

- Freshwater Emergent Wetland (PEM1C)
- Freshwater Forested/Shrub Wetland (PFO1C)
- Freshwater Pond (PUBHx)
- Lake (L1UBHh)
- Riverine (R2UBH/R5UBH)

TETRA TECH

N

0 150 300 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
SMITH POND

NWI Mapped Wetlands

FIGURE 2

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\SP NWI.mxd [KEVIN.OBEY 9/25/2017]

Source: New York State Department of Environmental Conservation (NYDEC); 2016 Nassau County Orthoimagery

LEGEND

Site Boundary

NYSDEC Wetland/Identifier

NYSDEC Wetland (L-3)

TETRA TECH

N

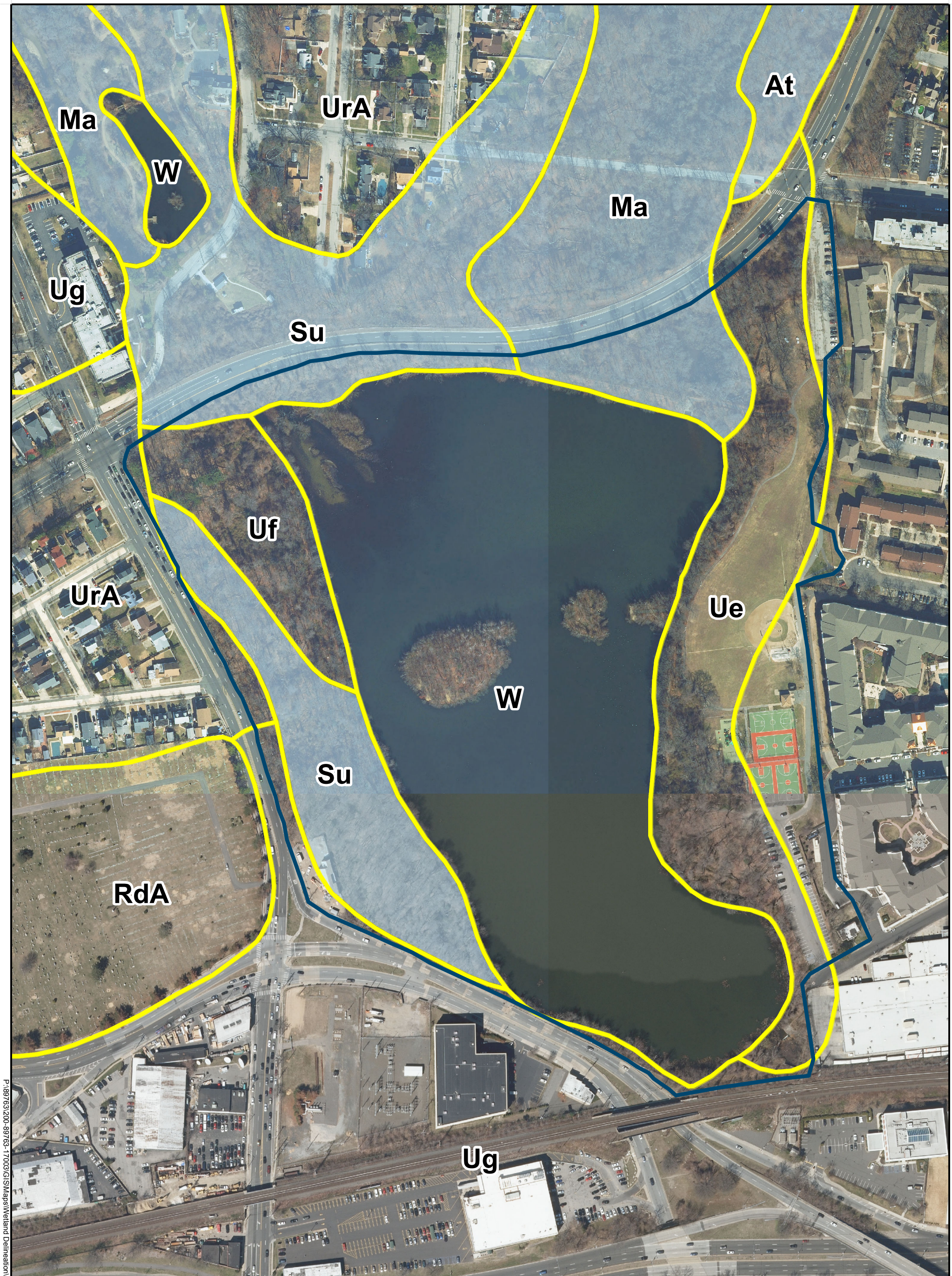
0 150 300 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
SMITH POND

NYSDEC Mapped Wetlands

FIGURE 3

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\SP NYSDEC Wetland.mxd [KEVIN.OBEY 9/25/2017]



Source: USDA - NRCS; 2016 Nassau County Orthoimagery

LEGEND

Site Boundary

USDA - NRCS Soils

Hydric

Non Hydric

Ma = Swansea muck, 0 -1 % slopes, coastal lowland *(4.21% of site)*
Su = Sudbury sandy loam *(11.94% of site)*
Ue = Udipsamments, wet substratum *(17.16% of site)*
Uf = Udorthents, refuse substratum *(6.12% of site)*
Ug = Urban land *(8.34% of site)*
UrA = Urban land-Riverhead complex, 0-3 % slopes *(0.97 % of site)*
W = Water *(51.25% of site)*

TETRA TECH

N

0 150 300 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
SMITH POND

NRCS Soil Survey

FIGURE 4

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\SP NRCS Soil Survey.mxd [kevin.obey 8/30/2017]

Source: 2016 Nassau County Orthoimagery

LEGEND

- Site Boundary
- Delineated Stream
- Estimated Hydrologic Connectivity Boundary
- Delineated Wetland Boundary
- Estimated Lacustrine Boundary
- Estimated Weir and Detention Basin Boundary
- Wetland Continuation
- Sample Station Location
- Estimated Limits of Area Not Surveyed

TETRA TECH

N

0 100 200 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
SMITH POND

Delineated Wetlands

FIGURE 5

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\SP Wetland Delineation10.2.mxd [KEVIN.OBEY 10/2/2017]

APPENDICES

APPENDIX A
WETLAND AND STREAM DATA FORMS

WESTERN ISLAND - WETLAND

SP4001-SS01

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre/Nassau Sampling Date: 7/19/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: SP4001-SS01

Investigator(s): R. Delahunty, J. Potrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): island Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): MLRA Lat: 40°39'41.44584"N Long: 73°39'16.05732"W Datum: NAD83

Soil Map Unit Name: Water (W) NWI classification: Lake

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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	**Is the Sampled Area within a Wetland?**	**Yes** ✓ **No**
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No	If yes, optional Wetland Site ID: ____	

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

PSS FRINGE WETLAND 1-3' WIDE

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- X 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 X	No ____	Depth (inches): >3'
Water Table Present?	Yes X	No ____	Depth (inches): Ø
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): Ø

Wetland Hydrology Present? Yes X No

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

Remarks:

Smith Pond w/ FRINGE WETLANDS

SpW01-SS01

VEGETATION – Use scientific names of plants.

Sampling Point: _____

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

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Cephalanthus occidentalis	20	Y	OBL
2. Sambucus nigra L ssp. canadensis	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Malva sp.	5	Y	ND*
2. Polygonum pensylvanicum	5	Y	FACW
3. Impatiens capensis	5	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15 = Total Cover		

Woody Vine Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

SPATTERDOC & LEMNA in open water part of wetland

*not used in dominance test

ND = Not Determined

SPW01-SS01

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	95%	7.5YR 5/8	2%	C	PL		SANDY CLAY
2-6	10YR 3/1	95%	7.5YR 5/8	5%	C	PL		CLAY SANDY
6-20	10YR 3/1	100%						CLAY W/SOME SAND

[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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes X No ___

Remarks:

WESTERN ISLAND - UPLAND

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre / Nassau Sampling Date: 7/19/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: SPW01-SS02

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): island Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): MLRA Lat: 40°39'41.11553"N Long: 73°39'16.42554"W Datum: NAD83

Soil Map Unit Name: Water (W) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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)		**Is the Sampled Area within a Wetland?** Yes ____ (No)
Hydric Soil Present? Yes ____ (No)		
Wetland Hydrology Present? Yes ____ (No)		If yes, optional Wetland Site ID: ____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches):

Water Table Present? Yes ____ No ✓ Depth (inches):

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

Wetland Hydrology Present? Yes ____ (No)

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

Remarks:
garbage present throughout upland island which indicates periodic flooding

VEGETATION – Use scientific names of plants.

Sampling Point: SPW01-SS02

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	5	N	FAC
2. Morus alba	20	Y	FACU
3. Robinia pseudoacacia	20	Y	FACU
4. Betula populifolia	5	N	FAC
5. Platanus occidentalis	10	N	FACW
6. Acer rubrum	10	N	FAC
7.			
	70 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Robinia pseudoacacia	15	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Ageratina altissima	20	Y	FACU
2. Toxicodendron radicans	10	N	FAC
3. Parthenocissus quinquefolia	15	Y	FACU
4. Allaria petiolata	10	N	FACU
5. Hedera helix	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Hedera helix	5	Y	FACU
2. Toxicodendron radicans	5	Y	FAC
3. Parthenocissus quinquefolia	10	Y	FACU
4.			
	20 = 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: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 12.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

SOIL

Sampling Point: SPW01-SS02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	4/4	100					sandy silt	

[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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ___ No ✓

Remarks:

hard, compacted soil

SPW2-SS03 Stream Pond Confluence

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre / Nassau Sampling Date: 7/20/17

Applicant/Owner: NYGOSR- Living with the Bay State: NY Sampling Point: SPW02-SS03

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): Riparian Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): MLRA Lat: 40°39'45.20698"N Long: 73°39'25.49832"W Datum: NAD83

Soil Map Unit Name: Water (W) NWI classification: Lake

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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 ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ✓	No ____	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X 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 X	No ____	Depth (inches): 3'
Water Table Present?	Yes X	No ____	Depth (inches): 4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): Ø

Wetland Hydrology Present? Yes X No ____

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

Remarks:

- Confluence Stream Pond
- exposed Roots
- Silt Deposits

VEGETATION – Use scientific names of plants.

Sampling Point: SP W02-SS03

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	20	Y	OBL
2. Catalpa speciosa	10	N	FACU
3. Acer rubrum	20	Y	FAC
4. Acer saccharinum	5	N	FACW
5.			
6.			
7.			
	55 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Rosa multiflora	10	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Nuphar lutea	20	Y	OBL
2. Polygonum pensylvanicum	20	Y	FACW
3. Lythrum salicaria	10	N	OBL
4. Toxicodendron radicans	10	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	Ø = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

SPW2-SS03

SOIL

Sampling Point: SPW02-SS03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100						Organics w/ sand
2-20+	10YR 4/2	100						Sand

[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): > 20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

Depositional material

SPW02-SS04

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre/Nassau Sampling Date: 7/20/17

Applicant/Owner: NYGOSR-Living with the Bay State: NY Sampling Point: SPW02-SS04

Investigator(s): R. DeLahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): pond edge Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'44.68573"N Long: 73°39'25.76001"W Datum: NAD83

Soil Map Unit Name: Udorthents, refuse substratum (UF) NWI classification: none

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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 ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No ✓	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SPW02-SS04

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus serotina	30	Y	FACU
2. Acer platanoides	30	Y	UPL
3.			
4.			
5.			
6.			
7.			
	60 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Rosa multiflora	5-10	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5-10 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Smilax rotundifolia	20	Y	FAC
2. Vitis sp.	10	Y	ND*
3. Lonicera japonica	<1	N	FACU
4. Toxicodendron radicans	10	Y	FAC
	40 = Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (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	70	x 3 =	210
FACU species	40	x 4 =	160
UPL species	30	x 5 =	150
Column Totals:	140 (A)		520 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ___ No X

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

ND = not determined

* not used in dominance test

SPW02-SS04

SOIL

Sampling Point: SPW02-SS04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/3	100%						Silty Sand

[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): >20"

Hydric Soil Present? Yes ___ No ✓

Remarks:

PW02-SS05

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre/Nassau Sampling Date: 7/20/17

Applicant/Owner: NIGOSR - Living with the Bay State: NY Sampling Point: SPW02-SS05

Investigator(s): R. De Iahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): pond edge Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40° 39'44.47025"N Long: 73° 39'11.92452"W Datum: NAD83

Soil Map Unit Name: Udipsamments, wet substratum (Ue) NWI classification: Lake

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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 ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ✓	No ____	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X 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 X	No ____	Depth (inches): 73'
Water Table Present?	Yes X	No ____	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes X No ____

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP4102-5505

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Clethra alnifolia	60	Y	FAC
2. Viburnum dentatum	10	N	FAC
3. Cephalanthus occidentalis	10	N	OBL
4.			
5.			
6.			
7.			
	80 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Symplocarpus foetidus	5	Y	OBL
2. Toxicodendron radicans	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10 = Total Cover		

Woody Vine Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(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.)

SPW02-SS05

SOIL

Sampling Point: SPW02-SS05

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100						organic + SAND
6-20	10YR 3/3	100						SAND

[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): >20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre / Nassau Sampling Date: 7/20/17

Applicant/Owner: NY GOSR- Living with the Bay State: NY Sampling Point: SPW02-SS06

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): pond edge Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'44.43760"N Long: 73°39'11.67815"W Datum: NAD83

Soil Map Unit Name: Udipsamments, wet substratum (Ue) NWI classification: none

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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 ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ____	No ✓	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

SPW02-SS06

VEGETATION – Use scientific names of plants.

