

**ATTACHMENT F**

**Revised Attachment F: Wetland Delineation Report**

**REVISED  
WETLAND DELINEATION REPORT**

**Champlain Hudson Power Express  
Project**

Prepared for:



**Champlain Hudson Power Express, Inc.  
Toronto, Ontario**

Prepared by:



**TRC ENVIRONMENTAL CORPORATION  
Wannalancit Mills  
650 Suffolk St  
Lowell, MA 01854**

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## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>2.0</b>	<b>PROJECT ROUTE OVERVIEW.....</b>	<b>1</b>
<b>3.0</b>	<b>WETLAND DELINEATION METHODOLOGY .....</b>	<b>2</b>
<b>4.0</b>	<b>WETLAND DELINEATION RESULTS .....</b>	<b>4</b>
4.1	Vegetation.....	4
4.2	Hydrology.....	7
4.3	Soils.....	8
4.4	Natural Resource Conservation Service Soil Series Descriptions.....	8
<b>5.0</b>	<b>SUMMARY .....</b>	<b>24</b>
<b>6.0</b>	<b>REFERENCES.....</b>	<b>25</b>

### TABLES

Table 4-1	Summary of Wetlands Within the Study Area <sup>1</sup> .....	Attachment B
Table 4-2	Summary of Waterbodies within the Study Area .....	Attachment B
Table 4-3	Soil Description Summary .....	Attachment B

### FIGURES

Figure A-1	Wetland Delineation Mapping.....	Attachment A
Figure A-2	NRCS Soil Mapping.....	Attachment A

### ATTACHMENTS

- A – Figures
- B – Tables
- C – Wetland and Stream Photographs

## 1.0 INTRODUCTION

TRC Environmental Corporation (“TRC”) has prepared this wetland delineation report on behalf of Champlain Hudson Power Express, Inc. (“CHPEI”) for the Champlain Hudson Power Express Project (Project).

TRC and HDR Engineering, Inc. (“HDR”) were retained by CHPEI to identify and delineate jurisdictional wetlands and waterways along the overland transmission cable route that follows Canadian-Pacific (“CP”) and CSX Corporation (“CSX”) railroad rights-of-way (“ROWs”), and New York State (NYS) ROWs. Delineations were conducted with the objective of identifying and minimizing impacts to federal and state jurisdictional wetlands to the extent feasible. This report describes the wetland delineation methodology and the existing wetland and waterbody resources that were identified in the study area during field surveys for the overland portions of the Project.

## 2.0 PROJECT ROUTE OVERVIEW

From the Canada border, the proposed transmission cable route enters Lake Champlain and travels south to the town of Dresden, New York. In the town of Dresden the transmission cables will transition from the waters of Lake Champlain to the land on the western shore via a horizontal directional drill (“HDD”) and subsequently enter the New York State Route 22 ROW. The cables continue within the Route 22 ROW until milepost (“MP”) 111.9, except for a crossing of South Bay at MP 109.7. At MP 111.9, the cable route enters the CP ROW and remains primarily within the ROW for approximately 65.1 miles, within the municipalities of Fort Ann, Hartford, Kingsbury, Fort Edward, Moreau, Northumberland, Wilton, Greenfield, Saratoga Springs, Milton, Ballston, Clifton Park, and Glenville. Around MP 177 in Rotterdam, the cable route transfers from the CP ROW to the CSX ROW. The cable route continues southeast along the CSX ROW for approximately 22 miles through the municipalities of Guilderland, New Scotland, Voorheesville, and Bethlehem. At MP 199, the cables continue along the CSX ROW that runs south parallel to the Hudson River and extends for approximately 29 miles through the municipalities of Coeymans, Ravena, New Baltimore, Coxsackie, Athens, and Catskill. Within Catskill in the hamlet of Cementon, the cable route leaves the CSX ROW at MP 227.5 and turns easterly to follow Alpha Road. Alpha Road terminates at a landing area at MP 228.2. At this point, the cables will transition into the Hudson River via an HDD. At MP 295.7, the cables transition from the waters of the Hudson River to land within a CSX ROW via an HDD in the Town of Stony Point. The cables follow the CSX ROW and public road ROW for a 7.7 mile overland bypass of Haverstraw Bay, which has been identified as one of the most sensitive significant coastal habitats within the Hudson River. The route travels through the Town of Haverstraw, Village of West Haverstraw and Village of Haverstraw primarily within the CSX ROW. Around MP 300.8, the CSX ROW is bordered on the east and then on both sides by Haverstraw Beach State Park. At MP 301.4, an HDD is established to install the cables under Rockland Lake State Park and Hook Mountain State Park (comprising portions of Palisades Interstate Park) to enter the ROW of NYS Route 9W. From MP 301.8 to 302.4, the cables will be located within the Route 9W ROW. At this point, another HDD will install the cables beneath the two parks and transition the cables into Hudson River.

The cables continue within the Hudson River, Spuyten Duyvill Creek, and the Harlem River before transitioning to land in the borough of Queens in New York City where the cables will proceed easterly to the Luyster Creek converter station site. The converter station will be a “compact type” with a total footprint (i.e., building and associated equipment) of approximately 5 acres. Alternating current cables will connect the converter station to a newly constructed substation.

### **3.0 WETLAND DELINEATION METHODOLOGY**

To determine the potential for wetland impacts from construction of the Project, TRC and HDR assessed the Project survey area in the field for the presence of federal and state jurisdictional wetlands. Wetland scientists from TRC and HDR conducted wetland delineations from October to December 2009, April to June 2010, and October to December 2011. The delineations were performed in accordance with the United States Army Corps of Engineers (USACE) wetland delineation criteria and methodology, and the *New York State Freshwater Wetlands Delineation Manual* (Browne et. al., 1995).

TRC and HDR conducted wetland delineations along the majority of the overland route on existing CP and CSX railroad ROWs from October to December 2009 and April to June 2010. The area surveyed included approximately 89.4 miles from Whitehall in Washington County, to the Hudson River in Coeymans in Albany County. The remaining sections of the overland transmission cable route, which includes approximately 10.5 miles along NYS Route 22 ROW in Washington County, approximately 29 miles along the existing CSX ROW in Albany and Greene Counties, and approximately 7 miles along the existing CSX ROW and NYS 9W in Rockland County, were surveyed by TRC and HDR from October to December 2011. Field surveys have not been completed for the Luyster Creek converter station site in the borough of Queens. However, preliminary mapping analysis suggests that no wetlands or watercourses are present at the site. In addition, field surveys have yet to be completed for the portion of the cable route along Alpha Road in the hamlet of Cementon, New York.

The study area for the surveyed portions of the Project included the land within the existing CP and CSX railroad ROWs, NYS Route 22 ROW, and NYS Route 9W ROW. To determine the appropriate parcel boundary, TRC reviewed parcel data from the municipal Assessors’ offices (where available) and valuation maps provided by CP and CSX, consulted with railroad personnel, and used visual cues such as existing fences, field edges, treelines, or other indications of vegetation management by the railroad.

For the surveyed portions of the overland route, TRC and HDR wetland delineation crews assessed the Project survey area using the Federal Routine Determination Method presented in the USACE Wetlands Delineation Manual (USACE, 1987), including clarifications and interpretations provided in the March 6, 1992 guidance memorandum (Williams, 1992), and the USACE and Environmental Protection Agency guidance on jurisdictional forms (USACE, 2007). On March 1, 2010, the USACE officially adopted the Interim Regional Supplement for the Northcentral and Northeast Region (USACE, 2009); therefore, surveys conducted follow the methodology described in the supplement. TRC and HDR also reviewed the *New York State Freshwater Wetlands Delineation Manual* (Browne et. al., 1995).

The 1987 USACE manual, Interim Regional Supplement, and guidance memorandums emphasize a three-parameter approach to wetland boundary determination in the field. This approach involves the identification of: (i) evidence of wetland hydrology; (ii) presence of hydric soils; and (iii) predominance of hydrophytic vegetation as defined by the National Plant List Panel (Reed, 1988). Positive indicators of all three parameters are normally present in wetlands and serve to distinguish between both upland and transitional plant communities.

The New York State methodology similarly recognizes the three parameters of vegetation, soils, and hydrology; however, under the New York State method the hydric vegetation criterion is mandatory, while the other two parameters are not. Also, most freshwater wetlands under state jurisdiction must be at least 12.4 acres in size, unless they are deemed to have unusual local importance. The New York State Department of Environmental Conservation (NYSDEC) publishes maps of wetland areas under state jurisdiction; however, NYSDEC uses field delineation to determine the precise boundaries of these wetland areas.

Prior to actual field delineations for wetland resources, TRC reviewed USGS 7.5-minute topographic maps, aerial photographs, National Wetland Inventory (NWI) mapping, United States Department of Agriculture Natural Resources Conservation Service (NRCS) soil mapping, and NYSDEC freshwater wetlands mapping to identify potential wetland features present within the Project area. After a wetland area was initially identified in the field, a transect and plot location were established, generally perpendicular to the wetland/upland boundary, in order to document conditions within each plant community and firmly establish the wetland boundary using wetland indicators. USACE Routine Wetland Determination data forms were completed for representative wetland and upland plots along the transect.

Once the wetland boundary was established, it was marked with sequentially numbered (alpha-numeric) pink flagging labeled with “Wetland Delineation.” The location of each flag was pinpointed using a handheld Trimble GeoXT or GeoXH Global Positioning Satellite (GPS) unit. These data were downloaded into a GIS system, plotted on the project base map (a USGS geo-referenced map), and used to map wetland boundaries as shown in Figure A-1 in Attachment A. Identified wetlands were classified according to Cowardin *et al.* (1979). The results of the delineations are summarized in Section 4.0.

Waterbodies within the proposed Project area were identified by the presence of an ordinary high water mark (OHWM) or stream channel. Delineation and flagging was completed along the approximate centerline of intermittent stream channels, along the top of bank for perennial rivers or streams, and at the OHWM for ponds and lakes. Sequentially numbered (alpha-numeric) blue flagging was utilized to delineate these resources and was geographically located using GPS. For rivers and streams outside of a wetland resource area, the entire channel within the study area was delineated.

This report documents the wetlands and waterbodies potentially under federal jurisdiction that were identified in the survey area along the current proposed underground transmission cable route; not all of these waters will necessarily be impacted by the Project. Additionally, this report documents the state jurisdictional wetlands identified in the Project area. Many wetlands fall under both federal and state jurisdiction; however, some smaller wetlands outside of

NYSDEC-mapped areas may be under federal jurisdiction only. Summaries of wetlands that were identified are provided in Table 4-1 in Attachment B. Wetland delineation maps are included as Figure A-1 in Attachment A. Photographic documentation is included in Attachment C.