Sampling Point: SPW02-SS06

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus serotina	20	Y	FACU
2. Acer platanoides	20	Y	UPL
3. Nyssa sylvatica	10	N	FAC
4. Quercus rubra	20	Y	FACU
5.			
6.			
7.			
	70 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Sassafras albidum	10	Y	FACU
2. Acer platanoides	10	Y	UPL
3. Rosa multiflora	5	Y	FACU
4.			
5.			
6.			
7.			
	25 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Toxicodendron radicans	5	Y	FAC
2. Lonicera japonica	<5	N	FACU
3. Smilax rotundifolia	10	Y	FAC
4.			
	15 = Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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 (circled)

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

SPW02-SS06

SOIL

Sampling Point: SPW02-SS06

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/6	100						Sandy Silt
0-12								

[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, M)**
- ___ 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: rocky

Depth (inches): 12

Hydric Soil Present? Yes ___ No ✓

Remarks:

SPW2 - S507

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre / Nassau Sampling Date: 7/20/17

Applicant/Owner: MGOSR - Living with the Bay State: NY Sampling Point: SPW02-S507

Investigator(s): R. Delahunty, J. Potnkus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): pond edge Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): NLRA Lat: 40°39'36.4485" N Long: 73°39'22.89088" W Datum: NAD83

Soil Map Unit Name: Sachem sandy loam (SsB) NWI classification: Lake

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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	**Is the Sampled Area within a Wetland?**	**Yes** ✓ **No**
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No	If yes, optional Wetland Site ID:	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X 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 X	No ____	Depth (inches): >3'
Water Table Present?	Yes X	No ____	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 4"

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

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

Remarks:

Fringe wetland

SP-2 SS07

VEGETATION – Use scientific names of plants.

Sampling Point: SPW02-SS07

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	60	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	60 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Clethra alnifolia	60	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	60 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Smilax rotundifolia	<5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	<5 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Smilax rotundifolia	10	Y	FAC
2.			
3.			
4.			
	10 = Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

SPW2-SS07

SOIL

Sampling Point: SPW02-SS07

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/2						0-5	Silty sand
							6-20	Sand w/ organics

[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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre/Nassau Sampling Date: 7/25/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: SPW03-SS01

Investigator(s): R. Delahunty, J. Potrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): depressional area Local relief (concave, convex, none): concave Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'46.43663"N Long: 73°39'14.49121"W Datum: NAD83

Soil Map Unit Name: Swansea muck, 0-1 % slopes, coastal lowland (Ma) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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		**Is the Sampled Area within a Wetland?** Yes ✓ No
Hydric Soil Present? Yes ✓ No		
Wetland Hydrology Present? Yes ✓ No		If yes, optional Wetland Site ID: _____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ 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): 0

Water Table Present? Yes ✓ No ___ Depth (inches): 8

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:
pockets of ponded water observed in other areas of the wetland

VEGETATION – Use scientific names of plants.

Sampling Point: SDW03-SS01

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Nyssa sylvatica	30	Y	FAC
2. Acer rubrum	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
	50 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Nyssa sylvatica	10	N	FAC
2. Rosa multiflora	10	N	FACU
3. Lindera benzoin	30	Y	FACW
4. unidentified shrub	5	N	ND
5.			
6.			
7.			
	55 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Symplocarpus foetidus	20	Y	OBL
2. Viburnum dentatum	5	N	FAC
3. Toxicodendron radicans	10	Y	FAC
4. Onoclea sensibilis	>5	N	FACW
5. Equisetum sp.	5	N	ND
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

ND = not determined

SOIL

Sampling Point: SPW03-SS01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					loam	
2-10	10YR 4/1	95	10YR 4/4	5	D	PL	sandy clay	
10-20	10YR 4/2	50					sandy silt w/ gravel	
	10YR 3/1	50						

[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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre / Nassau Sampling Date: 7/25/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: SPW03-SD02

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 30-40

Subregion (LRR or MLRA): MLRA Lat: 40°39'46.14150"N Long: 73°39'14.69493"W Datum: NAD83

Soil Map Unit Name: Swansea muck, 0-1% slopes, coastal lowland (Ma) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (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
Wetland Hydrology Present?	Yes _____	No

Is the Sampled Area within a Wetland? Yes _____ No

If yes, optional Wetland Site ID: _____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes _____ No

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SPW03-SS02

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus alba	25	Y	FACU
2. Quercus rubra	25	Y	FACU
3. Nyssa sylvatica	<5	N	FAC
4.			
5.			
6.			
7.			
	50 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Sassafras albidum	10	Y	FACU
2. Quercus alba	10	Y	FACU
3. Clethra alnifolia	10	Y	FAC
4.			
5.			
6.			
7.			
	30 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	5	Y	FAC
2. Clethra alnifolia	<5	N	FAC
3. Quercus alba	5	Y	FACU
4. Unidentified grass	<5	N	ND
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	Ø = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 29% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

ND = not determined

SOIL

Sampling Point: SPW03-SS02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					sandy loam	
4-20	10YR 4/6	100					sand	

[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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ___ No ✓

Remarks:

SPW04-SS01

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre / Nassau Sampling Date: 7/25/17

Applicant/Owner: NYGOSR-Living with the Bay State: NY Sampling Point: SPW04-SS01

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): island Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'40.45479"N Long: 73°39'21.22124"W Datum: NAD83

Soil Map Unit Name: Water (W) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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	**Is the Sampled Area within a Wetland?**	**Yes** ✓ **No**
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No	If yes, optional Wetland Site ID:	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X 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 X	No ____	Depth (inches): >31
Water Table Present?	Yes X	No ____	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0"

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP W04-SS01

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Betula populifolia	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Clethra alnifolia	20	Y	FAC
2. Rhododendron viscosum	10	Y	FACW
3. Alnus incana	20	Y	FACW
4.			
5.			
6.			
7.			
	50 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Clethra alnifolia	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

Fringe wetland up to 3' in width N side of island only, rest of island steep bank to water

SPW04-SS01

SOIL

Sampling Point: SPW04-SS01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5yr 3/2							loam
2-20	10yr 5/1	85	7.5yr 3/3	15				sandy 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, M)**
- ___ 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): 20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

SPW04-SS02

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre/Nassau Sampling Date: 7/25/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: SPW04-SS02

Investigator(s): R. DeLahunty, J. Petrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): island Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'40.14821"N Long: 73°39'21.16618"W Datum: NAD83

Soil Map Unit Name: Water (W) NWI classification: none

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? NO Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (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	**Is the Sampled Area within a Wetland?** Yes _____ (No)
Hydric Soil Present?	Yes _____	(No)	
Wetland Hydrology Present?	Yes _____	(No)	If yes, optional Wetland Site ID: _____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SPIN04-SSD2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus rubra	10	Y	FACU
2. Acer rubrum	10	Y	FAC
3. Betula populifolia	10	Y	FAC
4.			
5.			
6.			
7.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Betula populifolia	20	Y	FAC
2. Quercus palustris	<5	N	FACW
3. Acer rubrum	<5	N	FAC
4. Robinia pseudoacacia	<5	N	FACU
5. Clethra alnifolia	20	Y	FAC
6.			
7.			
	40 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Quercus rubra	<5	N	FACU
2. Clethra alnifolia	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Smilax rotundifolia	5	Y	FAC
2.			
3.			
4.			
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

SPW04-SS02

SOIL

Sampling Point: SPW04-SS02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR3/1							Sandy loam
2-18	10YR4/4							Sand / Sandy loam
18-20+	7.5YR4/6							Sand

[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, M)**
- ___ 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): 20+

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre / Nassau Sampling Date: 7/25/17

Applicant/Owner: NYGOSR- Living with the Bay State: NY Sampling Point: SPW05-TS01

Investigator(s): R. Delahunty, J. Potrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): depressional area Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'36.39435"N Long: 73°39'22.21232"W Datum: NAD 83

Soil Map Unit Name: Sudbury sandy loam (Su) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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	**Is the Sampled Area within a Wetland?** Yes ✓ No
Hydric Soil Present?	Yes ✓	No	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ✓	No	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches):
Water Table Present?	Yes ✓	No ____	Depth (inches): 8
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: SPW05-SS01

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Nyssa sylvatica	10	Y	FAC
2. Acer rubrum	40	Y	FAC
3.			
4.			
5.			
6.			
7.			
	50 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Acer rubrum	5	N	FAC
2. Viburnum dentatum	15	Y	FAC
3. Cephalanthus occidentalis	5	N	OBL
4. Clethra alnifolia	15	Y	FAC
5.			
6.			
7.			
	40 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Viburnum dentatum	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Smilax rotundifolia	15	Y	FAC
2.			
3.			
4.			
	15 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

In other parts of wetland: winterberry, royal fern, interruppted fern, skunk cabbage

SOIL

Sampling Point: SPW05-S001

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					loam	
2-12	7.5YR 2.5/1	50					sandy clay	
	7.5YR 3/1	50					"	
12-20	7.5YR 5/3	100					sand	

[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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre / Nassau Sampling Date: 7/25/17

Applicant/Owner: NYGOSR - Living with The Bay State: NY Sampling Point: SPW05-SS02

Investigator(s): R. Delahunty; J. Potrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): depressional area Local relief (concave, convex, none): _____ Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'37.14108"N Long: 73°39'22.47770"W Datum: NAD83

Soil Map Unit Name: Sadbury sandy loam (Su) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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)
Wetland Hydrology Present?	Yes _____	(No)

Is the Sampled Area within a Wetland? Yes _____ (No)

If yes, optional Wetland Site ID: _____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes _____ (No)

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

Remarks:
plot to be used for upland reference SPW02-SS07 (would be SPW02-SS08)

VEGETATION – Use scientific names of plants.

Sampling Point: SPW05-SS02

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer nigrum	20	Y	FAC
2. Prunus serotina	25	Y	FACU
3.			
4.			
5.			
6.			
7.			
	45 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Acer nigrum	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Toxicodendron radicans	12.5	Y	FAC
2. Parthenocissus quinquefolia	12.5	Y	FACU
3. Maianthemum canadense	25	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Smilax rotundifolia	20	Y	FAC
2. Vitis sp.	10	Y	ND*
3.			
4.			
	30 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

ND= not determined

*not used in dominance test

SOIL

Sampling Point: SPW05-SS02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/3	100					sandy loam w/ pebbles	

[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, M)**
- ___ 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): 20"

Hydric Soil Present? Yes ___ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre/Nassau Sampling Date: 7/27/17

Applicant/Owner: NYCDSR - Living with the Bay State: NY Sampling Point: SPWD16-SS01

Investigator(s): R. Delahanty, J. Patrick Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): depressional area Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'33.43937"N Long: 73°39'21.10348"W Datum: NAD83

Soil Map Unit Name: Sadbury sandy loam (Sd) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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	**Is the Sampled Area within a Wetland?**	**Yes** _____ **No**
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No	If yes, optional Wetland Site ID: _____	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ 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): 8"
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: SPW06-SSD1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Viburnum dentatum	20	Y	FAC
2. Acer rubrum	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Onoclea sensibilis	25	Y	FACW
2. Carex sp.	20	Y	FAC*
3. Lonicera japonica	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Smilax rotundifolia	10	Y	FAC
2.			
3.			
4.			
	10 = 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: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

interrupted fern, spice bush, royal fern, skunk cabbage, and lurid sedge observed in other areas of wetland

* assumed FAC or wetter

SOIL

Sampling Point: SPW06-SS01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	95					sandy clay	
	10YR 4/1	5			D	M	sandy 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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Smith Pond City/County: Rockville Centre/Nassau Sampling Date: 7/27/17

Applicant/Owner: NVGOSR - Living with the Bay State: NY Sampling Point: SPW06-SU02

Investigator(s): R. DeLaHunty, L. Patnkir Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): deciduos forest Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'34.23851"N Long: 73°39'22.49229"W Datum: NAD83

Soil Map Unit Name: Sarlbany sandy loam (SU) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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)
Wetland Hydrology Present?	Yes _____	(No)

Is the Sampled Area within a Wetland? Yes _____ (No)

If yes, optional Wetland Site ID: _____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes _____ (No)

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SPW06-5502

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer platanoides	50	Y	UPL
2. Prunus serotina	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
	70 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Acer platanoides	10	Y	UPL
2. Prunus serotina	10	Y	FACU
3. Rosa multiflora	5	Y	FACU
4.			
5.			
6.			
7.			
	25 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Parthenocissus quinquefolia	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Celastrus orbiculatus	10	Y	UPL
2. Vitis sp.	10	Y	ND*
3.			
4.			
	20 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

ND = not determined

* not used in dominance test

SOIL

Sampling Point: SPW06-SS02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	100					sandy loam	
14-20	10YR 4/6	100					sand	

[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, M)**
- ___ 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:

STREAM DATA FORM

PROJECT: Living with the Bay - Smith Pond DATE: 7/20/17
CLIENT: NYGOSR PHOTO:
LOCATION: Rockville Centre, NY
FIELD CREW: R. Delahunty, J. Patrikus

STREAM CROSSING DATA

SP S01

CHANNEL ID	SP S01		
NAME (or trib. to)	Trib to Smith Pond		
PEREN/INTERMIT	EPHEM		
WIDTH	5'		
DEPTH	0.5 -> 1.0'		
FLOW RATE[1]	Dry		
FLOW DIRECTION	East to	Pond	
SUBSTRATE	Silt & sand		
BANK VEGETATION	Upland Deciduous Forest		

[1] = Dry/Stagnant/Low/Medium/High

SKETCH:

Ephemeral Drainage
Receives Roadside Runoff

FISH AND WILDLIFE OBSERVATIONS

NOTES

English Ivy, Norway maple

APPENDIX B
SELECT SITE PHOTOGRAPHS

Appendix B
Select Site Photographs

Photograph 01 – Facing north at Smith Pond from viewing deck on eastern edge of pond
July 13, 2017

Photograph 02 – Facing northwest at Smith Pond from viewing deck on eastern edge of pond
July 13, 2017

Appendix B
Select Site Photographs

Photograph 03 – Facing west at Smith Pond from viewing deck on eastern edge of pond
July 13, 2017

Photograph 04 – Facing southwest at Smith Pond from viewing deck on eastern edge of pond
July 13, 2017

Appendix B
Select Site Photographs

Photograph 05 – Facing southeast at Smith Pond from northwest corner of the pond
July 20, 2017

Photograph 06 – Facing northwest at confluence of Mill River and Smith Pond
July 20, 2017

Appendix B
Select Site Photographs

Photograph 07 – Facing east at confluence of Pines Brook and Smith Pond
July 13, 2017

Photograph 08 – Facing northeast at the Smith Pond outfall (man-made concrete and timber weir)
July 13, 2017

Appendix B
Select Site Photographs

Photograph 09 – Facing west at the easternmost island from the eastern edge of the pond
July 19, 2017

Appendix B
Select Site Photographs

Photograph 10 – Facing east at the westernmost island from the western edge of the pond
July 19, 2017

Photograph 11 - Facing north at fringe wetland surrounding the easternmost island (Wetland SPW01)
July 19, 2017

Appendix B
Select Site Photographs

Photograph 12 – Facing west at fringe wetland surrounding Smith Pond (Wetland SPW02)
July 20, 2017

Appendix B
Select Site Photographs

Photograph 13 – Facing west at fringe wetland surrounding Smith Pond (Wetland SPW02)
July 20, 2017

Photograph 14 – Facing northeast at Wetland SPW03
July 25, 2017

Appendix B
Select Site Photographs

Photograph 15 – Facing north at fringe wetlands surrounding the westernmost island (Wetland SPW04)
July 25, 2017

Photograph 16 – Facing southeast at Wetland SPW05
July 25, 2017

Appendix B
Select Site Photographs

Photograph 17 – Facing east at Wetland SPW06
July 27, 2017

Appendix B
Select Site Photographs

Photograph 18 – Facing northwest at ephemeral drainage (SPS01) to Smith Pond
July 20, 2017

APPENDIX C
THREATENED AND ENDANGERED SPECIES INFORMATION

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Nassau County, New York

Local office

Long Island Ecological Services Field Office

(631) 286-0485
(631) 286-4003

340 Smith Road
Shirley, NY 11967

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

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Birds

NAME	STATUS
Piping Plover Charadrius melodus There is **final designated** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot Calidris canutus rufa No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern Sterna dougallii dougallii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2083	Endangered

Flowering Plants

NAME	STATUS
Sandplain Gerardia Agalinis acuta No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8128	Endangered
Seabeach Amaranth Amaranthus pumilus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8549	Threatened

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Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are USFWS Birds of Conservation Concern that might be affected by activities in this location. The list does not contain every bird you may find in this location, nor is it guaranteed that all of the birds on the list will be found on or near this location. To get a better idea of the specific locations where certain species have been reported and their level of occurrence, please refer to resources such as the E-bird data mapping tool (year-round bird sightings by birders and the general public) and Breeding Bird Survey (relative abundance maps for breeding birds). Although it is important to try to avoid and minimize impacts to all birds, special attention should be given to the birds on the list below. To get a list of all birds potentially present in your project area, visit the E-bird Explore Data Tool.

NAME	BREEDING SEASON
American Oystercatcher Haematopus palliatus https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Black Skimmer Rynchops niger https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black-billed Cuckoo Coccyzus erythropthalmus https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink Dolichonyx oryzivorus	Breeds May 20 to Jul 31
Buff-breasted Sandpiper Tryngites subruficollis	Breeds elsewhere
Canada Warbler Wilsonia canadensis	Breeds May 20 to Aug 10

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Cerulean Warbler Dendroica cerulea https://ecos.fws.gov/ecp/species/2974	Breeds Aug 20 to Jul 20
Clapper Rail Rallus longirostris https://ecos.fws.gov/ecp/species/8937	Breeds Apr 10 to Oct 31
Dunlin Calidris alpina arcticola	Breeds elsewhere
Eastern Whip-poor-will Caprimulgus vociferus	Breeds May 1 to Aug 20
Evening Grosbeak Coccothraustes vespertinus	Breeds elsewhere
Golden-winged Warbler Vermivora chrysoptera https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
Gull-billed Tern Gelochelidon nilotica https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Hudsonian Godwit Limosa haemastica	Breeds elsewhere
Kentucky Warbler Oporornis formosus	Breeds Apr 20 to Aug 20
Least Tern Sterna antillarum	Breeds Apr 20 to Sep 10
Lesser Yellowlegs Tringa flavipes https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl asio otus https://ecos.fws.gov/ecp/species/3631	Breeds elsewhere
Nelson's Sparrow Ammodramus nelsoni	Breeds May 15 to Sep 5
Prairie Warbler Dendroica discolor	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea	Breeds Apr 1 to Jul 31
Purple Sandpiper Calidris maritima	Breeds elsewhere
Red-headed Woodpecker Melanerpes erythrocephalus	Breeds May 10 to Sep 10
Red-throated Loon Gavia stellata	Breeds elsewhere

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Rusty Blackbird Euphagus carolinus	Breeds elsewhere
Saltmarsh Sparrow Ammodramus caudacutus	Breeds May 15 to Sep 5
Seaside Sparrow Ammodramus maritimus	Breeds May 10 to Aug 20
Semipalmated Sandpiper Calidris pusilla	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Whimbrel Numenius phaeopus https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Wood Thrush Hylocichla mustelina	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

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Breeding Season (■)
Yellow bars denote when the bird breeds in the Bird Conservation Region(s) in which your project lies. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information.

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in Birds of North America (BNA) Online under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a subscription. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the Endangered Species Act (ESA).

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets. The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

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Facilities

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location overlaps the following wetlands:

FRESHWATER POND

PUBHx

LAKE

L1UBHh

A full description for each wetland code can be found at the National Wetlands Inventory website: https://ecos.fws.gov/ipac/wetlands/decoder

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

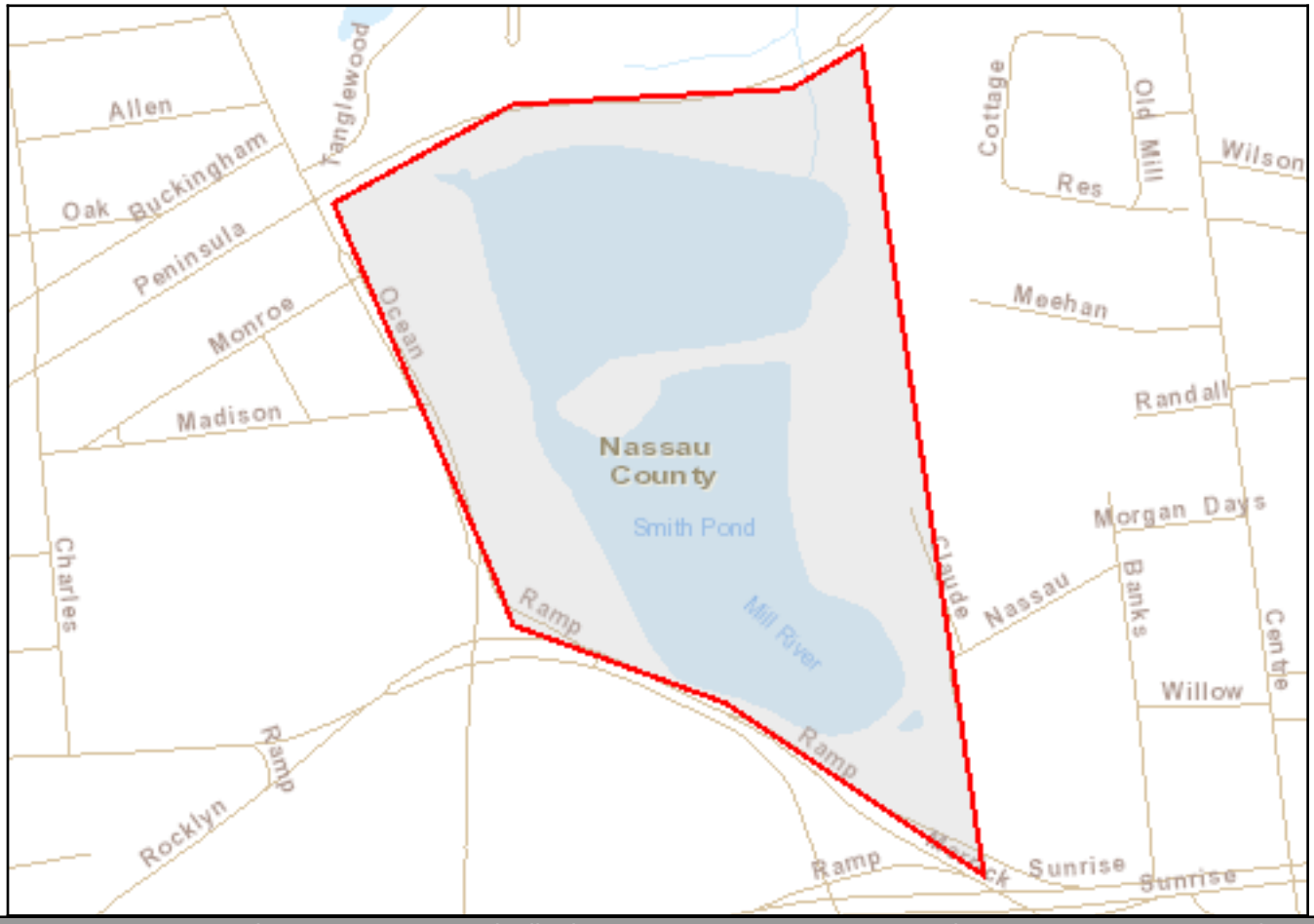
Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

New York Nature Explorer

Smith Pond

Criteria: Selected Map Area



Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status State	Protection Status Federal	Conservation Rank State	Conservation Rank Global
Plant: Flowering Plants							
Slender Crabgrass *Digitaria filiformis*	Grasses	Historically Confirmed	1925	Endangered		S1	G5

New York Nature Explorer

Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global

Note: Restricted plants and animals may also have also been documented in one or more of the Towns or Cities in which your user-defined area is located, but are not listed in these results. This application does not provide information at the level of Town or City on state-listed animals and on other sensitive animals and plants. A list of the restricted animals and plants documented at the corresponding county level can be obtained via the County link(s) on the original User Defined Search Results page. Any individual plant or animal on this county's restricted list may or may not occur in this particular user-defined area.

This list only includes records of rare species and significant natural communities from the databases of the NY Natural Heritage Program. This list is not a definitive statement about the presence or absence of all plants and animals, including rare or state-listed species, or of all significant natural communities. For most areas, comprehensive field surveys have not been conducted, and this list should not be considered a substitute for on-site surveys.

Wetland Delineation Report

For the

East Rockaway High School/Lister Park
Project M
Living With The Bay

East Rockaway, Nassau County, New York

October 2017

Prepared for:

New York Governors Office of Storm Recovery
64 Beaver Street
PO BOX 230
New York, NY 10004

Prepared by:

Tetra Tech, Inc.
6 Century Drive, 3rd Floor
Parsippany, NJ 07054

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1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) field delineated wetlands associated with approximately 0.8 mile of the Mill River, located in East Rockaway, Nassau County, New York on July 21, 26 and 27, 2017. The wetland delineation effort was performed in support of the New York Governors Office of Storm Recovery (GOSR), Living with the Bay, East Rockaway High School/Lister Park, Project M (Project). The area associated with the Project includes approximately 65.4 acres and encompasses the Mill River and adjacent properties, inclusive of the East Rockaway High School and Lister Park (hereafter referred to as Site).

The Site includes properties contiguous to the Mill River from Merrick Road south to the East Rockaway High School property, approximately 500 linear feet north of the Pearl Street bridge. From north to south the Site extends eastward to portions of Windsor Avenue, Riverside Drive and River Avenue; and westward to portions of Chester Road, Riverside Road and Ocean Avenue (Figure 1, Site Location Map). The survey area for this wetlands delineation effort was limited to the undeveloped area immediately contiguous to the Mill River to an extent of approximately 100 feet. Developed areas including maintained parklands, sports fields and residential properties were not assessed.

This report provides a description of the wetlands and surface waterbodies identified within the Site. Included are a Site description, methods used to delineate wetlands, information reviewed (concerning wetlands and soils), field survey results (relating to vegetation, soils, and hydrology for wetlands; and streams), a summary, and a literature cited section. Appendices attached include data forms, and select site photographs.

2.0 SITE DESCRIPTION

The Site consists of approximately 65.4 acres and includes 19.6 acres of open water (Mill River), 2.0 acres of fringe wetlands and 43.8 acres of developed lands. In addition to the East Rockaway High School and Lister Park, developed lands included residential properties, and paved roads, walking paths and parking areas. Topography throughout the Site is relatively flat ranging from 5 to 20 feet National Geodetic Vertical Datum of 1929 (USGS, 2017). The Site is generally bound by Merrick Road to the north, remaining portions of the Mill River to the south and residential properties to the east and west. The Mill River is hydrologically fed by the Smith Pond outfall to the north and is tidally influenced south of Merrick Road. Several wet weather discharge points were also identified along the eastern and western sides of the River.

3.0 METHODS

Wetland boundaries were delineated in the field using the Routine Onsite Determination Method, as described in the Corps of Engineers Wetlands Delineation Manual (USACE, 1987), along with region-specific methods and guidelines provided in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (USACE, 2012). The USACE method incorporates a three-parameter approach using vegetation, soils, and hydrology to determine the presence of wetlands.

The presence of a wetland was field verified by analyzing dominant vegetation, soil classification, and hydrology from paired (i.e., an upland and a wetland) sample stations. Observations from ten (10) sample stations, five (5) wetland and five (5) upland areas were recorded at the Site. Wetland boundaries and sample stations were recorded using a Trimble© handheld Global Positioning System (GPS). This unit generally provides sub-meter accuracy; however, accuracy can range within three to five meters.

Wetland boundary GPS survey data was collected for the uppermost interface between wetland and upland. For Mill River, this generally included the landward edge of the fringe wetlands (identified on-site as either intertidal marsh or high marsh); however, in cases where fringe wetlands were absent (such as where wooden or concrete bulkheads were present), this upper limit included the limits of the mean high waterline. The approximate width of the fringe wetland (i.e., boundary between either the intertidal marsh or high marsh and the littoral zone, or open water) was also recorded in the field. This estimated boundary was then generated using geographic information system (GIS). Nomenclature for delineated wetlands consisted of an alphabetic coding, which identified the Site, Mill River Wetland (MRW) and sequential numbers that identified the individual feature (i.e., MRW01 through MRW04). A denotation of "SS" was used at the end of the wetland identifier to indicate the wetland and upland sample stations (i.e., MRW01-SS01).