#### **4.0 WETLAND DELINEATION RESULTS**

A total of 423 wetland areas were identified in the survey area along the Project route. Table 4-1 in Attachment B provides a summary of the wetlands identified along the Project corridor, including their classification in accordance with Cowardin *et al.* (1979). Twenty-six (26) wetlands delineated along the Project route correspond with wetlands mapped by the NYSDEC. Table 4-1 also identifies those wetlands that have been mapped by the NYSDEC.

Narrative descriptions of wetland vegetation, hydrology, and soils observed within the Project survey area are presented in the following sections. The wetlands delineated within the surveyed areas are summarized in Table 4-1 in Attachment B. Table 4-2 summarizes the waterbodies identified within the surveyed areas. Table 4-3 provides the soil series information assembled for the Project area. Aerial maps showing the locations of delineated wetlands and waterways are provided as Figure A-1 in Attachment A.

Based on desktop analyses including a review of NYSDEC freshwater wetlands and tidal wetlands mapping, NWI mapping, and aerial photography, no wetlands will be affected by the connection to the proposed Luyster Creek converter station site located in the borough of Queens in New York City. Landfall of the cable from the East River will be achieved via an HDD, which will avoid any surface impacts at the shoreline along the East River estuary. From the Luyster Creek converter station, the cables will be located within the streets of New York City for approximately three miles to the Rainey Substation; therefore, impacts to wetlands will be avoided.

#### **4.1 Vegetation**

Wetland cover types were assigned to each delineated wetland according to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin *et al.*, 1979). Using this hierarchical wetland classification system three primary cover types were identified for vegetated wetlands in the survey area: palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine forested (PFO) wetlands. Some wetlands contained co-dominant emergent, scrub-shrub, or forested vegetation. Open water areas were identified as palustrine open water (POW).

#### **Palustrine Emergent Wetland**

The palustrine emergent wetland cover type is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens (Cowardin *et al.*, 1979). The freshwater emergent wetlands along the Project survey area primarily include shallow emergent marshes, deep emergent marshes, reedgrass/purple loosestrife marshes, and ditch/artificial intermittent stream channels (Edinger *et al.*, 2002). PEM wetlands occur as a single dominant wetland cover type,



and also as a co-dominant wetland type when other plant community types exist within the wetland.

Shallow emergent marshes occur on mineral soils or deep muck soils that are permanently saturated and seasonally flooded. Water depths range from 6 inches to 3.3 feet during flood stages (Edinger et. al., 2002). Characteristic vegetation of shallow emergent marshes within the Project survey area includes bluejoint grass (*Calamagrostis canadensis*), cattails (*Typha* spp.), sedges (*Carex* spp.), goldenrods (*Solidago* spp.), spotted joe-pye-weed (*Eupatorium maculatum*), reed canary grass (*Phalaris arundinacea*), scouring rush (*Equisetum hyemale*), sensitive fern (*Onoclea sensibilis*), and soft rush (*Juncus effusus*). Invasive species observed within the shallow emergent marshes include common reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*).

Deep emergent marshes occur on mineral soils or fine-grained organic soils with water depths ranging from 6 inches to 6.6 feet (Edinger et. al., 2002). Emergent vegetation observed within deep emergent marshes in the Project survey area includes cattails, bur-weeds (*Sparganium* spp.), bulrushes (*Scirpus* spp.), and bluejoint grass. Common reed and purple loosestrife were observed within some of the deep emergent marshes within the Project corridor.

Reedgrass/purple loosestrife marshes consist of disturbed marshes where common reed or purple loosestrife has become dominant (Edinger et. al., 2002). This community was commonly found within disturbed areas adjacent to the rail bed.

The ditch/artificial intermittent stream community consists of artificial waterways constructed for drainage or irrigation (Edinger et. al., 2002). Vegetation within the ditches is typically dominated by grasses and sedges. Invasive species such as common reed, purple loosestrife, and reed canary grass are commonly found within the ditches along the railroad and highway ROWs.

### **Palustrine Scrub-Shrub Wetland**

The scrub-shrub wetland cover type includes areas that are dominated by saplings and shrubs that are less than 20 feet tall (Cowardin et. al., 1979). Scrub-shrub wetlands along the Project survey area were dominated by silky dogwood (*Cornus amomum*), gray dogwood (*Cornus foemina* ssp. *racemosa*), honeysuckle (*Lonicera* spp.), and speckled alder (*Alnus incana* ssp. *rugosa*). Other vegetation observed includes meadowsweet (*Spiraea latifolia*), highbush blueberry (*Vaccinium corymbosum*), winterberry (*Ilex verticillata*), spicebush (*Lindera benzoin*), elderberry (*Sambucus canadensis*), gray birch (*Betula populifolia*), and northern arrowwood (*Viburnum recognitum*). Invasive species observed within scrub-shrub wetlands includes honeysuckle and buckthorn (*Frangula alnus*). PSS wetlands occur as a single dominant wetland cover type, and also as a co-dominant wetland type when other plant community types exist within the wetland.

### **Palustrine Forested Wetland**

Forested wetland cover types are dominated by trees and shrubs that have developed a tolerance to a seasonal high water table. In order to be characterized as forested, a wetland must be



dominated by trees and shrubs that are at least six meters tall (Cowardin et. al., 1979). Forested wetlands typically have a mature tree canopy, and depending upon the species and density, can have a broad range of understory and groundcover community components. Forested wetland communities along the Project survey area include red maple (*Acer rubrum*)-hardwood swamps, floodplain forest, and silver maple-ash swamps (Edinger et al., 2002). PFO wetlands occur as a single dominant wetland cover type, and also as a co-dominant wetland type when other plant community types exist within the wetland.

Red maple-hardwood swamps occur in poorly drained depressions, usually on inorganic soils. Red maple is either the only dominant tree species, or is codominant with one or more hardwoods (Edinger et. al, 2002). Hardwood species observed within this community type within the Project survey area include green and black ash (*Fraxinus pennsylvanica*, *F. nigra*), American and slippery elm (*Ulmus americana*, *U. rubra*), northern red oak (*Quercus rubra*), and white pine (*Pinus strobus*). Shrubs species commonly observed within red maple-hardwood swamps in the Project survey area include dogwoods, honeysuckle, speckled alder, and American hornbeam (*Carpinus caroliniana*). The herbaceous layer typically includes sensitive fern, cinnamon fern (*Osmunda cinnamomea*), tussock sedge (*Carex stricta*), goldenrods, reed canary grass, and royal fern (*Osmunda regalis*). Invasive species observed within red maple-hardwood forests included honeysuckle, buckthorn, and reed canary grass.

Floodplain forests typically occur on mineral soils on low terraces of river floodplains and river deltas (Edinger et al., 2002). Tree species observed within this community type in the Project survey area include green ash, cottonwood (*Populus deltoides*), red maple, silver maple (*Acer saccharinum*), American elm, box elder (*Acer negundo*), shagbark hickory (*Carya ovata*), burr oak (*Quercus macrocarpa*), and swamp white oak (*Quercus bicolor*). Shrubs included dogwoods, speckled alder, honeysuckle, American hornbeam, and buttonbush (*Cephalanthus occidentalis*). Sensitive fern, cinnamon fern, goldenrods, ostrich fern (*Matteuccia struthiopteris*), horsetail (*Equisetum* spp.), and sedges were commonly found in the herbaceous layer. Invasive honeysuckles (*Lonicera* spp.) and buckthorns (*Frangula alnus* and *Rhamnus cathartica*) were also observed in floodplain forests within the Project survey area.

Silver maple-ash swamps occur in poorly-drained depressions or along the borders of large lakes and, less frequently, in poorly drained soils along rivers. Ash-elm dominated swamps with little or no maple are currently included as part of this community type (Edinger et. al., 2002). Tree species observed within this community within the Project survey area include green ash, silver maple, elms, and cottonwood. Shrub species observed included silky dogwood, flowering dogwood (*Cornus florida*), and witch hazel (*Hamamelis virginiana*). The herbaceous layer typically included tussock sedge, jewelweed (*Impatiens capensis*), cattails, goldenrods, sensitive fern, skunk cabbage (*Symplocarpus foetidus*), and rough bedstraw (*Galium asprellum*). Invasive species observed within silver maple-ash swamps included honeysuckles, buckthorns, and reed canary grass.

### **Palustrine Open Water**

Besides vegetated wetlands, a few scattered small ponds are located along the transmission cable corridor, adjacent to the railroad and highway ROWs. These wetland areas are characterized by

a vegetation cover of less than 30 percent, although there may often be emergent or shrubby vegetation bordering the open water areas. Pond substrates may be silt, mud, cobble or sand.

## **4.2 Hydrology**

### **Streams**

Table 4-2 lists the streams identified within the Project study area for the surveyed portions of the Project. The overland transmission cable route is located within the Lake Champlain Basin, Upper and Lower Hudson River Basins, and Mohawk River Basin. The Lake Champlain Basin drains the area between the Adirondacks and the Green Mountains in Vermont (NYSDEC, 2009). Perennial waterbodies within the Project survey area in this watershed include Pine Lake Brook, South Bay of Lake Champlain, Halfway Creek and abandoned sections of the Champlain Canal.

The Upper Hudson River Basin, which includes most of Saratoga and Washington Counties, originates in the Adirondack Mountains and flows south to the Hudson River confluence with the Mohawk River at the Troy Dam (NYSDEC, 2007). Perennial streams within the survey area for the overland Project route in the Upper Hudson Basin include Bond Creek, Wood Creek, Hudson River, Snook Kill, Delegan Brook, Geyser Brook, Kayderosseras Creek, and Mourning Kill.

The Mohawk River Basin watershed originates in the valley between the western Adirondacks and the Tug Hill Plateau. It flows east where it joins the Hudson River. The Mohawk River Basin includes much of Schenectady and Greene Counties and portions of Saratoga County (NYSDEC, 2003). Perennial streams in the study area in the Mohawk River Basin include Alplaus Kill, Poentic Kill, and the Mohawk River.

The Lower Hudson River Basin extends from the confluence with the Mohawk River at the Troy Dam to the southern end of Manhattan and includes most of Albany and eastern Greene County, and parts of Schenectady, Rockland, and New York Counties (NYSDEC, 2008). Perennial streams within the survey area in this watershed include Normans Kill, Vly Creek, Coeymans Creek, Hannacroix Creek, Sickles Creek, Coxsackie Creek, Murderer's Creek, Corlaer Creek, Catskill Creek, Spring Brook, Cedar Pond Brook, and Minisceongo Creek.