Dominant vegetation in each stratum (tree, shrub, herbaceous, and vine) was identified using appropriate regional field guides and assigned a wetland indicator status obtained from US Army Corps of Engineers, 2016. Cover classes for wetlands were based on the National Wetland Inventory (NWI) classification hierarchy (Cowardin et al., 1979). Cover classes were assigned by determining the most abundant cover class in the wetland. A wetland was assigned multiple cover classes if more than one class comprised at least 30 percent areal coverage. Soil borings were obtained by using a hand held augur, and were extracted to a depth of 20 inches when possible. Soil characteristics were recorded in standard soil log format and soil colors were determined by using a Munsell Soil Color Chart (Kollmorgen Corporation, 2000). Primary and secondary indicators of hydrology were also visually assessed and recorded.

4.0 INFORMATION REVIEW

4.1 MAPPED WETLANDS AND SURFACE WATERBODIES

Federal and State data regarding mapped wetlands were reviewed for the Site. Data from the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) (2017a), identifies the Mill River, within the confines of the Site as Estuarine, Subtidal, Unconsolidated Bottom with a subtidal water regime (E1UBL). Two Palustrine, Scrub-Shrub, Broad-leaved Deciduous (PSS), wetlands with a seasonally flooded water regime are identified contiguous to the eastern and western sides of the river in the central portion of the Site. A Riverine, Lower Perennial, Unconsolidated Bottom with a permanently flooded water regime (R2UBH) wetland is identified in the northern portion of the Site, north of the mapped estuarine wetland. A small segment of Riverine, Unknown Perennial, Unconsolidated Bottom with a permanently flooded water regime (R5UBH) wetland is identified contiguous to the western edge of the mapped estuarine wetland at the South Park Avenue bridge (Figure 2, NWI Mapped Wetlands). Both of these mapped riverine systems are located within potions of the Mill River that are tidally influenced.

The NYSDEC also maps the extent of the Mill River within the confines of the Site as a tidal wetland (Figure 3, NYSDEC Mapped Wetlands). Tidal wetlands are defined as the areas where the land meets the sea. These areas are periodically flooded by seawater during high or spring tides or, are affected by the cyclic changes in water levels caused by the tidal cycle. Tidal wetlands are classified by the amount of water covering the area at high and low tides and the type of vegetation. New York State uses specific categories and codes to describe and represent different types of coastal, tidal and fresh water wetlands. The river portion of the Mill River wetland system is identified as LZ (Littoral Zone) and the palustrine components, as mapped by the USFWS, are identified as FM (Coastal Fresh Marsh). The NYSDEC Environmental Resource Mapper (NYSDEC 2017a) classifies the Mill River within the confines of the Site as Class SC, Saline Surface Waters. The best usage for Class SC waters is fishing. These waters are suitable for fish, shellfish and wildlife propagation and survival. The water quality is generally suitable for primary and secondary contact recreation; however, other factors may limit the use for these purposes. No state regulated freshwater wetlands were identified within the Site.

4.2 SOIL SURVEY

According to the United States Department of Agriculture, Natural Resources Conservation Services, Custom Soil Resource Report for Nassau County, New York (USDA/NRCS, 2017), six (6) mapped soil units occur within the Site. These soil units include Udipsamments, wet substratum (Ue); Udorthents, refuse substratum (Uf); Urban land (Ug); Urban Land-Riverhead Complex, 0 to 3 percent slopes (UrA), Urban land-Sudbury complex (Us), and Urban land-Udipsamments, wet substratum complex (Uw). The remaining portion of the Site, associated with the Mill River, is mapped as Water (W).

The following summarizes the characteristics of the referenced mapped soil units:

Ue soils – Udipsamments are moderately well drained soils consisting of 0 to 72 inches of coarse sand. Slopes range from 0 to 3 percent and the depth to restrictive features is generally more than 80 inches. Depth to water table is also identified as greater than 80 inches.

Uf soils – Udorthents include well drained refuse substratum and similar soils. Slopes range from 0 to 15 percent and the depth to restrictive features is generally more than 80 inches. Depth to water table ranges from 36 to 72 inches.

Ug soils- Are urban lands mostly covered by streets, parking lots, buildings, and other structures of urban areas. Minor components can include Riverhead, Udorthents, Hempstead, Enfield and Udipsamments, all of which are not rated as hydric soils.

UrA soils – Urban Land-Riverhead Complex soils include approximately 65 percent Urban lands, 20 percent Riverhead and similar soils and 15 percent minor components. Minor components include Enfield, Plymouth and Udipsamments soils. These soils comprise approximately 10 percent, 3 percent and 2 percent of the mapped soil unit, respectively, and none are listed as hydric. Parent material for the Riverhead soils consists of loamy glaciofluvial deposits overlying stratified sand and gravel. Typical profiles include a sandy loam over a loamy sand to a stratified gravelly sand. Riverhead soils occupy outwash plains, moraines, summits and treads. They are well drained soils with slopes ranging from 0 to 3 percent and the depth to a restrictive feature or water table is generally more than 80 inches.

Us soils –Urban Land-Sudbury Complex soils include approximately 70 percent Urban lands, 20 percent Sudbury and similar soils and 10 percent minor components. Minor components include Riverhead and Udipsamments soils. Both of these soils comprise less than 5 percent and neither are listed as hydric. Parent material for the Sudbury soils consists of sandy and gravely glaciofluvial deposits derived mainly from crystalline rock. Typical profiles include a sandy loam over a gravelly loamy sand to a stratified very gravelly sand. Sudbury soils occupy outwash plains, summits and treads. They are moderately well drained soils with slopes ranging from 0 to 3 percent. Depth to a restrictive feature is greater than 80 inches and depth to water table is about 18 to 36 inches.

Uw soils - Urban land-Udipsamments, wet substratum complex soils include approximately 70 percent Urban lands, 25 percent Udipsamments, wet substratum, and similar soils and 5 percent minor components. Minor components include Sudbury soils (3 percent) and Riverhead soils (2 percent). Neither of these soils are listed as hydric. The profile for Udipsamments, Wet Substratum soils includes up to 72 inches of coarse sand. They are somewhat excessively drained soils with slopes ranging from 0 to 3 percent. Depth to a restrictive feature or water table is generally more than 80 inches.

4.3 THREATENED AND ENDANGERED SPECIES

Based on information obtained from the U.S. Fish and Wildlife Information, Planning, and Consultation System (IPaC System) (USFWS, 2017b), four federally listed wildlife species and two federally listed plant species may be affected by activities at the Site location. A copy of the referenced USFWS IPaC report is provided in Appendix C. These species include the federally listed threatened northern long-eared bat (*Myotis septentrionalis*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), and seabeach amaranth (*Amaranthus pumilus*); and the federally listed endangered roseate tern (*Sterna dougallii dougallii*) and sandplain gerardia (*Agalinis acuta*). Habitat descriptions for these species follow:

Northern long-eared bat – During the summer, the northern-long eared bat roosts singly or in colonies under bark or in cavities of both live and dead trees. They rarely roost in human structures such as barns and sheds. They emerge at dusk to feed on moths, flies, leafhoppers, caddisflies and beetles, which they catch in the understory of forested areas. According to the NYSDEC Northern Long-eared Bat Occurrences by Town (NYSDEC, 2016), there were no confirmed summer or winter occurrences of northern long-eared bat in Nassau County. Additionally, the USFWS Hibernacula and Maternity Roost Tree Location Information (USFWS, 2016) did not list any northern long-eared bat roost or hibernacula in Nassau County.

Piping plover – Piping lovers breed on coastal beaches from Newfoundland to North Carolina. They feed on marine worms, crustaceans and insects they forage from the sand. Recovery efforts include conservation of breeding and wintering habitat and protecting breeding birds, eggs and chicks from predators and human disturbance.

Red knot – Red knot winter at the southern tip of South America, northern Brazil, the Caribbean, and the southeastern and Gulf coasts of the U.S and breed in the tundra of the central Canadian Arctic. During the spring migration they stop over selected areas along the Atlantic Coast to rest and refuel. Red knots feed on invertebrates, especially small clams, mussels, and snails, but also crustaceans, marine worms, and horseshoe crab eggs. Threats to the red knot include coastal development; shoreline stabilization; dredging; reduced food availability at stopover areas; and human disturbance.

Seabeach amaranth - Seabeach amaranth is an annual plant that occurs on coastal beaches from New York to South Carolina. Flowering begins as soon as plants reach sufficient size (June or July) and continues until the plants die between September and December. It is native to Atlantic Coast beaches and barrier islands. The primary habitat consists of over wash flats at accreting ends of islands, lower fore dunes, and upper strands of non-eroding beaches; but the species occasionally establishes small temporary populations in other habitats, including sound-side beaches, blowouts in fore dunes, inter-dunal areas, and on sand and shell material deposited for beach replenishment or as dredge spoil. Seabeach amaranth usually grows on a nearly pure sand substrate, occasionally with shell fragments mixed in.

Roseate tern – The Roseate terns nests on outer coastal beach and island habitats from Nova Scotia to New York. They nest on densely vegetated rocky coastal islands, outer beaches or salt marsh islands. Roseate terns are "plunge-divers" and forage almost exclusively on small fish.

Sandplain gerardia - Sandplain gerardia is primarily a species of the Coastal Plain as a maritime grassland species. It was once a common species in some areas of Long Island. It now survives in remnant grasslands where it requires some disturbance that provides bare soil areas.

According to the NYSDEC Environmental Resource Mapper (NYSDEC, 2017a), there is one listing of a rare plant or animal in the northern portion of the Site. The listing is centrally located over the Mill River Centennial Park

Complex. Significant natural communities are identified to the south of the Site, approximately 0.25 mile south of the Pearl Street bridge. No additional information is provided.

The New York Nature Explorer database (NYSDEC, 2017b) was also reviewed for the East Rockaway High School/Lister Park Site. The referenced database did not identify any listed plants or animals within the Site. A copy of the referenced New York Nature Explorer report is provided in Appendix C. Consultation with the New York Natural Heritage Program is recommended to confirm if any NYSDEC documented threatened or endangered species are located within the Site.

5.0 FIELD SURVEY RESULTS

5.1 WETLANDS

One (1) continuous estuarine wetland was field delineated within the Site on July 21, 26 and 27, 2017 by Mr. Richard Delahunty, Professional Wetland Scientist (PWS) and Ms. Jenny Potrikus, both of Tetra Tech. The tidal wetland included open water (i.e., littoral zone) and fringe wetlands representative of both intertidal marsh and high marsh communities. The one delineated wetland comprised four (4) separate wetland boundaries. Wetland boundary MRW01 delineated the extent of the wetland to the north of the South Park Avenue bridge and wetland boundaries MRW02, MRW03 and MRW04 delineated the extent of the wetland to the south of the South Park Avenue bridge. High marsh wetlands occurred along most of the littoral zone between the mean high and mean high high water lines. Intertidal marsh components occurred between the mean low water and mean high water lines. The locations of two of these intertidal marshes coincided with those mapped as palustrine scrub shrub wetlands by the USFWS. Eroded shorelines, including those areas bordering Lister Park were also observed. Data from ten (10) sample stations were recorded in support of the delineations, four (4) in support of wetland boundary MRW01 and six (6) in support of wetland boundaries MRW02, MRW03 and MRW04. The locations of the delineated wetland boundaries and sample stations are presented on Figure 5, Delineated Wetlands.

5.1.1 Vegetation

In general, vegetated wetlands of Mill River were representative of high marsh and intertidal marsh wetland communities and were dominated by saltmarsh elder (*Iva frutescens*) and common reed (*Phragmites australis*), respectively. Two stands of saltmarsh cordgrass (*Spartina alterniflora*) were also identified on the eastern shore of the Mill River in intertidal marsh wetlands located between Demott Place and Rodney Place. Saltmarsh elder is a common shrub to the coastal saltwater marshes of Long Island and saltmarsh cordgrass is a perennial deciduous grass common to intertidal marsh wetlands, especially estuarine salt marshes. Common reed is a common wetland invasive species. All of the larger emergent complexes, as identified above, were dominated by common reed. Other species observed in the intertidal fringe included boxelder (*Acer negundo*) and multiflora rose (*Rosa multiflora*) in the shrub strata and iris (*Iris* sp.) and jewelweed (*Impatiens capensis*) in the herbaceous layer.

Upland vegetated communities contiguous to the Mill River were dominated by maintained lawns, parklands and wooded edge habitats. These communities were all vegetated by opportunistic species common to disturbed urban and residential environments. Adjacent upland woods were narrow in nature, generally not extending more than 25 feet in width. Dominants included boxelder, white mulberry (*Morus alba*), tree-of-heaven (*Ailanthus altissima*), black locust (*Robinia pseudoacacia*), black cherry (*Prunus serotina*) and Norway maple (*Acer platanoides*) in the tree stratum. Dominants in the upland shrub layer included saplings of the above listed tree species, multiflora rose, forsythia (*Forsythia* sp.) and poison ivy (*Toxicodendron radicans*). Dominant herbaceous species included multiflora rose, aster (*Aster* sp.), mugwort (*Artemesia vulgaris*), bush clover (*Lespedeza* sp.); and dominant vines

included nightshade (*Solanum dulcamara*), oriental bittersweet (*Celastrus orbiculatus*), poison ivy, English ivy (*Hedera helix*) and Virginia creeper (*Parthenocissus quinquefolia*).

5.1.2 Soils

On-site soils were reviewed using a hand held augur. Soil samples were advanced to a depth of 20 inches unless a restrictive layer was encountered. Ten (10) soil samples were reviewed, five (5) each from wetland and contiguous upland areas. As previously identified in Section 4.2, the Soil Survey for Nassau County identifies six (6) mapped soil units, including Ue, Uf, Ug, UrA, Us, and Uw. None of the mapped soils were identified to be hydric or contain hydric inclusions. Wetland soils included a very dark brown sandy clay or sandy gravel (MRW01-SS01 and MRW02-SS01, respectively); a grayish brown sandy gravel over a dark grayish brown silty gravel (MRW01-SS03); and a black mucky sand or organic muck (MRW02-SS03 and MRW04-SS01, respectively). As the mapped soils for the area are very similar in nature, the referenced observed wetland soils closely reflect several of the mapped soil types.

Upland soils contiguous to the delineated wetlands consisted of a very dark brown sandy silt (MRW01-SS2); a dark brown silt loam over a dark yellowish brown sandy loam (MRW01-SS04); a brown to dark brown over a yellowish brown sandy silt with gravel (MRW02-SS02); a very dark grayish brown silt loam over a black silt loam (MRW02-SS04); and a dark brown silt loam over a brown silt loam (MRW04-SS02). As the mapped soils for the area are very similar in nature, the referenced observed upland soils closely reflect several of the mapped soil types.