### **Wetlands**

Site hydrology was examined within each wetland and adjacent upland areas. Indicators of wetland hydrology included inundation or evidence of inundation (such as water stained leaves or buttressed tree trunks), trees with shallow roots, saturation within the upper portion of the soil during the growing season, drainage patterns and drift lines within wetlands, sediment deposition, and oxidized root channels in the upper 12 inches of soil. Hydrologic factors contributing to the presence of wetland hydrology within wetlands in the survey area included inundation with river, pond, or stream water, temporarily ponded snowmelt and runoff, and seasonally to permanently shallow groundwater tables.

Hydrology along the Project corridor has been historically altered by railroad drainage ditches. TRC and HDR inspected these ditches for the presence or absence of wetland indicators and hydrologic connectivity to wetlands or streams. Ditches that met the three parameters for wetland delineation (i.e., presence of hydrology, hydric soils, and hydrophytic vegetation) and were hydrologically connected to a wetland or stream were identified as a wetland community. Artificial railroad or roadside ditches without hydrologic connectivity to other wetlands, lacking dominant wetland vegetation, or otherwise not meeting the three parameter approach for most of the length of the ditch were mapped in the field but were not included as jurisdictional wetlands.

### **4.3 Soils**

The United States Department of Agriculture (“USDA”) Natural Resources Conservation Service (“NRCS”) (formerly the Soil Conservation Service) soil map units for the Project survey area are provided on Figure A-2. Within the Project survey area, a total of 75 different soil types have been mapped by the NRCS. The mapped soil types range from excessively drained to very poorly drained soils. According to the National List of Hydric Soils prepared by the NRCS (2009), thirty five (35) of the soils mapped within the Project corridor are classified as hydric soils. Hydric soils are defined as soils “that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil” (Federal Register, 1994). Table 4-3 summarizes the soil series in the Project survey area and lists the soils that are classified as hydric (or associated with wetland hydrology) in the Project survey area.

The majority of soils within the Project survey area are formed from glacial parent materials including outwash, dense till, loose till, and glaciomarine deposits. In active floodplains, soils are formed in recent alluvium. Anthropogenically disturbed soils, associated with railroad construction and operation, are common within the Project survey area. The disturbed soils consist of disturbed natural deposits or human transported materials.

TRC and HDR conducted soil profile characterizations in the survey area to confirm the presence or absence of hydric soil indicators. Typical hydric soil indicators in the Project survey area included ponded or flooded soils, organic soils and soils with organic surface horizons resulting from long periods of saturation, soils with a subsoil matrix depleted of iron near the surface, and soils with dark surface horizons underlain by subsoils with redoximorphic features grading to a depleted matrix near the surface.

Upland soils in the Project survey area typically exhibited brown to dark brown surface horizons underlain by brown to yellowish brown subsoils. Redoximorphic features indicative of periodic short term saturation, such as iron concentrations and pore linings, were sometimes present in upland subsoils but hydric soil morphologies were absent.

### **4.4 Natural Resource Conservation Service Soil Series Descriptions**

The following are the abbreviated descriptions of each of the relevant soil types taken from the county soil surveys (USDA, SCS, 1975; USDA, NRCS, 1992; USDA, NRCS, 2004) and the

USDA (NRCS) Official Soil Series Descriptions Online Soils Database and the Soil Survey Geographic Database (“SSURGO”) for Albany, Greene, Rockland, Saratoga, Schenectady, and Washington, Counties, New York (USDA, NRCS). Additional information regarding relevant soil characteristics are also summarized in Table 4-3 in Attachment B.

### **Allis Series**

These moderately deep, poorly drained soils formed in glacial till over soft, acid shale bedrock. Slopes range from 0 to 3 percent. The A horizon is typically dark grayish brown silt loam. The B horizon is gray silty clay with fine and medium prominent strong brown redoximorphic features. The C horizon, where present, has color and texture similar to the B horizon.

### **Birdsall Series**

These very deep, very poorly drained soils formed in water-laid deposits of silt and very fine sand. They are found in depressional areas of terraces on old lakebeds. Slopes range from 0 to 2 percent. The A horizon is black silt loam with moderate medium granular structure. The B horizon is gray silt loam with distinct yellowish brown and strong brown redoximorphic features. It has a weak coarse subangular blocky structure. The C horizon is gray very fine sandy loam with distinct yellowish brown redoximorphic features. The structure is weak coarse prismatic, or the horizon is massive.

### **Broadalbin Series**

These very deep and well drained to moderately well drained soils formed in a loamy eolian mantle and underlying glacial till. They are found on the sides and tops of hills in uplands. Slopes range from 3 to 25 percent. The A horizon is dark grayish brown with a silt loam texture and granular structure. The B horizon is typically yellowish brown silt loam with blocky structure. The C horizon is olive yellow and dark yellowish brown fine sandy loam with massive structure.

### **Burdett Series**

These very deep, somewhat poorly drained soils formed in a silty mantle and the underlying clayey glacial till. They are found on the lower slopes of hills on the till plains. The A horizon is dark grayish brown silt loam with yellowish brown redoximorphic features. The structure is subangular blocky. An E horizon is sometimes present. The B horizon is dark grayish brown or olive brown with yellowish brown or dark yellowish brown redoximorphic features. The texture is silty clay loam or clay loam and the structure is platy or angular or subangular blocky. The C horizon is typically a dark grayish brown silt loam with olive brown and gray redoximorphic features and massive structure.

### **Carlisle Series**

These deep and very poorly drained organic soils formed in woody fibrous material that accumulated in waterlogged bogs. They are nearly level and are found in depressions within glaciated uplands, lake plains, and outwash plains. The surface layer is black organic material 10 inches thick. Below this layer is a 15-inch layer of black, massive, well decomposed organic material. The following 49 inches is composed of dark reddish-brown, massive, well-decomposed organic material. From a depth of 74 to 80 inches is very dusky red, massive, neutral, fibrous organic material. Below 80 inches is a 6-inch layer of light-gray, slightly sticky and slightly plastic, calcareous marl and 24 inches of dark-dray, massive, slightly sticky and slightly plastic, calcareous silt.

### **Castile Series**

These very deep, moderately well drained soils formed in water-sorted gravel. They are found on glacial outwash plains, valley trains, eskers, and water-deposited moraines. Slopes range from 0 to 8 percent. The A horizon is dark brown gravelly loam with weak fine granular structure. The B horizon is brown to dark yellowish brown sandy loam to silt loam with yellowish brown and light brownish gray redoximorphic features. The structure of the B horizon is weak medium subangular blocky. The C horizon is dark brown stratified sands and gravel with dark brown redoximorphic features.

### **Charlton Series**

These deep, well drained soils formed in glacial till from syenite and granite gneiss. Slopes range from 0 to 50 percent. The A horizon is very dark grayish-brown sandy loam 2 inches thick. It has a weak granular structure. The upper 5 inches of the B horizon is dark-brown sandy loam and the lower 21 inches is yellowish-brown sandy loam. The B horizon has weak subangular blocky structure. The C horizon is light olive brown sandy loam with pockets of loamy sand. The horizon is massive.

### **Chatfield Series**

These well drained and somewhat excessively drained soils formed in a moderately thick mantle of till derived from parent materials that are very low in sulfur overlying granite, gneiss, or schist bedrock. Slopes range from 0 to 70 percent. The surface layer is moderately decomposed organic material 1-inch thick. The A horizon is very dark grayish brown loam with granular structure. The AB horizon is dark brown loam with subangular blocky structure. The B horizon is brown sandy loam to silt loam. The structure is granular or subangular blocky. The C horizon, if present, has hue of 7.5YR through 5Y, value of 4 or 5, and value of 2 through 4. The texture is sandy loam to silt loam, and the horizon is massive and may contain plate-like divisions. The R horizon is schist, granite, or gneiss bedrock, and is massive in places.

### **Cheektowaga Series**

These very deep, poorly drained or very poorly drained soils formed in sandy deposits over clayey lacustrine sediments on lake plains and terraces. Slopes range from 0 to 3 percent. The A horizon is typically very dark grayish brown with a loamy sand through very fine sandy loam texture, commonly with mucky analogs. The structure is weak or moderate, very fine or granular. The E horizon is light brownish gray with yellowish brown redoximorphic features and subangular blocky structure. The structure is loamy fine sand through sand. The B horizon is grayish brown with loamy fine sand through sand texture. The structure is very weak or weak subangular blocky or very weak or weak platy structure. The C horizon is yellowish brown to gray with high- and low-chroma redoximorphic features. Its texture is silty clay loam through clay. The C horizon is massive or has platy structure.

### **Chenango Series**

These very deep and well drained or somewhat excessively drained soils formed in glacial outwash deposits. They are found on outwash terraces and plains. Slopes range from 0 to 25 percent. The A horizon is typically dark brown gravelly silt loam with granular structure. The B horizon is yellowish brown gravelly silt loam with subangular blocky structure in the upper part and yellowish brown and brown very gravelly loam with granular structure in the lower part. The BC horizon is very dark grayish brown and yellowish brown fine sandy loam, loam, very fine sandy loam, or silt loam. It is massive or has subangular blocky or granular structure. The C horizon is generally dark grayish brown and yellowish brown loam or silt loam with massive structure.

### **Claverack Series**

These very deep, moderately well drained soils formed in sandy deposits that overlie clayey lacustrine sediments. They are nearly level to sloping soils in shallow deltas on lake plains. The sand, which overlies finer textured sediments, is dominated by quartz and has been derived primarily from non-calcareous sandstone or granite. Slope ranges from 0 to 15 percent. Typically, the A horizon consists of a fine sand and is usually a dark grayish brown color. The B horizon consists of structureless sand. In some places, the lower part of the B horizon has gray or grayish brown redoximorphic features below a depth of 18 inches. The C horizon is a silty clay loam or clay with some sub-horizons of silt or loam, up to 5 inches thick.

### **Colonie Series**

These very deep, well drained to somewhat excessively drained soils formed in lacustrine and windblown deposits dominantly fine sand and very fine sand. They are found on lake plains, deltas, and dunes. Slopes range from 0 to 50 percent. The A horizon is generally dark brown loamy fine sand with granular structure. The B horizon is a massive dark yellowish brown loamy fine sand. The C horizon is brown loamy fine sand with massive structure.



### **Cosad Series**

These very deep and somewhat poorly drained soils were formed in sandy deposits over clayey lacustrine sediments in slight depressional areas on lake plains. Slopes range from 0 to 3 percent. The A horizon is typically very dark grayish brown with a fine sandy loam texture and brownish yellow redoximorphic features. The structure is granular. The B horizon is yellowish brown or dark yellowish brown loamy fine sand with brown redoximorphic features and subangular blocky structure. The C horizon is typically dark yellowish brown clay with platy structure.