5.1.3 Hydrology

Delineated wetlands included un-vegetated open water, or littoral zone, and vegetated intertidal marsh and high marsh wetlands associated with the Mill River. High marsh wetlands occurred between the mean high water line and the mean high high waterline. Intertidal marsh communities occurred between the mean low water and mean high waterlines. Due to the disturbed nature of the area, a gradual gradient supportive of several vegetative wetland communities was predominantly absent. This resulted in a limitation of vegetated wetland communities to the two referenced categories. Observed primary wetland hydrology indicators associated with the vegetated wetlands included the presence of surface water, a high water table, saturated soils at the surface, drift deposits, inundation visible on aerial imagery and water stained leaves. Secondary indicators of wetland hydrology included satisfactory achievement of the FAC-Neutral test.

5.2 SURFACE WATERBODIES

As described above, the Site is bisected by the Mill River. The Mill River is hydrologically fed by the Smith Pond outfall to the north and is tidally influenced south of Merrick Road. Wetlands delineated in association with the River included subtidal and intertidal estuarine wetlands. The subtidal and intertidal portions of this estuarine wetland comprise approximately 21.6 acres or 33 percent of the Site.

5.3 INVASIVE PLANT SPECIES

Plant species within the Site were dominated by opportunistic species common to disturbed urban environments. Several invasive species of all strata (i.e., tree, shrub, herb and vine) were observed within the Site. An invasive species management plan should be developed as part of the Project to reduce the potential spread of these species. Invasive species observed within the Site included the following:

- Common Reed – common wetland dominant of the intertidal marsh and high marsh wetlands throughout the Site. Occurred in both sparse narrow and dense wide stands along the eastern and western banks of the river.
- Norway maple – mature and young saplings were located in the adjacent upland wooded rows, specifically in the northern portion of the Site near Merrick Road and along the eastern edge of the Municipal Yard property, located to the north of the High School property.
- English Ivy – observed at several locations in dense stands of the adjacent uplands; particularly along the Municipal Yard property.
- Tree-of-heaven – mature trees prevalent in the uplands of the northern portion of the Site.
- Black locust – mature trees located throughout the upland portions of the Site.
- Oriental bittersweet (*Celastrus orbiculatus*) - located throughout the upland portions of the Site.
- Japanese Knotweed (*Fallopia japonica*) – observed in dense stands in the more wooded uplands and contiguous Site wetlands.
- Mugwort (*Artemisia vulgaris*) – located throughout the adjacent uplands of the Site.
- Multiflora rose – located throughout the Site.

5.4 THREATENED AND ENDANGERED SPECIES

During an initial site reconnaissance, conducted on July 13, 2017, an osprey (*Pandion haliaetus*) was observed flying over the Mill River in the vicinity of the Municipal Yard property. The species is listed by the NYSDEC as a species of special concern. No associated nests were observed at the Site.

The federally listed threatened northern long-eared bat, piping plover, red knot, and seabeach amaranth; the federally listed endangered roseate tern and sandplain gerardia were not observed during the wetland delineation effort. Suitable habitat for these listed wildlife and plant species was not prevalent at the Site. Trees with exfoliating bark or snags (i.e., northern long-eared bat summer roosting habitat) were not in abundance. Due to the disturbed nature of the Site and the surrounding urban environment, the presence of listed species at the Site is anticipated to be minimal. Consultation with the New York Natural Heritage Program is recommended to confirm if any NYSDEC documented threatened or endangered species are located within the Site.

6.0 SUMMARY

Approximately 21.6 acres of estuarine wetlands were delineated within the 65.4-acre East Rockaway High School and Lister Park Site on July 21, 26 and 27, 2017 by Mr. Richard Delahunty, PWS and Ms. Jenny Potrikus, both of Tetra Tech. These tidal wetlands included approximately 19.6 acres of littoral zone and 2.0 acres of fringe high marsh and intertidal marsh communities. High marsh wetlands were dominated by saltmarsh elder and intertidal marsh wetlands were dominated by common reed. Saltmarsh cordgrass also occurred within two of the intertidal marshes. High marsh wetlands occurred between the mean high water line and the mean high waterline. Intertidal marsh communities occurred between the mean low water and mean high waterlines. Due to the disturbed nature of the area, a gradual gradient supportive of several vegetative wetland communities was predominantly absent. This resulted in a limitation of vegetated wetland communities to the two referenced categories. A copy of the Wetland Delineation Map is provided as Figure 5.

Federal and State species listed as either threatened or endangered were not observed at the Site during the delineation effort. Consultation with the New York Natural Heritage Program is recommended to confirm if any NYSDEC documented threatened or endangered species are located within the Site. Upland, and to a lesser degree wetland, plant species within the Site were dominated by opportunistic species common to disturbed urban environments. Several invasive species of all strata (i.e., tree, shrub, herb and vine) were observed within the Site. An invasive species management plan should be developed as part of the Project to reduce the potential spread of these species.

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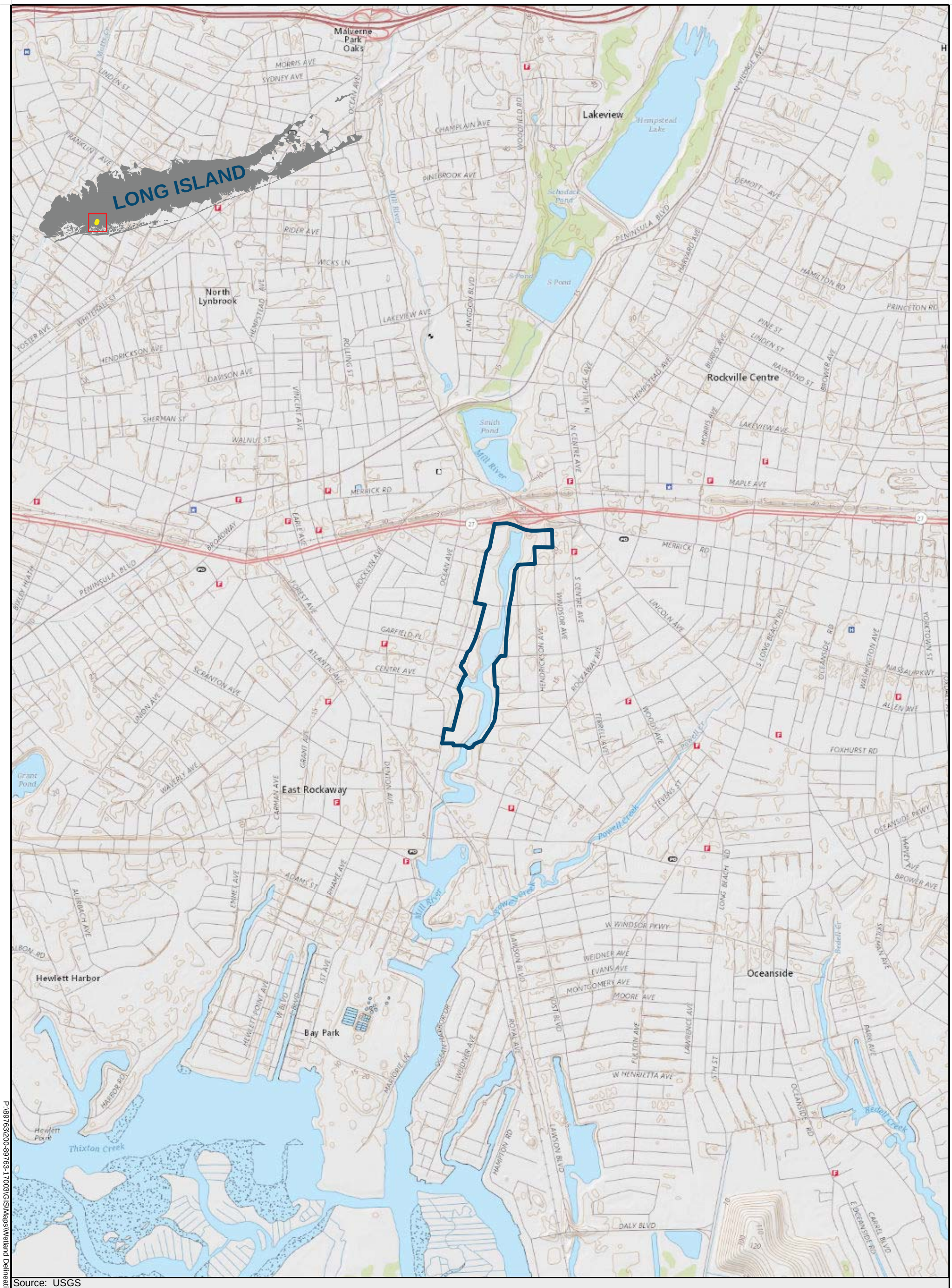
FIGURES



Source: USGS

LEGEND

Site Boundary

TETRA TECH

N

0 1,000 2,000 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
EAST ROCKAWAY HIGH SCHOOL / LISTER PARK

Site Location Map

FIGURE 1

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\MR Site Map.mxd [steph.george 10/2/2017]

Source: National Wetlands Inventory (NWI); 2016 Nassau County Orthoimagery

LEGEND

Site Boundary

Wetland Type/Classification

Estuarine and Marine Deepwater (E1UBL)

Freshwater Forested/Shrub Wetland (PSS1C)

Riverine (R2UBH/R5UBH)

TETRA TECH

N

0 260 520 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
EAST ROCKAWAY HIGH SCHOOL / LISTER PARK

NWI Mapped Wetlands

FIGURE 2

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\MR NWI.mxd [steph.george 10/2/2017]

Source: New York State Department of Environmental Conservation (NYSDEC); 2016 Nassau County Orthoimagery

LEGEND

Site Boundary

NYSDEC Wetland/Identifier

NYSDEC Wetland (FM)

NYSDEC Wetland (LZ)

TETRA TECH

N

0 250 500 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
EAST ROCKAWAY HIGH SCHOOL / LISTER PARK

NYSDEC Mapped Wetlands

FIGURE 3

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\MR NYSDEC Wetland.mxd [steph.george 10/2/2017]

Source: USDA - NRCS; 2016 Nassau County Orthoimagery

LEGEND

Site Boundary

USDA - NRCS Soils

Hydric

Non Hydric

Ue = Udipsamments, wet substratum *(42.87% of site)*
Uf = Udorthents, refuse substratum *(7.98% of site)*
Ug = Urban land *(3.67% of site)*
UrA = Urban land-Riverhead complex, 0-3 % slopes *(3.86 % of site)*
Us = Urban land-Sudbury complex *(0.74 % of site)*
Uw = Urban land-Udipsamments, wet substratum complex *(12.65 % of site)*
W = Water *(28.23% of site)*

TETRA TECH

N

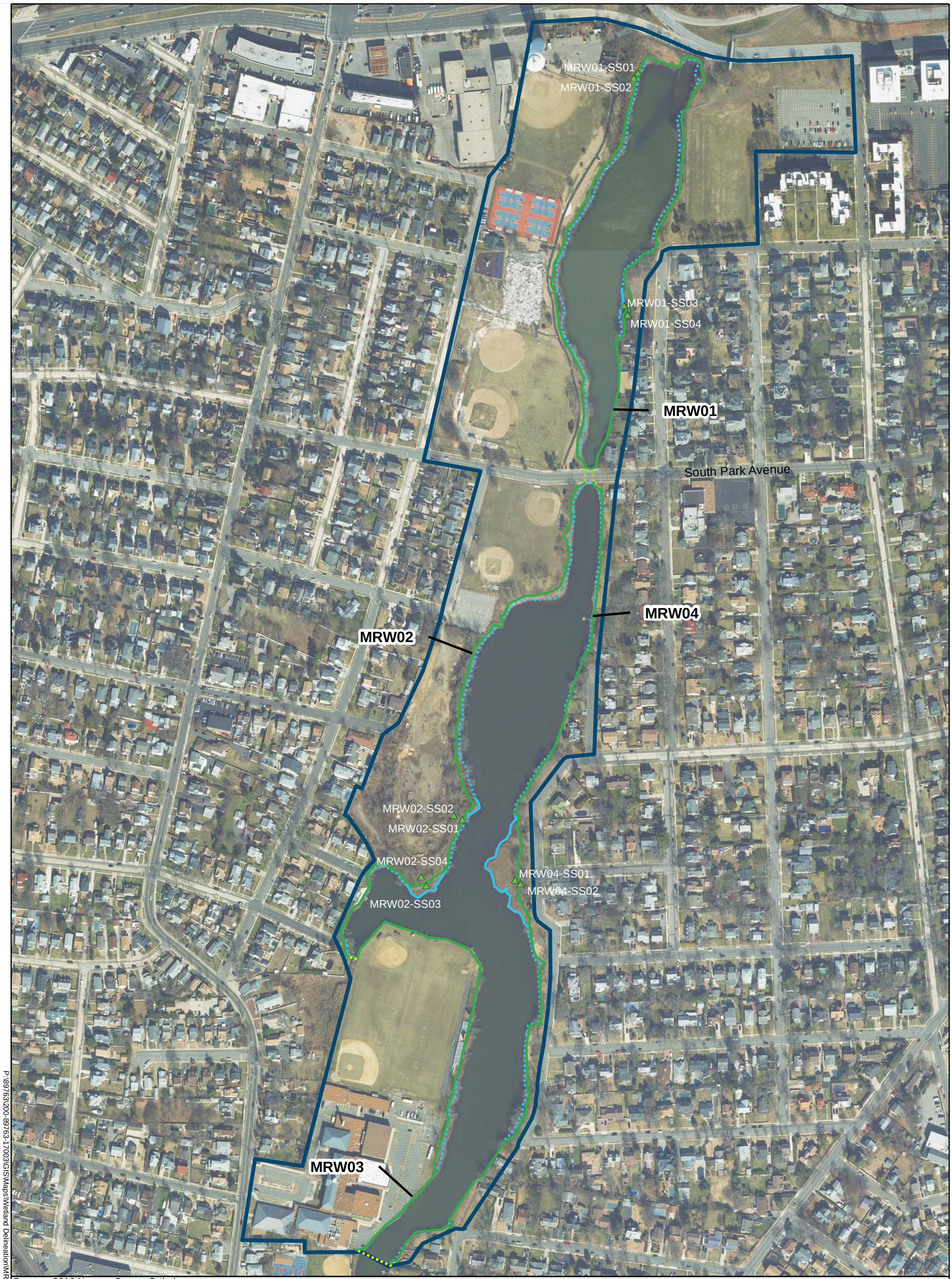
0 250 500 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
EAST ROCKAWAY HIGH SCHOOL / LISTER PARK