### **Covington Series**

These very deep and poorly drained soils formed in calcareous clayey glacio-lacustrine or glacio-estuarine deposits on glacial lake plains. These soils are found on broad plains, depressions, and drainageways. Slopes range from 0 to 8 percent. The A horizon consists of very dark brown silty clay or silty clay loam with granular or blocky structure, to a depth of 8 inches. The B horizon is dark gray firm to very firm, sticky or plastic clay with thin sub-horizons of silty clay, extending to a depth of 33 inches. High chroma redoximorphic features are typical of this horizon. The C horizon is typically dark gray firm to very firm, sticky or plastic clay or silty clay, although silt and silt loam varves alternate with clay varves in some pedons. The C horizon may extend to a depth of 65 inches, and has redoximorphic features similar to the B horizon.

### **Deerfield Series**

These very deep, moderately well drained soils are formed in water sorted sand on glacial outwash plains, deltas, and terraces. Slopes range from 0 to 8 percent. The A horizon is a very dark grayish brown loamy fine sand with granular structure. The B horizon is typically dark yellowish brown loamy fine sand with yellowish red or brown redoximorphic features and granular structure. The C horizon is yellowish brown fine sand with brownish yellow and grayish brown redoximorphic features.

### **Elmridge Series**

These very deep, moderately well drained soils formed in loamy over clayey glacio-lacustrine or marine sediments. This soil is found on lake plains and glacial lake and marine terraces. Slope ranges from 0 to 25 percent. The A horizon, typically 4 to 11 inches thick, consists of very dark grayish brown fine sandy loam with weak or moderate granular structure. Generally, the B horizon is dark yellowish brown, yellowish brown or brown fine sandy loam or loam, with iron depletions at depths greater than 24 inches. The C horizon is typically olive brown varved silt and clay, occasionally with lenses of very fine sandy loam or fine sandy loam at depths greater than 40 inches. The C horizon is massive, or may have platy or weak prismatic structure.

### **Elnora Series**

These very deep and moderately well drained soils formed in wind- or lacustrine-deposited sands. They are found on glacial lake plains and deltas. Slopes range from 0 to 8 percent. The



A horizon is dark brown loamy fine sand with granular structure in the upper part and very dark gray loamy fine sand with weak subangular blocky structure in the lower part. The B horizon is yellowish brown fine sand with few yellowish red and brownish gray redoximorphic features in the lower part of the horizon. The structure is subangular blocky. The C horizon is dark gray loamy fine sand with common grayish brown redoximorphic features.

### **Farmington Series**

These shallow, well drained and somewhat excessively drained soils formed in till. Slopes range from 0 to 70 percent. The A horizon is dark grayish brown silt loam with granular structure. The B horizon is composed of a yellowish brown silt loam 6-inches thick, followed by 4-inches of brown loam with redoximorphic features. The texture is very fine sandy loam to silt loam, and the structure is granular to subangular blocky. The R horizon is limestone, dolomite, or dolomitic limestone bedrock.

### **Fluvaquents**

These very deep, somewhat poorly drained to very poorly drained soils formed in material recently deposited by streams and rivers. They are found on the most actively flooded areas of floodplains along major and secondary streams. Slopes range from 0 to 3 percent. Little or no soil profile development is seen in Fluvaquents. The surface layer typically has a hue of 10YR through 5Y, with low value and chroma. The textures are loamy sand to silt loam and may be gravelly or very gravelly. The substratum typically has a hue of 10YR to 5Y with values of 3 through 6 and chroma of less than 2. Redoximorphic features are commonly present in the substratum. The textures are sandy loam to silty clay loam and may be gravelly or very gravelly.

### **Fredon Series**

These very deep, poorly drained and somewhat poorly drained soils formed in glaciofluvial materials. They are found on outwash terraces and outwash plains. Slopes range from 0 to 8 percent. The A horizon is very dark gray loam, fine sandy loam, very fine sandy loam, or silt loam with granular structure. The B horizon is grayish brown loam, fine sandy loam, very fine sandy loam, or silt loam. Iron concentrations are present in the B horizon. Its structure is weak or moderate subangular blocky, weak coarse prismatic, or moderate coarse platy. The C horizon is dark grayish brown sand to loamy fine sand and is commonly stratified.

### **Granby Series**

These very deep, poorly drained to very poorly drained soils formed in water- or wind-deposited sands. They are found on glacial lake plains or deltas. Slopes range from 0 to 2 percent. The A horizon is black loamy fine sand with weak granular structure. The B horizon is gray fine sand with few to many redoximorphic features. The texture is fine sand, sand, loamy sand, or loamy fine sand and the structure is weak subangular blocky or granular. The C horizon is dark gray fine sand or sand with few to many redoximorphic features.

### **Haven Series**

These very deep, well drained soils formed in loamy over sandy and gravelly glacial outwash plains, valley trains, terraces, and water-sorted moraine deposits. Slopes range from 0 to 15 percent. The surface layer is black slightly decomposed to highly decomposed organic material 3-inches thick. The A horizon is dark grayish brown loam with granular or massive structure. The B horizon is brown loam, and the BC horizon is yellowish brown gravelly loam, both with subangular blocky structure. The C horizon is yellowish brown to brownish yellow stratified gravelly sand.

### **Hinckley Series**

These very deep, excessively drained soils formed in glaciofluvial materials on terraces, outwash plains, deltas, kames, and eskers. Slopes range from 0 to 60 percent. The surface layer is moderately decomposed organic material 1-inch thick. The A horizon is very dark grayish brown loamy sand with granular or subangular blocky structure. The B horizon is brown to yellowish brown gravelly loamy sand. It is commonly granular or the horizon is structureless. The BC horizon, if present, has similar characteristics to the B and C horizons. The C horizon is light olive brown extremely gravelly sand consisting of stratified sand, gravel, and cobbles. The horizon has a single grain and loose structure.

### **Hollis Series**

These shallow, somewhat excessively drained soils formed in glacial till. Slopes range from 0 to 60 percent. The A horizon is dark brown loam 4 inches thick with weak granular structure. The upper 4 inches of the B horizon is strong-brown sandy loam and the lower 11 inches is yellowish-brown fine sandy loam. The B horizon has weak granular or weak blocky structure. Bedrock is at a depth of 19 inches.

### **Holyoke Series**

These shallow, well drained and somewhat excessively drained soils formed in a thin mantle of till derived mainly from basalt and red sandstone, conglomerate, and shale. Slopes range from 0 to 50 percent. The A horizon is dark brown silt loam with weak granular structure. The B horizon is comprised of two layers including 5-inches of brown silt loam with weak granular structure, followed by a 10-inch layer of yellowish red gravelly silt loam with weak subangular blocky structure. The R horizon is composed of ballast bedrock.

### **Hoosic Series**

These very deep, somewhat excessively drained soils formed in glacial outwash plains, valley trains, and related terraces, kames, eskers, and water sorted parts of moraines. Slopes range from 0 to 60 percent. The A horizon is dark grayish brown gravelly sandy loam with granular to subangular blocky structure. The B horizon is yellowish brown gravelly sandy loam. The structure is granular or subangular blocky, and some subhorizons have single grain and loose structure. The BC horizon is yellowish brown very gravelly loamy sand with granular structure.

The C horizon is light olive brown and dark grayish brown. The texture is loamy sand to coarse sand, and the horizon has a single grain and loose structure.

### **Hornell Series**

These moderately deep, somewhat poorly drained soils formed in glacial till over soft, acid shale or siltstone bedrock. Slopes range from 3 to 8 percent. The A horizon is dark grayish brown silt loam with subangular blocky structure. The B horizon is mottled, strong brown clay loam overlying dark gray shale bedrock. The B horizon has an angular blocky structure.

### **Howard Series**

These very deep, well drained and somewhat excessively drained soils formed in glacial outwash derived mainly from sandstone, limestone, shale, and some granitic rocks. They are found on outwash plains, kames, and terraces. Slopes range from 0 to 8 percent. The A horizon is generally very dark grayish brown gravelly silt loam with weak granular structure. The E horizon is brown very gravelly silt loam with weak subangular blocky structure. The B/E horizon is dark yellowish brown and pale brown with a texture ranging from silt loam to sandy loam or sandy clay loam. The B horizon is dark brown and dark yellowish brown with a texture ranging from silt loam to sandy clay loam. Its structure is subangular blocky. The C horizon is very dark grayish brown fine and very fine gravel.

### **Hudson Series**

These very deep, moderately well drained soils formed in clayey and silty lacustrine sediments. These soils are in convex lake plains, lacustrine capped uplands, and on lower valley side-slopes. Slopes can range from 0 to 60 percent. The A horizon is typically brown silt loam and silty clay loam, with granular structure, extending 5 to 12 inches deep. The E horizon, when present, consists of faintly-mottled brown, very fine sandy loam or silt loam with blocky or platy structure. The B horizon generally is firm yellowish brown to brown silty clay with moderate or strong blocky structure, and may have medium to very coarse prisms. Low- and high-chroma redoximorphic features are present, but may be faint or absent in the shallower portions. The C horizon is mixed grayish brown and light olive brown silty clay, with massive structure, or plate-like divisions.

### **Ilion Series**

These very deep and poorly drained soils formed in clayey glacial till at the base of slopes and in depression on till. Slopes range from 0 to 3 percent. The A horizon is typically very dark gray silt loam with granular structure. The E horizon is grayish brown or dark grayish brown silt loam, with dark yellowish brown and yellowish brown redoximorphic features. The E horizon typically has a subangular blocky structure. The B horizon is typically grayish brown or dark grayish brown with yellowish brown redoximorphic features. The B horizon texture is clay loam or silty clay loam. The structure is subangular blocky. The C horizon is grayish brown or dark grayish brown with loam, silt loam, or silty clay loam texture. It typically contains medium yellowish brown redoximorphic features. The structure is massive or platy.

### **Ipswich Series**

These very deep, very poorly drained soils formed in thick organic deposits. They are found on level tidal marshes adjacent to the Atlantic Ocean and extend inland along some of the major rivers, and therefore, are subject to tidal flooding twice daily. The surface layer is dark grayish brown organic material 18 inches thick. Below this layer is a 24-inch layer of very dark grayish brown, massive, partially decomposed organic material. The following 20-inches are composed of very dark gray, massive, well-decomposed organic material.

### **Junius Series**

These very deep, poorly drained soils formed in permeable water deposited sandy material. Slopes range from 0 to 3 percent. The A horizon is very dark grayish brown with fine sand, loamy fine sand, or fine sandy loam texture and weak granular structure. The B horizon is brown loamy fine sand with very weak granular structure in the upper part and grayish brown fine sand in the lower part. Grayish brown and yellowish brown redoximorphic features are present below a depth of 8 inches. Its structure is granular or single grain. The C horizon is grayish brown stratified fine and medium sand with faint gray and yellowish brown redoximorphic features. It is massive or single grained.

### **Kingsbury Series**

These very deep, somewhat poorly drained soils formed in clayey glacio-marine or glacio-lacustrine sediments. They are nearly level or gently sloping, ranging from 0 to 8 percent slope. The A horizon is typically very dark grayish brown silt loam, and texture can range from very fine sandy loam to clay. This horizon has granular or blocky structure. The E horizon generally is mixed brown and yellowish brown silty clay, but can be silt loam or very fine sandy loam, with blocky to platy structure. Redoximorphic features occur throughout. The B horizon typically consists of dark grayish brown clay, mixed with yellowish brown clay in the shallower portions. Typically, it has greater than 50 percent redoximorphic depletions on ped faces with concentrations in ped interiors. This horizon generally has blocky structure, within coarse or very coarse prisms. The C horizon generally has similar color to the deeper portions of the B horizon, although redoximorphic features generally have lower contrast. This horizon ranges from silty clay loam to clay in texture, and has massive structure, which, when disturbed, can part into aggregates resembling very fine blocky structure.

### **Limerick Series**

These deep, poorly drained soils formed in alluvial deposits of silt and very fine sand. They are nearly level and are found in low areas on flood plains. The A horizon is very dark grayish-brown about 3 inches thick. The structure of the A horizon is granular. The C horizon is typically a silt loam or very fine sandy loam that extends to a depth of 50 inches or more. The C horizon has grayish brown redoximorphic features to a depth of 14 inches, olive gray redoximorphic features between depths of 14 and 26 inches, and gray redoximorphic features below 26 inches. The C horizon is massive or has a subangular blocky or granular structure.

### **Madalin Series**

These very deep and poorly drained to very poorly drained soils formed in water deposited material high in clay, on glacial lake plains. Slopes range from 0 to 3 percent. The A horizon is typically a black mucky silty clay loam with granular structure. The B horizon is gray with a silty clay texture and yellowish brown redoximorphic features. The structure is subangular or angular blocky. The C horizon is dark gray clay with yellowish brown and dark grayish brown redoximorphic features. The structure is massive.

### **Manlius Series**

These moderately deep, well drained to excessively drained soils formed in glacial till deposits. They are found on bedrock-controlled landforms on uplands. Slopes range from 3 to 35 percent. The A horizon is typically very dark grayish brown silt loam with granular structure. The B horizon is brown silt loam with granular structure in the upper part and subangular blocky structure in the lower part. The C horizon is dark grayish brown silt loam with very weak subangular blocky structure.

### **Mardin Series**

These very deep and moderately well drained soils formed in loamy till. They are found in glaciated uplands, mostly on broad hilltops, shoulder slopes, and backslopes. Slopes range from 0 to 50 percent. The A horizon is brown silt loam with granular structure. The B horizon is yellowish brown loam or silt loam with subangular blocky or granular structure. The E horizon is pale brown loam or silt loam with light brownish gray redoximorphic features below 12 inches and weak subangular blocky or platy structure. Underlying the E horizon is light olive brown loam or silt loam with faint to prominent brown depletions and prismatic structure. The C horizon is light olive brown silt loam. The horizon is massive or has weak plate-like divisions.

### **Mosherviller Series**

These very deep and somewhat poorly drained soils formed in a loamy eolian mantle and underlying glacial till in uplands. Slopes range from 0 to 8 percent. The A horizon is very dark grayish brown silt loam with granular structure. The B horizon is typically a light olive brown loam with dark yellowish brown redoximorphic features and subangular blocky structure. The C horizon is olive brown gravelly fine sandy loam with platy structure.

### **Nassau Series**

These shallow, somewhat excessively drained soils formed in a thin mantle of glacial till over folded or weathered shale bedrock. They are found on bedrock-controlled landforms. Slopes range from 3 to 25 percent. The A horizon is dark grayish brown silt loam with granular structure. The B horizon is yellowish brown silt loam with subangular blocky structure. The C horizon, if present, is thin with a loam or silt loam texture.

### **Nunda Series**

These very deep and moderately well drained soils formed in a thin silty mantle over glacial till derived from clayey shale. They are generally found on the tops and sides of hills and along valley sides. Slopes range from 3 to 35 percent. The A horizon is dark brown silt loam with granular structure. The E horizon, where present, is yellowish brown to light yellowish brown silt loam with weak platy structure. The B horizon is brown silt loam, loam, or fine sandy loam with subangular blocky structure. Redoximorphic features generally begin at 16 inches or greater. The C horizon is dark grayish brown to very dark grayish brown clay loam or silty clay loam with faint brown redoximorphic features. The structure is thick platy to angular blocky.

### **Oakville Series**

These very deep and well drained or moderately well drained soils were formed in water-sorted sand on glacial outwash plains, lake plains, and beach ridges. Slopes range from 0 to 35 percent. The A horizon is dark yellowish brown with a loamy fine sand texture and granular structure. The B horizon is yellowish brown loamy fine sand with subangular blocky structure. The C horizon is typically yellowish brown with a sand or loamy fine sand texture.

### **Orthents and Psamments**

This map unit consists of material dredge and pumped from the Hudson River and Champlain Barge Canal. The material is composed of a variable mixture of dominantly fine gravel and sand and some silt and clay.

### **Palms Series**

These very deep, very poorly drained soils formed in well-decomposed organic material overlying mineral soil. They are found in depressional areas or basins that were formerly lakes or ponds. Slopes are less than 2 percent. The organic layers consist of highly decomposed herbaceous material. The mineral C horizon is grayish brown to greenish gray with yellowish brown or olive redoximorphic features. The textures are silt loam, fine sandy loam, loamy very fine sand, very fine sand, or silty clay loam.

### **Plainfield Series**

These very deep, excessively drained soils formed in sandy drift on outwash plains, valley trains, glacial lake bays, stream terraces, and moraines and other upland areas. Slopes range from 0 to 70 percent. The A horizon is dark brown with weak granular structure. Its texture is loamy sand, loamy fine sand, sand, or fine sand. The E horizon, where present, is brown loamy sand, coarse sand, and their gravelly analogs. The B and BC horizons are brown sand with subangular blocky structure. The C horizon is yellowish brown sand, coarse sand, or their gravelly analogs.



### **Raynham Series**

These very deep, poorly drained soils formed in deposits of lacustrine silts and very fine sands. They are found on lake plains. Slopes range from 0 to 3 percent. The A horizon is typically a very dark grayish brown very fine sandy loam with weak granular structure. The B horizon is brown or grayish brown very fine sandy with distinct or prominent yellowish brown redoximorphic features. The C horizon is brown or grayish brown very fine sandy loam or silt loam with faint to prominent redoximorphic features. It is massive or has a platy structure.

### **Rhinebeck Series**

These very deep, somewhat poorly drained soils formed in glacio-lacustrine sediments having a high clay and silt content. They are found on glacial lake plains and uplands mantled with lake sediments. Slopes can range from 0 to 15 percent. Typically, the A horizon is brownish gray silt loam, to a depth of about 13 inches. The B horizon is brown silt loam or clay. The C horizon extends to a depth of about 60 inches and varies in texture from loam to sandy loam and includes layers of silt, loam and clay.

### **Riverhead Series**

These very deep, well drained soils formed in glacial outwash, beach, and deltaic deposits. They are found on terraces near Normans Kill, on ridges in the lake plain, and on slopes above the Mohawk River. Slopes range from 0 to 15 percent. The A horizon is dark brown with a texture of fine sandy loam, sandy loam, or loam. The structure ranges from weak to moderate granular. The B horizon is yellowish brown with a fine sandy loam to sandy loam texture, becoming gravelly with depth. The structure is weak subangular blocky, or the horizon is massive. The C horizon is olive brown with a loamy sand or sand texture. It is structureless.

### **Rock outcrop**

Areas mapped as rock outcrop consist of bare bedrock covering 90 percent of the surface. Where mapped with Hollis soils, it typically consists of exposures of syenite or granite gneiss, and in places, quartzite.

### **Saco Series**

These very deep, very poorly drained soils formed in recent alluvium on floodplains. Slopes range from 0 to 2 percent. The A horizon is very dark grayish brown silt loam or very fine sandy loam, or their mucky analogs. It is massive or has weak granular structure. Strong brown and grayish brown redoximorphic features are present beginning at a depth of 10 inches. The C horizon is grayish brown or olive gray with a silt loam or very fine sandy loam texture above a depth of 40 inches and loamy fine sand to very gravelly coarse sand texture below 40 inches. The C horizon is massive or has weak structure.



### **Saprists, Aquepts, and Aquepts**

These soils consist of low-lying, level deposits of organic and mineral soil material that is ponded with shallow water most of the year. They are mainly found around the edges of lakes and ponds.

### **Scio Series**

These very deep, moderately well drained soils formed in deposits of silt and very fine sand on glacial lake plains. Slopes range from 0 to 8 percent. The A horizon is typically a dark grayish brown silt loam with dark yellowish brown redoximorphic features and granular structure. The B horizon is a brown or yellowish brown silt loam with dark yellowish brown or brown redoximorphic features and subangular blocky structure. The C horizon is dark yellowish brown with a silt loam texture and massive structure.

### **Scriba Series**

These soils consist of very deep, somewhat poorly drained soils formed in glacial till. The A horizon is very dark grayish brown gravelly loam with granular structure. The E horizon is grayish brown gravelly fine sandy loam with very weak platy structure. It contains high- and low-chroma redoximorphic features. The B horizon is brown gravelly fine sandy loam. The structure is coarse prismatic. High- and low-chroma redoximorphic features are present within the horizon. The C horizon is brown very gravelly fine sandy loam with faint brown iron concentrations. It is massive or has platy structure.

### **Shaker Series**

These very deep, poorly drained soils formed in a loamy mantle over clayey lacustrine sediments on lake plains and terraces. Slopes range from 0 to 3 percent. The A horizon is very dark grayish brown very fine sandy loam. The B horizon is dark grayish brown with dark brown redoximorphic features. The texture is sandy loam through loam and the structure is blocky. The C horizon is olive and gray with a silty clay loam through clay texture. The structure is massive or prismatic.

### **Sloan Series**

These very deep, very poorly drained soils formed in loamy alluvium on floodplains. Slopes range from 0 to 8 percent. The A horizon is very dark gray silty clay loam with angular blocky structure. The B horizon is dark gray silty clay loam with yellowish brown redoximorphic features. The structure is prismatic to subangular blocky. The BC horizon is gray clay loam with prominent brown redoximorphic features. It has a massive structure. The C horizon is gray stratified loam, silty clay loam, silt loam, or sandy loam and the structure is massive.

### **Stafford Series**

These very deep, somewhat poorly drained soils formed in water-deposited sands and are found on sandy deltas and plains. Slopes range from 0 to 3 percent. The A horizon is very dark grayish brown loamy fine sand or fine sand. The structure is weak granular. The B horizon is pale or grayish brown with reddish brown, light brown gray, or yellowish brown redoximorphic features. The texture of the B horizon is loamy fine sand or fine sand and it has a subangular block or platy structure. The C horizon is dark gray with yellowish brown redoximorphic features. It is fine sand or sand and is structureless, single grain, or massive.