NRCS Soil Survey

FIGURE 4

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\MR NRCS Soils.mxd [steph.george 10/3/2017]



Source: 2016 Nassau County Orthoimagery

LEGEND

- Site Boundary
- Delineated Wetland Boundary
- Wetland Continuation
- Delineated Littoral Boundary
- Estimated Littoral Boundary
- Estimated Hydrologic Connectivity Boundary
- Sample Station Location

TETRA TECH

N

0 200 400 Feet

GOVERNOR'S OFFICE OF STORM RECOVERY
LIVING WITH THE BAY
EAST ROCKAWAY HIGH SCHOOL / LISTER PARK

Delineated Wetlands

FIGURE 5

P:\89763\200-89763-17003\GIS\Maps\Wetland Delineation\MR Wetland Delineation.mxd [kevin.obey 10/4/2017]

APPENDICES

APPENDIX A
WETLAND AND STREAM DATA FORMS

MRW01-SS01

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre/Nassau Sampling Date: 7/21/17

Applicant/Owner: NY GOSR - Living with the Bay State: NY Sampling Point: MRW01-SS01

Investigator(s): R. Delahunty, J. Patrick Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): streamedge Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'22.90574"N Long: 73°39'13.98950"W Datum: NAD 83

Soil Map Unit Name: Udipsamments, wet substratum (UE) NWI classification: Estuarine Marine Deep

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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	**Is the Sampled Area within a Wetland?**	**Yes** ✓ **No**
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No	If yes, optional Wetland Site ID:	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X 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 X	No ____	Depth (inches): >3"
Water Table Present?	Yes X	No ____	Depth (inches): 4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): Ø"

Wetland Hydrology Present? Yes X No

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

Remarks:

MRW01 - SS01

VEGETATION – Use scientific names of plants.

Sampling Point: MRW01-SS01

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

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	20	Y	FAC
2. Iva frutescens	30-40	Y	FACW
3. Rosa multiflora	20	Y	FACU
4.			
5.			
6.			
7.			
	80 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Iris sp.	5-10	Y	ND*
2. Impatiens capensis	5	Y	FACW
3. Justicia americana	5-10	Y	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25 = Total Cover		

Woody Vine Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Convolvulus arvensis	15	Y	NI*
2.			
3.			
4.			
	15 = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

*not used in dominance test

Not Indicated = NI

Not Determined = ND

MR W01 - SS01

SOIL

Sampling Point: MRW01-SS0

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/2	100						Sandy

[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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

depositional sands associated with Mill River, saturated

MRW01-SS02

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre/Nassau Sampling Date: 7/21/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: MRW01-SS02

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): stream edge Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'22.73514"N Long: 73°39'13.78796"W Datum: NAD83

Soil Map Unit Name: Udipsamments, wet substratum (Ue) NWI classification: none

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? NO Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (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
Wetland Hydrology Present?	Yes _____	(No)

Is the Sampled Area within a Wetland? Yes _____ (No)

If yes, optional Wetland Site ID: _____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes _____ (No)

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

Remarks:

MRW01-SS02

VEGETATION – Use scientific names of plants.

Sampling Point: MRW01-SS02

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus alba	40	Y	FACU
2. Ailanthus altissima	20	Y	UPL
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Rosa multiflora	50	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Aster sp.	20	Y	ND*
2. Artemisia vulgaris	20	Y	UPL
3. Lespedeza sp.	20	Y	ND*
4. Rosa multiflora	20	Y	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 15')			
1. Solanum dulcamara	10	Y	FAC
2. Celastrus orbiculatus	10	Y	UPL
3.			
4.			
	20	= 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 14% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

Dodder

*not used in dominance test

ND = not determined

MRW01-SS02

SOIL

Sampling Point: MRW01-SS02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10yr 2/2							Sandy silt

[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, M)
- ___ 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: rocky

Depth (inches): 8"

Hydric Soil Present? Yes ✓ No ___

Remarks:

depositional sands associated with Mill River, dry

MRWD1 - SSD3

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre / Nassau Sampling Date: 7/21/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: MRWD1 SSD3

Investigator(s): R. Delahunty, J. Petrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): stream edge Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'15.20650"N Long: 73°39'14.27501"W Datum: NAD83

Soil Map Unit Name: Udipsamments, wet substratum (Ue) NWI classification: Estuarine Marine Deepwc

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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	**Is the Sampled Area within a Wetland?**	**Yes ✓ No**
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No	If yes, optional Wetland Site ID:	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X 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 X	No ____	Depth (inches): >3'
Water Table Present?	Yes X	No ____	Depth (inches): 8'
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): Ø

Wetland Hydrology Present? Yes X No

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

Remarks:

Fringe wetlands + PEM/PSS wet

SS03

VEGETATION – Use scientific names of plants.

Sampling Point: MRW01-SS03

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

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Iva frutescens	30-40	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Phragmites australis	80-90	Y	FACW
2. Cascuta sp.	<5	N	ND
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95 = Total Cover		

Woody Vine Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Parthenocissus quinquefolia	5	Y	FACU
2.			
3.			
4.			
	5 = 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% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

IVA PREDOMINANT ALONG WATER EDGE

ND = not determined

SS03

SOIL

Sampling Point: MRW01-SS03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/2	100						Sandy loam
6-20	10YR 4/2	100						Silty 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, M)
- ___ 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): >20"

Hydric Soil Present? Yes ✓ No ___

Remarks:

Disturbed cleared soils

MRW01 - SS04

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre / Nassau Sampling Date: 7/21/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: MRW01-SS04

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): stream edge Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°39'14.90626" N Long: 73°39'14.08848" W Datum: NAD83

Soil Map Unit Name: Udipsamments, wet substratum (Ue) NWI classification: none

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? NO Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (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)		**Is the Sampled Area within a Wetland?** Yes _____ (No)
Hydric Soil Present? Yes _____ (No)		If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes _____ (No)		

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes _____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches):

Wetland Hydrology Present? Yes _____ (No)

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: MRW01-SS04

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus alba	30	Y	FACU
2. Prunus serotina	10	N	FACU
3. Robinia pseudoacacia	20	Y	FACU
4. Juniperus virginiana	5	N	FACU
5. Ailanthus altissima	10	N	UPL
6.			
7.			
	75	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15')			
1. Ailanthus altissima	10	Y	UPL
2. Forsythia sp.	10	Y	ND*
3. Robinia pseudoacacia	10	Y	FACU
4.			
5.			
6.			
7.			
	30	= Total Cover	

Herb Stratum (Plot size: 5')			
1. Artemisia vulgans	20	Y	UPL
2. Phragmites australis	5	N	FACW
3. Robinia pseudoacacia	10	Y	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35	= Total Cover	

Woody Vine Stratum (Plot size: 15')			
1. Celastrus orbiculatus	20	Y	UPL
2. Toxicodendron radicans	10	Y	FAC
3. Hedera helix	20	Y	FACU
4.			
	50	= 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: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 11% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(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.)

ND = not determined

* not used in dominance test

MRW01 - SS04

SOIL

Sampling Point: MRW01-SS04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/3	100					siltloam	
12-20	10YR 4/4	100					sandy 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, M)**
- ___ 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): 22+"

Hydric Soil Present? Yes ___ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre / Nassau Sampling Date: 7/26/17

Applicant/Owner: NYSDOSR-Living with the Bay State: NY Sampling Point: MRW02-SS01

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): shoreline Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°38'58.14372"N Long: 73°39'21.38781"W Datum: NAD83

Soil Map Unit Name: Udorthents, refuse substratum (Uf) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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	**Is the Sampled Area within a Wetland?** Yes ✓ No
Hydric Soil Present?	Yes ✓ No	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ✓ No	

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ✓	No ____	Depth (inches): 0
Water Table Present?	Yes ✓	No ____	Depth (inches): 1
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: MRW02-SSO

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

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Iva frutescens	25	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	25 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	Ø = Total Cover		

Woody Vine Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

Phragmites within 20 ft of wetland sample station

SOIL

Sampling Point: HRW02-SS1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/2	100					sandy gravel	

[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, M)**
- ___ 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: rocky

Depth (inches): 16

Hydric Soil Present? Yes ✓ No ___

Remarks:

shoreline

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre/Nassau Sampling Date: 7/26/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: MRW02-SSD2

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): backshore of shoreline Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°38'58.30878"N Long: 73°39'21.69790"W Datum: NAD83

Soil Map Unit Name: Udorthents, refuse substratum (Uf) NWI classification: none

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? NO Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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)
Wetland Hydrology Present?	Yes _____	(No)

Is the Sampled Area within a Wetland? Yes _____ (No)

If yes, optional Wetland Site ID: _____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes _____ (No)

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: MRWD 2-SS02

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus alba	15	Y	FACU
2. Acer platanoides	15	Y	UPL
3. Acer negundo	30	Y	FAC
4.			
5.			
6.			
7.			
	60 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Rosa multiflora	40	Y	FACU
2. unidentified shrub	<5	N	ND
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Allaria petiolata	15	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1. Convolvulus arvensis	10	Y	NI*
2.			
3.			
4.			
	10 = 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		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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 (circled)

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

ND = not determined

NI = not indicated

* not used in dominance test

SOIL

Sampling Point: MRW02-SP

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/3	100					sandy silt w/ gravel	
10-15	10YR 4/3	100					sandy silt w/ gravel	
15-20	10YR 5/4	100					sandy silt w/ gravel	

[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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ___ No ✓

Remarks:

mr
W02-SS03

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre/Nassau Sampling Date: 7/26/17
Applicant/Owner: NYGOSR-Living with the Bay State: NY Sampling Point: MRW02-SS03
Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre
Landform (hillslope, terrace, etc.): fringe wetland Local relief (concave, convex, none): none Slope (%): <5
Subregion (LRR or MLRA): MLRA Lat: 40°38'55.94585"N Long: 73°39'22.97213"W Datum: NAD83
Soil Map Unit Name: Udorthents, refuse substratum (Uf) NWI classification: PEM
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? NO Are "Normal Circumstances" present? Yes ____ No ✓
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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		**Is the Sampled Area within a Wetland?** Yes ✓ No
Hydric Soil Present? Yes ✓ No		
Wetland Hydrology Present? Yes ✓ No		If yes, optional Wetland Site ID: ____

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

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X 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 X No ____ Depth (inches): >3"
Water Table Present? Yes X No ____ Depth (inches): 3"
Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 0"

Wetland Hydrology Present? Yes X No

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

Remarks:

MRW02-SS03

VEGETATION – Use scientific names of plants.

Sampling Point: MRW02-SS03

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

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

Herb Stratum (Plot size: 5')			
1. Phragmites australis	90	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	Ø = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(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.)

IWA in the PALS sheet

MRW02-SS03

SOIL

Sampling Point: MRW02-SS03

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10yr 2/1	100%						mucky sand

[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)
- X 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, M)
- ___ 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): >20"

Hydric Soil Present? Yes X No ___

Remarks:

MRW02-SS04

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre/Nassau Sampling Date: 7/26/17

Applicant/Owner: NYGOSR-Living with the Bay State: NY Sampling Point: MRW02-SS04

Investigator(s): R. Delahunty, J. Potrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): disturbed/fill area Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°38'50.14281"N Long: 73°39'23.23163"W Datum: NAD83

Soil Map Unit Name: Udorthents, refuse substratum (Udf) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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)		**Is the Sampled Area within a Wetland?** Yes _____ (No)
Hydric Soil Present? Yes _____ (No)		If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes _____ (No)		

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes _____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches):

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

MRW02 - SS04

VEGETATION – Use scientific names of plants.

Sampling Point: MRW02-SS04

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus alba	40	Y	FACU
2. Ailanthus altissima	10	N	UPL
3. Acer negundo	20	Y	FAC
4.			
5.			
6.			
7.			
	70 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Acer negundo	10	Y	FAC
2. Toxicodendron radicans	5	N	FAC
3. Rosa multiflora	10	Y	FACU
4. Ailanthus altissima	5	N	UPL
5.			
6.			
7.			
	30 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Allaria petiolata	10	Y	FACU
2. Toxicodendron radicans	10	Y	FAC
3. Artemisia vulgaris	10	Y	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		

Woody Vine Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 43% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(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.)

MRW02-SS04

SOIL

Sampling Point: MRW02-SS04

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100						Silt loam
10-20	7.5YR 2.5/1	100						Silt 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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ___ No ✓

Remarks:

Gill Marshall

MRW04-SS01

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre/Nassau Sampling Date: 7/27/17

Applicant/Owner: NYGOSR - Living with the Bay State: NY Sampling Point: MRW04-SS01

Investigator(s): R. Delahunty, S. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): fringe wetland Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°38'56.12127"N Long: 73°39'19.10772"W Datum: NAD83

Soil Map Unit Name: Urban land-Udipsamments, wet substratum complex (UW) NWI classification: PEM

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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	**Is the Sampled Area within a Wetland?**	**Yes ✓ No**
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No	If yes, optional Wetland Site ID: ____	

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

MAPPED PEM WETLAND

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X 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 X	No ____	Depth (inches): >3'
Water Table Present?	Yes X	No ____	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): Ø'

Wetland Hydrology Present? Yes X No

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

Remarks:

MRW04-SS01

VEGETATION – Use scientific names of plants.