### **Sudbury Series**

These very deep, moderately well drained soils formed in sandy glacial outwash deposits in beach and deltaic deposits. They are found on terraces near Normans Kill and on the lake plain. Slopes range from 0 to 8 percent. The A horizon is dark brown fine sandy loam with subangular blocky structure. The B horizon is yellowish brown with dark brown, yellowish brown, or light grayish brown redoximorphic features in the lower part of the horizon. The texture is fine sandy loam to loamy sand and the structure is subangular blocky. The C horizon is yellowish brown loamy sand yellowish brown, dark brown, or light brownish gray redoximorphic features. The texture is loamy sand, sand, or gravelly analogs above 40 inches. The horizon has a massive or single grain and loose structure.

### **Sun Series**

These very deep, poorly drained or very poorly drained soils formed in glacial till in slight depressions on uplands. Slopes range from 0 to 3 percent. The A horizon is very dark gray silt loam with yellowish red redoximorphic features. The structure is granular. The B horizon is dark gray and dark grayish brown silt loam with distinct yellowish brown or dark yellowish brown redoximorphic features. The texture is silt loam to loam and the structure is blocky. The C horizon is dark grayish brown cobbly fine sandy loam with olive brown and strong brown redoximorphic features.

### **Teel Series**

These very deep and moderately well drained soils formed in recent alluvium on floodplains. Slopes range from 0 to 3 percent. The A horizon is dark grayish brown with a silt loam texture and yellowish brown redoximorphic features. The structure is granular. The B horizon is a brown silt loam with dark grayish brown and dark yellowish brown redoximorphic features and subangular structure. The C horizon is yellowish brown with dark brown, light brownish gray, and strong brown redoximorphic features. The texture is silt loam or very fine sandy loam and the structure is massive.

### **Tioga Series**

These very deep, well drained soils formed in recent alluvium, mainly from areas of sandstone, siltstone, and shale, on higher positions in floodplains. Slopes range from 0 to 3 percent. The A

horizon is dark grayish brown silt loam with granular structure. The B horizon is yellowish brown fine sandy loam to silt loam. It has a subangular blocky, prismatic, or granular structure. The C horizon is dark yellowish brown silt loam with massive structure.

### **Udipsamments Series**

This series consists of very deep, well drained to excessively drained soils on lake plains, deltas, floodplains, and dunes that have been smoothed or filled. Many areas mapped as Udipsamments resulted from dredging pumped from the Hudson River to deepen existing shipping channels. Slopes range from 0 to 8 percent. The A horizon is brown with textures ranging from loamy very fine sand and fine sandy loam to sand. The B horizon is brown and the texture is loamy fine sand or sand. The C horizon is grayish brown with a loamy fine sand or sand texture.

### **Udorthents Series**

These very deep, moderately well drained and well drained soils are commonly found near construction sites or urban developments that have been recently cut and filled. Slopes range from 0 to 8 percent. The composition of Udorthents is variable and the soils may have little or no profile development. The surface layer has a hue of 7.5YR to 2.5Y, value of 2 to 5, and chroma of 2 to 4, and its texture ranges from fine sandy loam to clay. The subsoil has a hue of 7.5YR to 5Y, value of 3 to 6, and chroma of 2 to 6, and is commonly mottled. The texture ranges from fine sandy loam to clay. The substratum has a hue of 5YR to 5Y, value of 1 to 6, and chroma of 1 to 6, with textures ranging from fine sandy loam to clay.

### **Unadilla Series**

These very deep, well drained soils formed in deposits of silt and very fine sand on glacial lake plains. Slopes range from 3 to 15 percent. The A horizon is typically dark brown with a silt loam or very fine sandy loam texture and granular structure. The B horizon is a yellowish brown silt loam or very fine sandy loam with subangular blocky structure. The C horizon is yellowish brown with a silt loam or loamy very fine sand texture and massive structure.

### **Urban Land**

Urban Land consists of nearly level to strongly sloping areas where asphalt, concrete, buildings, or other impervious materials cover more than 85 percent of the surface. Slopes range from 0 to 15 percent. This map unit includes very few areas of soil material, and those areas which are used mainly as lawns or landscaping have been disturbed by adjacent building activities.

### **Valois Series**

These very deep, well drained soils, found on nearly level to steep lateral moraines along lower valley sides, formed in till dominated by material from sandstone, siltstone, or shale. Slopes range from 0 to 60 percent. The A horizon is brown gravelly loam with granular structure. The E horizon, if present, has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 2, 3, or 4. The texture is very fine sandy loam to loam with a structure of granular or subangular blocky. The B

horizon is brown sandy loam to silt loam with granular or subangular blocky structure. The C horizon is dark grayish brown with faint yellowish brown redoximorphic features. It is fine sandy loam to loam and is single grain or massive.

### **Vergennes Series**

These very deep, moderately well drained soils formed in calcareous estuarine and glacio-lacustrine clays. They are on broad plains and on the tops and side-slopes of hills and ridges, with slopes ranging from 0 to 50 percent. The A horizon is generally dark grayish brown clay that has blocky structure. Occasionally, a clay, silty clay, silty clay loam, or silt loam E horizon is present. The B horizon is typically brown clay, with more dark grayish brown color with depth. The C horizon is generally clay with silt and silty clay varves.

### **Wakeland Series**

These very deep, somewhat poorly drained soils formed in silty alluvium on floodplains and floodplain steps. Slopes range from 0 to 2 percent. The A horizon is dark grayish brown silt loam with granular structure. The C horizon is grayish brown silt loam with yellowish brown redoximorphic features. The structure is granular.

### **Wallington Series**

These deep and somewhat poorly drained soils formed in glacial lake or stream terrace deposits of silt and very fine sand. They are nearly level. The A horizon is dark grayish-brown silt loam and has a depth of 9 inches. The structure of the horizon is granular. The B horizon is an olive silt loam with yellowish brown and gray redoximorphic features and subangular blocky structure. The horizon is 3 inches in depth. Underlying the B horizon is a 5-inch leached layer of mottled gray silt loam. The subsoil is dark yellowish-brown silt loam with gray redoximorphic features to a depth of 32 inches and mottled gray silt loam below. The C horizon is gray, loose loamy fine sand with distinct redoximorphic features.

### **Wareham Series**

These very deep and somewhat poorly or poorly drained soils formed in water-sorted sand on glacial outwash plains, lake plains, and deltas. Slopes range from 0 to 3 percent. The A horizon is a very dark gray loamy sand with yellowish brown redoximorphic features. The structure is granular. The B horizon typically consists of a light brownish gray or yellowish brown loamy sand with brown redoximorphic features and subangular blocky structure. The C horizon is typically light brownish gray sand with brown redoximorphic features and massive structure.

### **Wayland Series**

These very deep, poorly drained and very poorly drained, nearly level soils formed in recent alluvium. These soils are found in low areas or slackwater areas on flood plains. Slope ranges from 0 to 3 percent. Typically, the A horizon is very dark brown silty loam with a fine to coarse granular structure. The B horizon, up to 24 inches thick, is grayish brown silt loam or silty clay

loam, usually containing high-chroma redoximorphic features. The C horizon is gray silt loam and usually has redoximorphic features similar to the B horizon.

### **Wethersfield Series**

These very deep, well drained loamy soils formed in dense glacial till on uplands. Slopes range from 0 to 35 percent. The surface layer is 1-inch of black, moderately decomposed plant material. The A horizon is dark brown loam with granular structure. The B horizon is reddish brown loam to gravelly loam. The horizon has a granular or subangular blocky structure. The C horizon is reddish brown gravelly loam with platy structure or is massive.

### **Windsor Series**

These very deep and excessively drained soils formed in water-sorted sand on glacial outwash plains, kames, and terraces. Slopes range from 0 to 35 percent. The A horizon is very dark grayish brown with a loamy sand or loamy fine sand texture and granular structure. The B horizon is yellowish brown. The texture is loamy fine sand or loamy sand in the upper part and loamy fine sand, loamy sand, fine sand or sand in the lower part. The structure is granular or subangular blocky. The C horizon is light yellowish brown with a sand or loamy sand texture.

### **Yalesville Series**

These moderately deep, well drained soils formed in a loamy till. They are level to moderately steep soils on bedrock controlled hills and ridges. Slopes range from 0 to 50 percent. The A horizon is dark brown fine sandy loam with granular structure. The B horizon is reddish brown fine sandy loam to loam. It has a subangular blocky or granular structure, or the horizon is massive. The C horizon is reddish brown gravelly sandy loam, and is massive. The R horizon is reddish brown hard sandstone bedrock.

## **5.0 SUMMARY**

Wetlands identified along the Project route include shallow emergent marshes, deep emergent marshes, reedgrass/purple loosestrife marshes, scrub-shrub wetlands, and forested wetlands such as red maple-hardwood swamps, floodplain forests and silver maple-ash swamps. These wetlands can provide one or more functions, including wildlife habitat, groundwater recharge and/or discharge, sediment and shoreline stabilization, flood storage, nutrient removal, sediment and toxicant retention and production export, and in some cases, aesthetic and recreational value. Small ponds, artificial ditches, and watercourses, including small intermittent streams to large lakes and rivers such as the South Bay of Lake Champlain, Hudson River, Mohawk River, Normans Kill and Catskill Creek, occur within the study area of the Project.

Land use in the study area is diverse, ranging from rural, agricultural, and forested areas to highly urbanized environments including the municipalities of Schenectady and Haverstraw. In general, because the Project is routed along existing railroad corridors and state highways, many wetlands within the study area are characterized by previous anthropogenic disturbance and/or the presence of invasive plant species. The Project corridor frequently is located along the edge

between the disturbed railroad or highway corridor and more natural vegetated wetland communities that are present adjacent to the railroad and highway rights-of-way. The wetland boundaries in the study area are most often defined by the edge of the soil fill for the railroad and highway embankments.

It is anticipated that impacts to wetlands and watercourses along the overland transmission cable corridor will be primarily temporary, since the cable will be installed below ground. Some forested wetlands will undergo conversion to scrub-shrub or emergent wetland but no permanent loss of vegetated wetlands is anticipated.

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## **ATTACHMENT A**

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### **FIGURES**

## **ATTACHMENT B**

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### **TABLES**

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
<b>Route 22</b>				
101.6	A3611	PEM1C	-	-
102.2	A3511	PEM1F	Unnamed Tributary to Lake Champlain (AS-54)	-
102.3	A3411	PSS1B/R3UB1	Unnamed Tributary to Lake Champlain (AS-50)	-
103	A3311	PEM1B	-	-
103.1	A3211	PEM1B	-	-
103.2	A3111	PEM1B/PSS1B	Unnamed Tributary to Lake Champlain (AS-46)	-
103.5	A3011	PEM1B	Unnamed Tributary to Lake Champlain (AS-45)	-
103.7	A2911	PFO1B/PEM1B	Unnamed Tributary to Lake Champlain (AS-43)	-
103.8	A2811	PFO1D/R3UB1	Unnamed Tributary to Lake Champlain (AS-41)	-
103.8	A2711	PEM1B	-	-
103.9	A2611	PEM1B/OWxh	Unnamed Tributary to Lake Champlain (AS-40)	-
104.4	A2511	PFO1B	Unnamed Tributary to Lake Champlain (AS-38)	-
104.8	A2411	PFO1D/R3UB1	Unnamed Tributary to Lake Champlain (AS-37)	-
104.9	A2311	PEM1B	Unnamed Tributary to Lake Champlain (AS-36)	-
105.2	A2211	PEM1B	Unnamed Tributary to Lake Champlain (AS-34)	-
105.7	A2111	PEM1B	-	-
105.9	A2011	PEM1B/PSS1B	Unnamed Tributary to Lake Champlain (AS-31)	-
107.2	A1811	PEM1F/PSS1	Unnamed Tributary to Lake Champlain (AS-26)	-
107.3	A1711	PFO1B/PEM1B	Unnamed Tributary to Lake Champlain (AS-24)	-
107.3	A1611	PEM1B	-	-
107.4	A1511	PEM1B	-	-
107.9	A1411	PFO1	-	-
108.1	A1311	PEM1B	-	-
108.4	A1211	PSS1C	Unnamed Tributary to Lake Champlain (AS-19)	-
108.4	A1111	PFO1B	Unnamed Tributary to Lake Champlain (AS-18)	-
108.5	A1011	PSS1B-C	Unnamed Tributary to Lake Champlain (AS-17)	-
108.6	A0911	PFO/PEM	-	-
108.9	A0611	PEM	-	-
109.2	A0511	PEM1B/PFO1B	Unnamed Tributary to Lake Champlain (AS-09)	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
109.6	A0811	PEM1B	-	-
109.8	A0711	PSS1/PEM	-	-
110.4	A0411	PEM1Br	Unnamed Tributary to South Bay, Lake Champlain (AS-05)	-
110.8	A0311	PSS1E/PEM1E	Unnamed Tributary to Lake Champlain (AS-04)	-
111.4	A0211	PEM1F	Unnamed Tributary to The Elbow, Lake Champlain (AS-02)	WH-2
111.7	A0111	PSS1/PEM1C	Unnamed Tributary to The Elbow, Lake Champlain (AS-01)	WH-2
<b>CP</b>				
113.1	B54	PEM/PFO/PSS	Unnamed Tributaries to Champlain Canal (B54-1, B54-2, B54-3, B54-4, B54-5, B54-6, B54-6A)	-
115.6	B55	PEM/PSS	Champlain Canal	-
117.5	B53	PEM	Unnamed Tributaries to Champlain Canal (B53-1, B53-2, B53-3)	-
117.8	B52	PEM	Unnamed Tributary to Champlain Cana (B52-1)	-
118.1	B51	PEM	-	-
118.6	B50	PEM	-	-
118.7	B48-A	PEM	Champlain Canal	-
118.9	B48	PEM/PSS/PFO	Unnamed Tributary to Champlain Canal (B48-1)	-
119	B49	PEM	-	-
119.3	F19	PFO	Unnamed Tributary to Champlain Canal (F19)	-
119.5	F20	POW	-	-
119.7	F17	POW/PEM/PSS/PFO	Champlain Canal	FA-13
120.8	F16	PFO/PEM	Champlain Canal	-
121.7	F14	PFO	Unnamed Tributary to Champlain Canal (F14)	-
121.9	F13	PFO/PEM	-	-
122	F12	PFO/PSS	Unnamed Tributary to Champlain Canal (F12)	-
122.8	F11	PFO/PSS	Halfway Creek (F11)	-
123.1	F10	PFO/PSS	Champlain Canal	-
124.2	F8	PFO/PSS/PEM/POW	Unnamed Tributaries to Champlain Canal (F8-1, F8-2)	-
127.2	F4	PEM/PSS	Unnamed Tributary to Champlain Canal (F4)	-
127.7	F3	PEM/PSS	-	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
128.4	F2	PEM/PSS	Unnamed Tributaries to Champlain Canal (F2-1, F2-2)	-
129.6	A54	PSS	Unnamed Tributary to Champlain Canal (A55-S1)	-
130.3	A55	PSS	Unnamed Tributary to Champlain Canal (A55-S1)	-
131.9	A2*	PEM/PSS	Unnamed Tributary to Champlain Canal (A2)	-
132.6	A3	PEM/PSS	-	-
132.8	A4	PEM	-	-
133.3	A5	PSS	-	-
133.6	A6	PFO	-	-
133.8	A8	PFO	-	-
134	A9	PFO	-	-
134.1	A10	PFO	-	-
135.3	A12	PFO	Hudson River (A11)	-
135.5	A13	PEM/PSS	-	-
135.8	A14	PEM/PSS	Unnamed Tributary to Hudson River (A14)	-
135.9	A15	PSS	-	-
136	A16	PFO	-	-
136.1	A18	PFO	-	-
136.2	A17	PFO/PEM/PSS	Unnamed Tributaries to Hudson River (A17-1, A17-2)	HF-1
136.5	A20	PEM/PSS	-	-
136.6	A22	PSS	-	-
136.7	A23	PEM	Unnamed Tributary to Hudson River (A23)	-
136.8	A24	PFO/PEM/PSS	Unnamed Tributary to Hudson River (A24)	-
137	A25	PSS	-	-
137.1	A26	PFO/PSS/PEM	-	F-20
137.7	A27	PFO	-	-
137.8	A28	PFO	-	-
137.9	A29	PFO	North Branch Snook Kill (A29)	F-7
137.9	A30	PSS	-	F-7
137.9	A31	PSS	-	F-7

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
138	A32*	PSS	-	F-7
138.2	A33	PSS	-	-
138.3	A34	PSS	-	-
138.4	A35	PEM	-	-
138.5	A36	PSS	Unnamed Tributary to North Branch Snook Kill (A36)	F-7
138.7	A37*	PFO/PSS	-	-
138.8	A38*	PFO/PSS	-	F-7
139.3	A40*	PSS	-	-
139.5	A39*	PEM	-	-
139.8	A41	PSS	Unnamed Tributary to Snook Kill (A41)	-
140.7	A44	PFO/PEM	-	-
141.3	A45	PFO/PSS	-	-
141.3	A46	PSS	-	-
141.3	A47	PFO/PSS	-	-
141.4	A48	PFO	-	-
141.5	A50	PSS	-	-
141.6	A51	PSS	-	-
141.7	A49*	PFO	Unnamed Tributaries to Rice Brook (A49-1, A49-2)	Q-32
141.9	A53	PFO/PSS	Unnamed Tributaries to Rice Brook (A49-1, A53)	Q-32
142.2	A52	PFO	-	-
142.9	D7	PEM	Unnamed Tributary to Rice Brook (D7)	GA-20
143	D6	PFO	-	-
143	D8	PFO	-	-
143.1	D5	PFO	-	-
143.1	D4	PFO	-	-
143.2	D3	PFO	-	-
143.4	D2	PFO	-	-
143.6	D1	PFO	Unnamed Tributary to Rice Brook (D1)	GA-20
145.1	B38	PEM	Delegan Brook (B38)	Q-11