Sampling Point: MRW04-SS01

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

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

Herb Stratum (Plot size: 5' R)			
1. Phragmites australis	95%	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 15' R)			
1.			
2.			
3.			
4.			
	Ø = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(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 X No

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

SPARTINA ALTERNIFLORA in other parts of wetland

BOX ELDER ALONG EDGE - just outside of wet

MRW04 - SS01

SOIL

Sampling Point: MRW04-SS01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-22	10YR 2/1	100						organic muck

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

Hydric Soil Indicators:

- X 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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes X No ___

Remarks:

MRW04-SS02

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Mill River City/County: Rockville Centre / Nassau Sampling Date: 7/27/17

Applicant/Owner: NYGOR - Living with the Bay State: NY Sampling Point: MRW04-SS02

Investigator(s): R. Delahunty, J. Patrikus Section, Township, Range: Rockville Centre

Landform (hillslope, terrace, etc.): tree line Local relief (concave, convex, none): none Slope (%): <5

Subregion (LRR or MLRA): MLRA Lat: 40°38'55.98659"N Long: 73°39'18.90034"W Datum: NAD83

Soil Map Unit Name: urban land-udipsamments, wet substratum complex (Uw) NWI classification: none

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? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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)		**Is the Sampled Area within a Wetland?** Yes _____ (No)
Hydric Soil Present? Yes _____ (No)		If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes _____ (No)		

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): n/A

Water Table Present? Yes _____ No X Depth (inches): n/A

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): n/A

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

MRW04 - SS02

VEGETATION – Use scientific names of plants.

Sampling Point: MRW04-SS02

Tree Stratum (Plot size: 30' R)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer platanoides	10	Y	UPL
2. Morus alba	20	Y	FACU
3. Robinia pseudoacacia	10	Y	FACU
4.			
5.			
6.			
7.			
	40	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' R)			
1. Rosa multiflora	20	Y	FACU
2. Lonicera maackii	10	Y	FACU
3. Toxicodendron radicans	5	N	FAC
4.			
5.			
6.			
7.			
	35	= Total Cover	

Herb Stratum (Plot size: 5' R)			
1. Hedera helix	20	Y	FACU
2. Parthenocissus quinquefolia	20	Y	FACU
3. Taraxacum officinale	5	N	FACU
4. Unidentified grass sp.	5	N	ND
5. Artemisia vulgaris	5	N	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55	= Total Cover	

Woody Vine Stratum (Plot size: 15' R)			
1. Parthenocissus quinquefolia	10	Y	FACU
2. Hedera helix	10	Y	FACU
3. Toxicodendron radicans	5	Y	FAC
4.			
	25	= 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: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 10% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(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 X

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

ND = not determined

MRW04-SS02

SOIL

Sampling Point: MRW04-SS02

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10yr 3/2	100%						Silt loam
10-20	10yr 4/2	100%						Silt 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, M)**
- ___ 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): >20"

Hydric Soil Present? Yes ___ No X

Remarks:

APPENDIX B
SELECT SITE PHOTOGRAPHS

Appendix B
Select Site Photographs

Photograph 01 – Facing north at Mill River from the South Park Avenue bridge
July 13, 2017

Photograph 02 – Facing south at Mill River from near Merrick Road
July 21, 2017

Appendix B
Select Site Photographs

Photograph 03 – Facing east at Smith Pond discharge into Mill River south of Merrick Road
July 21, 2017

Photograph 04 – Facing south at Mill River from the South Park Avenue bridge
July 13, 2017

Appendix B
Select Site Photographs

Photograph 05 – Facing north at Mill River from East Rockaway High School
July 13, 2017

Photograph 06 – Facing northeast at the South Park Avenue bridge
July 21, 2017

Appendix B
Select Site Photographs

Photograph 07 – Facing south at eroded shoreline at Lister Park
July 21, 2017

Photograph 08 – Facing south at unconsolidated shoreline south of South Park Avenue bridge
July 21, 2017

Appendix B
Select Site Photographs

Photograph 09 – Facing south at unconsolidated shoreline adjacent to Municipal Yard property
July 26, 2017

Photograph 10 – Facing southeast at scrub shrub fringe wetlands south of South Park Avenue bridge
July 26, 2017

Appendix B
Select Site Photographs

Photograph 11 – Facing southwest at scrub shrub/emergent fringe wetlands at East Rockaway High School - July 27, 2017

Photograph 12 – Facing north at emergent fringe wetlands and saltmarsh cordgrass July 27, 2017

Appendix B
Select Site Photographs

Photograph 13 – Facing west at emergent wetland and common reed to northeast of East Rockaway High School - July 13, 2017

Photograph 14 – Facing northeast at emergent wetland and common reed to west of East Rockaway High School - July 13, 2017

Appendix B
Select Site Photographs

Photograph 15 – Facing north at emergent wetland and common reed to north of East Rockaway High School - July 13, 2017

APPENDIX C
THREATENED AND ENDANGERED SPECIES INFORMATION

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Nassau County, New York

Local office

Long Island Ecological Services Field Office

(631) 286-0485
(631) 286-4003

340 Smith Road
Shirley, NY 11967

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species

[1] are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

NOT FOR CONSULTATION

Birds

NAME	STATUS
Piping Plover Charadrius melodus There is **final designated** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot Calidris canutus rufa No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1864	Threatened
Roseate Tern Sterna dougallii dougallii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2083	Endangered

Flowering Plants

NAME	STATUS
Sandplain Gerardia Agalinis acuta No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8128	Endangered
Seabeach Amaranth Amaranthus pumilus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8549	Threatened

NOT FOR CONSULTATION

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are USFWS Birds of Conservation Concern that might be affected by activities in this location. The list does not contain every bird you may find in this location, nor is it guaranteed that all of the birds on the list will be found on or near this location. To get a better idea of the specific locations where certain species have been reported and their level of occurrence, please refer to resources such as the E-bird data mapping tool (year-round bird sightings by birders and the general public) and Breeding Bird Survey (relative abundance maps for breeding birds). Although it is important to try to avoid and minimize impacts to all birds, special attention should be given to the birds on the list below. To get a list of all birds potentially present in your project area, visit the E-bird Explore Data Tool.

NAME	BREEDING SEASON
American Oystercatcher Haematopus palliatus https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Black Skimmer Rynchops niger https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black-billed Cuckoo Coccyzus erythropthalmus https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink Dolichonyx oryzivorus	Breeds May 20 to Jul 31
Buff-breasted Sandpiper Tryngites subruficollis	Breeds elsewhere
Canada Warbler Wilsonia canadensis	Breeds May 20 to Aug 10

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Cerulean Warbler Dendroica cerulea https://ecos.fws.gov/ecp/species/2974	Breeds Aug 20 to Jul 20
Clapper Rail Rallus longirostris https://ecos.fws.gov/ecp/species/8937	Breeds Apr 10 to Oct 31
Dunlin Calidris alpina arcticola	Breeds elsewhere
Eastern Whip-poor-will Caprimulgus vociferus	Breeds May 1 to Aug 20
Evening Grosbeak Coccothraustes vespertinus	Breeds elsewhere
Golden-winged Warbler Vermivora chrysoptera https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
Gull-billed Tern Gelochelidon nilotica https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Hudsonian Godwit Limosa haemastica	Breeds elsewhere
Kentucky Warbler Oporornis formosus	Breeds Apr 20 to Aug 20
Least Tern Sterna antillarum	Breeds Apr 20 to Sep 10
Lesser Yellowlegs Tringa flavipes https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl asio otus https://ecos.fws.gov/ecp/species/3631	Breeds elsewhere
Nelson's Sparrow Ammodramus nelsoni	Breeds May 15 to Sep 5
Prairie Warbler Dendroica discolor	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea	Breeds Apr 1 to Jul 31
Purple Sandpiper Calidris maritima	Breeds elsewhere
Red-headed Woodpecker Melanerpes erythrocephalus	Breeds May 10 to Sep 10
Red-throated Loon Gavia stellata	Breeds elsewhere

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Rusty Blackbird Euphagus carolinus	Breeds elsewhere
Saltmarsh Sparrow Ammodramus caudacutus	Breeds May 15 to Sep 5
Seaside Sparrow Ammodramus maritimus	Breeds May 10 to Aug 20
Semipalmated Sandpiper Calidris pusilla	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Whimbrel Numenius phaeopus https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Wood Thrush Hylocichla mustelina	Breeds May 10 to Aug 31

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote when the bird breeds in the Bird Conservation Region(s) in which your project lies. If there are no yellow bars shown for a bird, it does not breed in your project area.

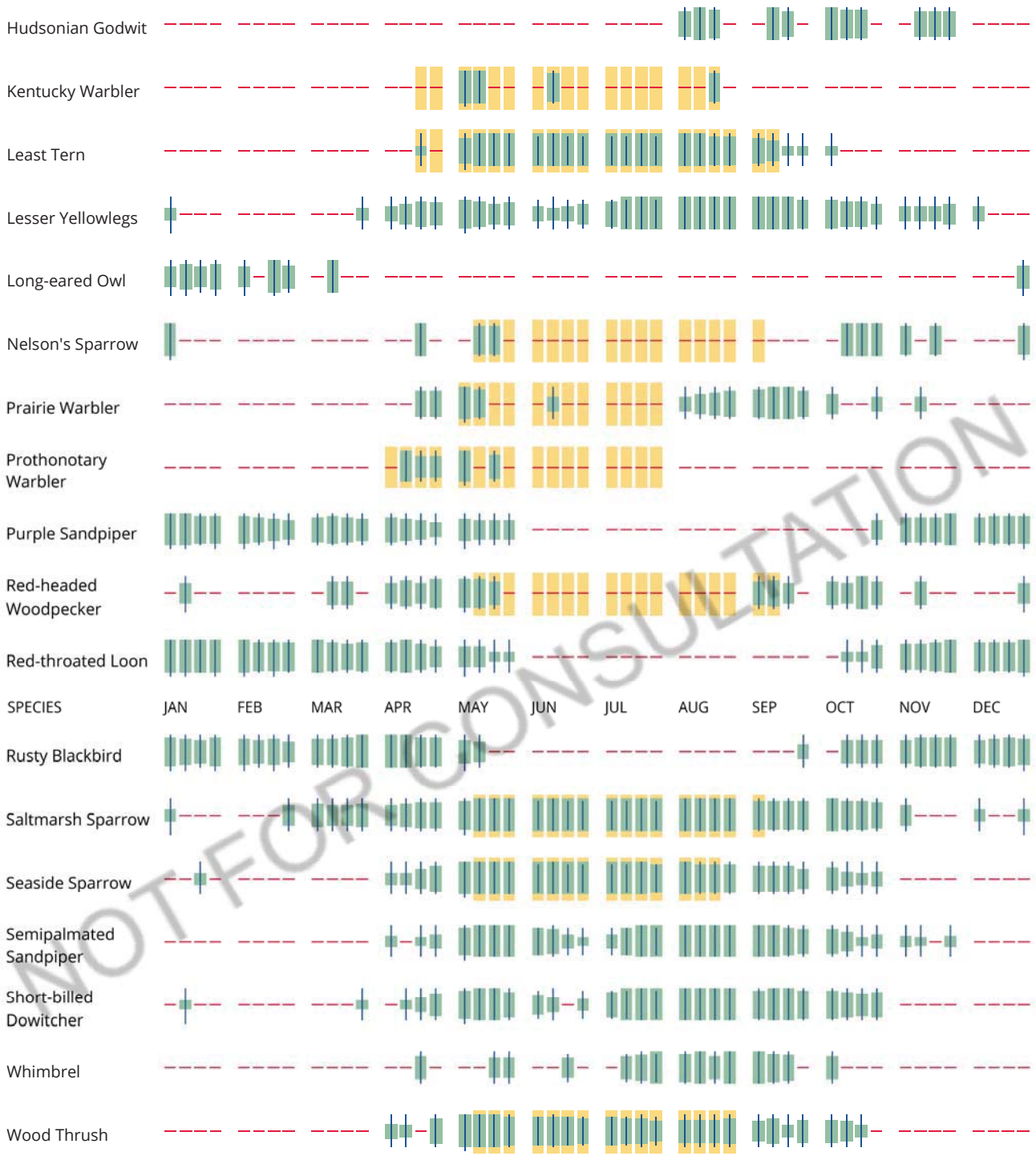
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information.

NOT FOR CONSULTATION



NOT FOR CONSULTATION

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in Birds of North America (BNA) Online under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a subscription. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the Endangered Species Act (ESA).

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets. The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

NOT FOR CONSULTATION

Facilities

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGES AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

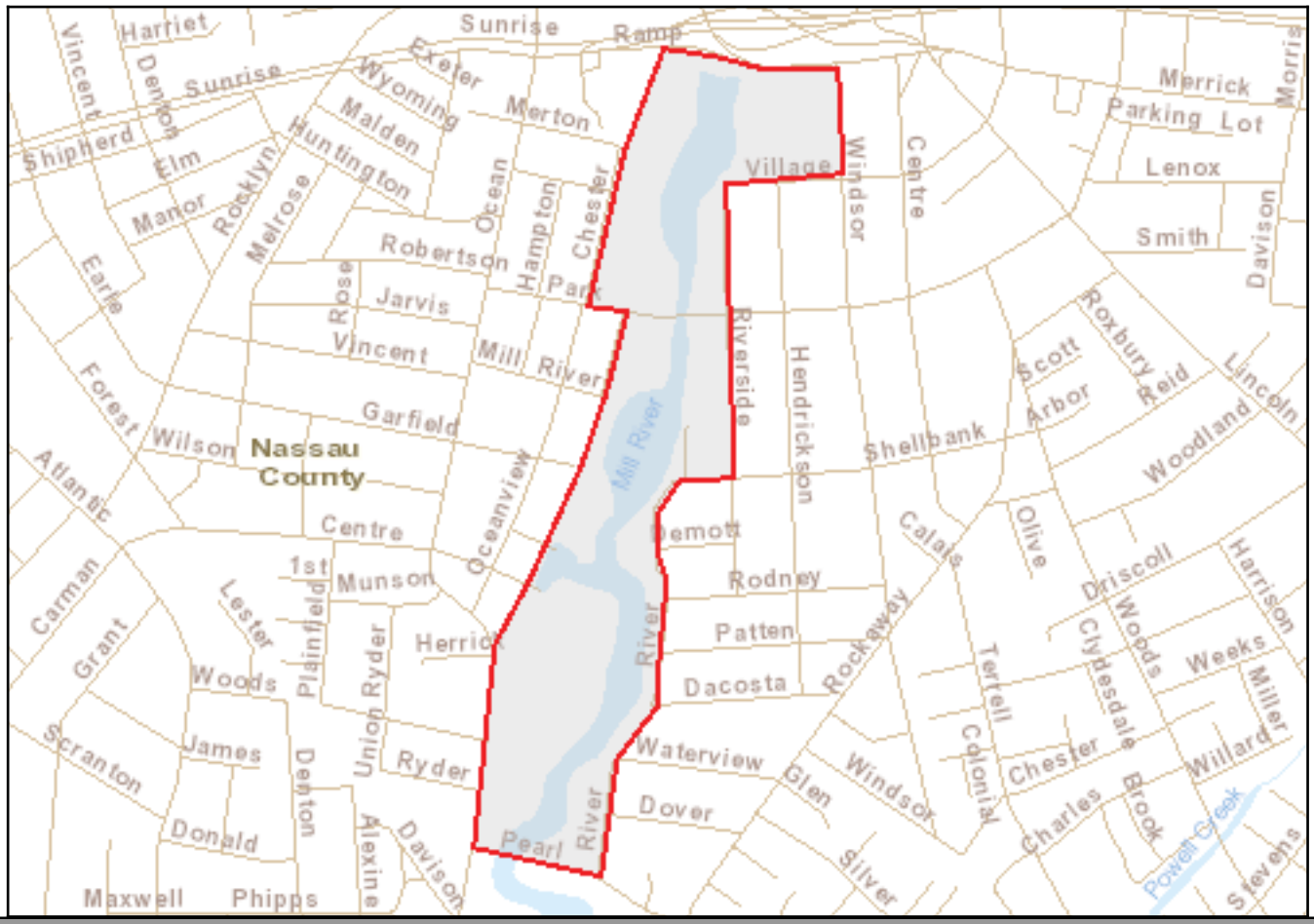
Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

New York Nature Explorer
User Defined Results Report

Criteria: Selected Map Area



Common Name	Subgroup	Distribution Status	Year Last Documente	Protection Status		Conservation Rank	
				State	Federal	State	Global

Note: Restricted plants and animals may also have also been documented in one or more of the Towns or Cities in which your user-defined area is located, but are not listed in these results. This application does not provide information at the level of Town or City on state-listed animals and on other sensitive animals and plants. A list of the restricted animals and plants documented at the corresponding county level can be obtained via the County link(s) on the original User Defined Search Results page. Any individual plant or animal on this county's restricted list may or may not occur in this particular user-defined area.

This list only includes records of rare species and significant natural communities from the databases of the NY Natural Heritage Program. This list is not a definitive statement about the presence or absence of all plants and animals, including rare or state-listed species, or of all significant natural communities. For most areas, comprehensive field surveys have not been conducted, and this list should not be considered a substitute for on-site surveys.

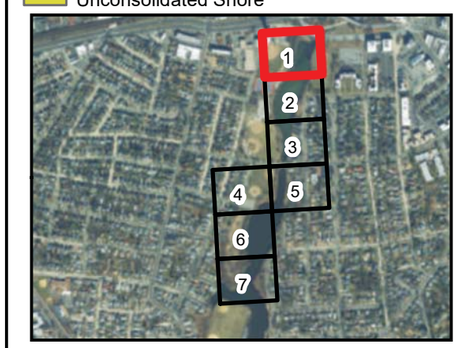
Legend

Living Shoreline Segment

- A - Northwest
- B - Southwest
- C - Northeast

Cover Type

- Big-Leaf Marsh-Elder
- Early/Mid Successional Vegetation
- Forested
- Invasive Species (Japanese knotweed)
- Invasive Species (Japanese knotweed/common reed mix)
- Invasive Species (bamboo)
- Invasive Species (common reed)
- Invasive Species (tree-of-heaven saplings)
- Maintained lawn
- Unconsolidated Shore



N

0 15 30 60 90 120 Feet

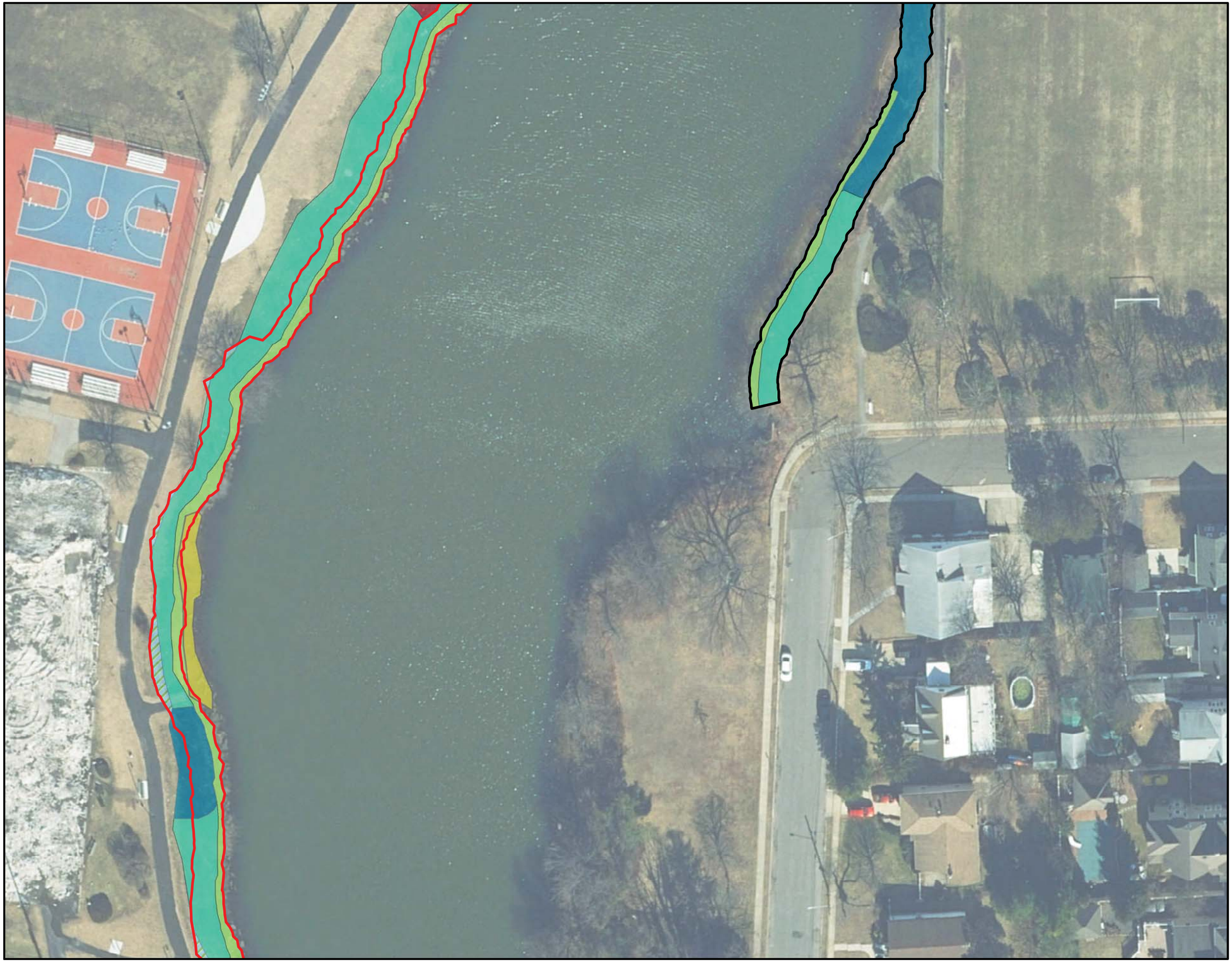
East Rockaway High School/Lister Park Project
2019 Covertype Assessment

Prepared By: TETRA TECH

Date: 03/2019

Source: Esri et al., 2018

Coordinate System: NAD 1983 State Plane New York Long Island FIPS 3104 Feet



Legend

Living Shoreline Segment

- A - Northwest
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- Big-Leaf Marsh-Elder
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- Maintained lawn
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N

0 15 30 60 90 120 Feet

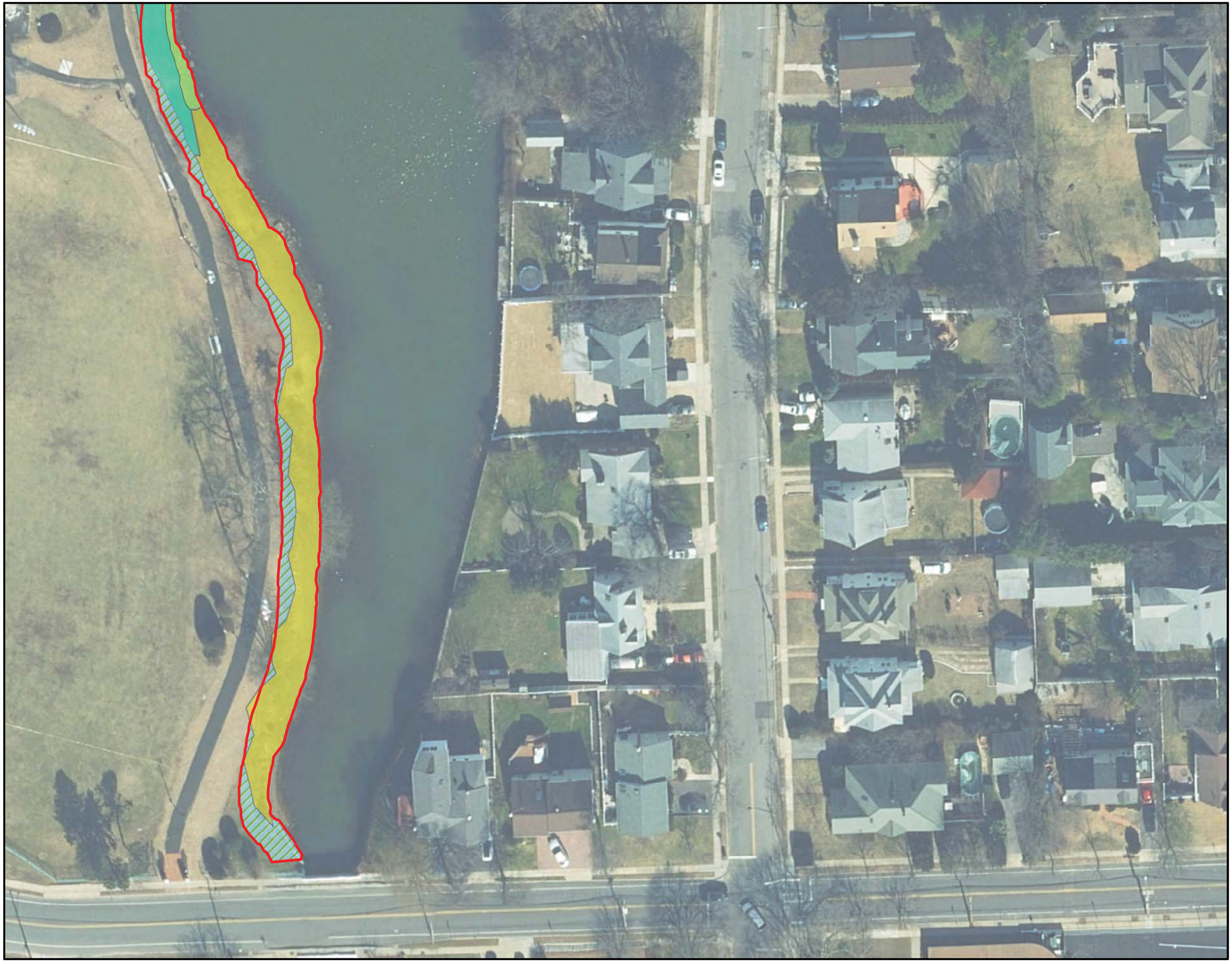
East Rockaway High School/Lister Park Project
2019 Covertype Assessment

Prepared By: TETRA TECH

Date: 03/2019

Source: Esri et al., 2018

Coordinate System: NAD 1983 State Plane New York Long Island FIPS 3104 Feet



Legend

Living Shoreline Segment

- A - Northwest
- B - Southwest
- C - Northeast

Cover Type

- Big-Leaf Marsh-Elder
- Early/Mid Successional Vegetation
- Forested
- Invasive Species (Japanese knotweed)
- Invasive Species (Japanese knotweed/common reed mix)
- Invasive Species (bamboo)
- Invasive Species (common reed)
- Invasive Species (tree-of-heaven saplings)
- Maintained lawn
- Unconsolidated Shore

N

0 15 30 60 90 120 Feet

East Rockaway High School/Lister Park Project
2019 Covertype Assessment

Prepared By: TETRA TECH

Date: 03/2019

Source: Esri et al., 2018

Coordinate System: NAD 1983 State Plane New York Long Island FIPS 3104 Feet

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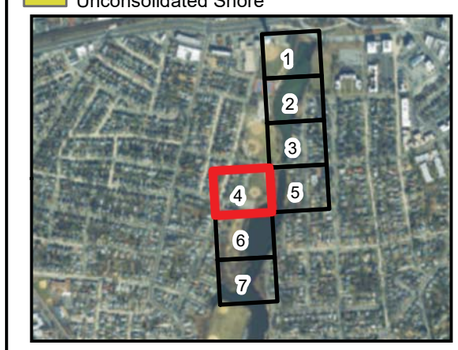

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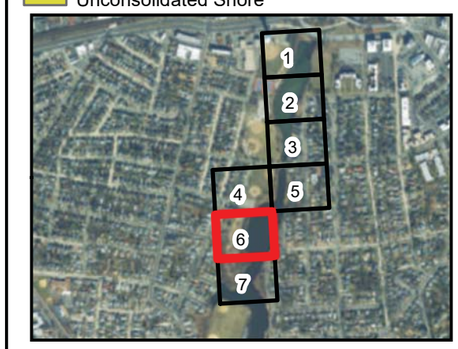

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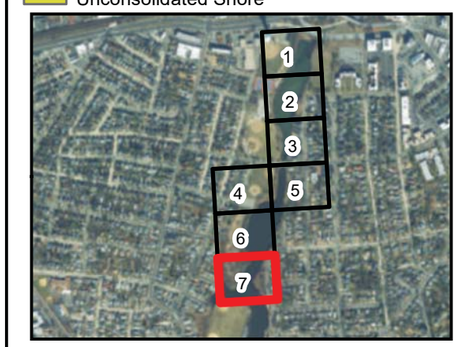

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