**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
145.9	B39*	PFO/PEM	-	-
146.4	B36	PFO/PSS	-	Q-11
146.4	B37	PFO/PSS	-	Q-11
149.5	B1	PFO/PSS/PEM	Unnamed Tributary to Loughberry Lake/Spring Run (B1)	S-7
150.5	B3	PFO/PSS/PEM	Unnamed Tributary to Loughberry Lake/Spring Run (B3-2, B3-1)	S-19
151.4	B4	PEM/PSS	-	S-19
152.3	B5	PEM/PSS	Putnam Brook and tributaries (B5-S1, B5-S2, B5-S3, B5-S4)	S-19
152.7	B7	PFO/PSS	-	-
152.8	B6	PEM/PSS	-	-
153.7	B8	PFO/PSS/PEM	Geyser Brook (B8-S1)	S-19
154.9	D9	PEM	-	S-21
155.5	B47	PFO/PSS/PEM	Unnamed Tributary to Geyser Brook (B47)	S-21
155.9	B45	PEM	Unnamed Tributary to Kayderosseras Creek (B45-S1)	-
156.2	B46	PEM	Unnamed Tributary to Kayderosseras Creek (B46-S1)	-
156.7	B43	PEM	-	-
157	B44	PFO/PEM	Unnamed Tributary to Kayderosseras Creek (B44)	-
157.1	B41	PFO	-	-
157.3	B40*	PFO	Unnamed Tributaries to Kayaderosseras Creek (B9-1, B9-2)	-
157.3	B42	PEM	-	-
157.5	B10*	PFO	Unnamed Tributaries to Kayaderosseras Creek (B10-S1, B10-S2 and B10-S3, and B10-S6) and Kayderosseras Creek (B10-R1)	-
157.5	B14	PFO	-	-
157.6	B13	PSS/PEM	-	-
157.7	B12	PSS/PEM	-	-
157.9	B11	PSS/PEM	Kayderosseras Creek (B10-R1)	-
158.2	B15*	PFO/PEM	Kayaderosseras Creek (B10-7)	-
158.3	B17*	PFO/PEM	-	-
158.7	B16*	PFO	-	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
159	B18*	PSS/PEM	-	-
159.1	B19	PSS/PEM	-	-
159.1	B20	PSS/PEM	-	-
159.3	B21*	PEM	-	R-50
159.4	B22*	PEM	-	R-50
159.5	B23*	PEM	Unnamed Tributaries to Mourning Kill (B23-S1, B23-S2)	-
159.5	B24*	PFO	-	R-50
160.1	B25	PFO/PSS/PEM	Unnamed Tributary to Mourning Kill (B25-S1)	R-3
160.4	B26	PSS	-	-
160.5	B27*	PEM/PSS	-	-
160.7	B28*	PEM	Mourning Kill (B28)	-
160.9	B29*	PEM/PSS	-	-
161.2	B30	PEM/PSS	Unnamed Tributaries to Ballston Creek (B30-S1, B30-S2)	-
161.6	B31	PEM	Unnamed Tributary to Ballston Creek (B31-S1)	R-11
161.8	B32	PEM	Unnamed Tributary to Ballston Creek (B32-S1)	-
162	B33*	PEM	-	-
162.3	B34*	PSS/PEM	Unnamed Tributary to Ballston Lake (B34-1)	-
162.5	B1*	PEM	-	-
162.6	B2*	PEM	Unnamed Tributary to Ballston Lake (B35-1)	-
162.9	B-C1	PEM	-	-
162.9	C1	PSS/PEM	Unnamed Tributary to Ballston Lake (C1)	-
163.4	C2	PEM	-	-
163.4	C3*	PEM	-	-
163.4	C4	PEM	-	-
163.7	C5	PEM	-	-
164.3	C9	PSS	-	-
164.4	C8	PFO/PEM	Unnamed Tributaries to Ballston Lake (C8-S1, C8-S2, C8-S3)	R-18
164.6	C10*	PEM	-	-
164.8	C12	PEM	-	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
164.9	C15	PFO	Unnamed Tributary to Ballson Lake (C13)	R-18
165	C14	PEM	-	-
165.2	C17*	PEM	-	-
165.4	C19*	PEM	-	-
165.5	C20	PEM	-	-
165.7	C21	PEM	Unnamed Tributary to Alplaus Kill (C21)	-
165.9	C22*	PEM	-	-
165.9	C23	PEM	-	B-31
166.7	C26	PEM	Unnamed Tributary to Alplaus Kill (C26)	-
167	C27*	PEM	-	-
167.1	C29	PEM	Unnamed Tributary to Alplaus Kill (C29)	B-31
167.3	C30*	PEM	-	-
167.5	C31	PSS/PEM	Unnamed Tributary to Alplaus Kill (C31-S1)	-
167.9	X3	PFO1E	-	-
168.1	C34	PSS/PEM	Unnamed Tributary to Alplaus Kill (C34)	-
168.2	C35	PSS/PEM	-	-
168.4	C36	PSS	Unnamed Tributary to Alplaus Kill (C36-S1)	-
168.8	C37	PFO/PSS	-	-
169.4	C41*	PEM	Unnamed Tributaries to Alplaus Kill (C40, C39)	-
170	C42*	PFO/PSS/PEM	Unnamed Tributaries to Mohawk River (C42)	S-107
170.5	X1*	PSS1E/PFO1E	-	-
170.8	X2	PFO/PSS	Unnamed Tributary to Mohawk River (XS01)	-
171.4	C44	PEM	-	S-112
172.2	C45*	PEM	-	-
174.8	C46	PEM	Unnamed Tributary (C46)	-
175	C48	PEM	Unnamed Tributaries (C48, C49)	-
175.3	C56	PEM	-	-
175.4	C57	PFO/PSS/PEM	-	S-115
<b>CSX</b>				
178.4	E2	PSS	-	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
178.8	E3	PFO	Unnamed Tributary to Normans Kill (E3-1)	-
179.1	E4	PEM	Unnamed Tributary to Normans Kill (E4-1)	-
179.5	E5	PFO	-	-
179.6	E6	PFO/PSS	-	-
179.7	E7	PFO/PSS	Unnamed Tributary to Normans Kill (E7-1)	-
179.7	E8	PEM	-	-
180	E9	PEM/PSS	Unnamed Tributaries to Normans Kill (E9-1, E9-2)	S-117
180.6	E10	PEM/PSS	Unnamed Tributaries to Normans Kill (E10-1, E10-2)	-
180.8	E11	PFO	-	-
180.8	E12	PFO/PEM/PSS	Unnamed Tributary to Normans Kill (E12-1)	-
180.9	E13	PEM	-	-
181.1	E14	PFO	Unnamed Tributary to Normans Kill (E14-1)	-
181.2	E15	PFO/PEM	Unnamed Tributaries to Watervliet Reservoir (E15-1, E15-2)	-
182	E95	PEM/PSS	Unnamed Tributary to Watervliet Reservoir (E95)	-
182.1	E96	PFO/PEM/PSS	-	-
182.4	E97*	PEM/PSS	Unnamed Tributary to Watervliet Reservoir (E97)	-
183	E98	POW	Unnamed Tributary (E98)	-
183.2	E81	PEM/PSS	-	-
183.3	E80	PEM/PSS	-	-
183.4	E79	PFO/PSS	-	-
183.5	E77	PSS	-	-
183.8	E75*	PFO	-	-
184.2	E16*	PEM		
184.2	E17*	POW	-	-
184.5	E18	PEM	-	-
184.6	E19	PEM	-	-
185.3	E20	PFO/PSS	-	-
185.8	E21	PEM/PSS/PFO	Unnamed Tributary to Black Creek (E21)	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
186	E22	PFO	Unnamed Tributary to Black Creek (E22)	-
186.5	E23	PEM	-	-
186.5	E24	PEM/PFO	-	V-51
186.5	E25*	PEM	-	-
187.3	E26	PEM/PSS	-	-
187.3	E27*	PEM	-	-
187.4	E28	PEM/PSS/PFO	Unnamed Tributary to Vly Creek (E28)	V-52
188	E29	PEM/PSS/PFO	Unnamed Tributary to Vly Creek (E29)	-
189.2	E31	PSS	-	-
189.6	E32	PEM	Unnamed Tributary to Vloman Kill (E32)	-
189.8	E33	PSS/PEM	Unnamed Tributaries to Vloman Kill (E33-1, E33-2)	-
190	E82	PEM	Unnamed Tributary to Vloman Kill (E82-1)	-
190.1	E84*	PEM	-	-
190.1	E85*	PEM	-	-
190.3	E83	PEM	-	-
190.4	E34	PEM/PFO	-	-
190.4	E35	PFO	-	-
190.5	E36	PFO	-	-
190.7	E37	PSS/PFO	Unnamed Tributary to Vloman Kill (E37)	-
191.1	E39	PEM	Unnamed Tributary to Vloman Kill (E39-1)	-
191.3	E40*	PEM	-	-
191.4	E41*	PEM	-	-
191.4	E42	PFO/PEM	-	-
191.5	E43	PFO/PEM	-	-
191.7	E44	PEM	-	-
191.9	E46	PEM	-	-
192.3	E47	PFO/PEM	-	-
192.9	E49	PFO/PEM	-	-
193.3	E48*	PFO/PEM	Unnamed Tributaries to Vloman Kill (E48-1, E48-2, E48-3)	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
194	E51	PEM	-	-
194.1	E52	PEM	-	-
194.1	E59	PEM/PFO/PSS	-	-
194.2	E53	PEM	Unnamed Tributary to Coeymans Creek (E53-1)	-
194.2	E58*	PEM	Coeymans Creek (E58)	-
194.4	E54	PEM	-	-
194.4	E60	PEM	-	-
194.5	E55*	PEM	-	-
194.5	E61*	PEM	-	-
194.5	E93	PEM	-	-
194.6	E92	PEM	-	-
194.7	E91	PEM	-	-
194.8	E56	PEM	-	-
195	E57	PEM/PSS	-	-
195.1	E90	PEM	-	-
195.9	E94*	PEM	-	-
196.1	E102*	PEM	-	-
196.3	E62	PEM	Unnamed Tributary to Coeymans Creek (E62-1)	-
196.5	E63	PEM/PFO	Unnamed Tributaries to Vlomans Kill (E63-1, E63-2, E63-3)	-
196.7	E103*	PSS/PFO/PEM	Unnamed Tributaries to Coeymans Creek (E103, E103-1, E103-2)	-
197.2	E104	PEM	-	-
197.5	E67	PFO	-	-
197.6	E87	PEM	-	-
197.7	E106	PEM	-	-
197.9	E65*	PEM	-	-
198	E64	PEM/PSS/PFO	-	-
198.1	E88*	PEM	-	-
198.2	E89*	PEM	Unnamed Tributaries to Coeymans Creek (E89-1, E89-2, E89-3)	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
198.1	E101/M71	PSS/PEM	-	-
199	E69*	PEM/PFO	Unnamed Tributary to Hudson River (E69)	-
199.2	E99	PFO/PSS/PEM	Unnamed Tributaries to Coeymans Creek (E99, E99-1)	-
199.2	M73	PFO	-	-
199.3	E100*	PEM	-	-
199.3	M70	PFO	-	-
199.3	M72	PEM	Unnamed Tributary to Coeymans Creek (MS68)	-
199.5	M69	PFO/PEM	-	-
199.6	E73	PEM	Unnamed Tributaries to Coeymans Creek (E73, E73-1, E73-2)	-
199.7	E72*	PEM	-	-
199.7	E71	PFO/PSS	-	-
199.8	M67	PFO/PSS/PEM	-	-
199.8	M68	PFO/PSS/PEM	-	-
200.1	E68	PEM/PSS	-	-
200.1	E70	PSS	-	-
200.1	Y39	PEM	-	-
200.3	M65	PFO/PSS/PEM	Unnamed Tributary to Coeymans Creek (MS66)	-
200.3	M66	PFO/PEM	-	-
200.4	Y38	PSS/PFO	-	-
200.6	M64	PEM/PSS/PFO	Coeymans Creek (MS65) and Unnamed Tributaries to Coeymans Creek (MS62, MS63, MS64, MS66, MS66b, MS67)	-
200.7	M62	PSS/PEM	Unnamed Tributary to Coeymans Creek (MS59)	-
200.8	M63	PFO/PSS/PEM	Unnamed Tributary to Coeymans Creek (MS62)	-
200.8	Y37	PEM	Unnamed Tributary to Coeymans Creek (YS37)	-
200.9	Y36	PEM/POW	Unnamed Tributaries to Coeymans Creek (MS60, MS61)	-
201.2	M61	PFO/PSS/PEM/POW	-	-
201.3	Y35	PEM	-	-



**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
202	Y34	PSS/PEM	Unnamed Tributaries to Coeymans Creek (MS58, YS34)	-
202.2	M60	PFO/PEM	-	-
202.4	M59	PFO/PSS/PEM	-	-
202.6	Y33	PEM	-	-
203	M58	PSS/PEM	Unnamed Tributary to Coeymans Creek (MS56)	-
203.1	M57	PFO/PEM	-	-
203.9	M56	PFO/PSS/PEM	Unnamed Tributary to Hannacroix Creek (MS54)	-
204.1	M55	PEM	Unnamed Tributary to Hannacroix Creek (YS32)	-
204.3	M54	PSS	Unnamed Tributary to Hannacroix Creek (YS32)	-
204.4	M53	PEM	Unnamed Tributary to Hannacroix Creek (MS53)	-
204.6	M52	PEM	-	-
204.9	Y32	PEM/PSS	Unnamed Tributary to Hannacroix Creek (YS32)	-
205.1	Y31	PEM/PSS	-	-
205.4	Y30	PEM	-	-
205.9	M51	PFO	Hannacroix Creek (MS52)	-
206	M50	PSS	Unnamed Tributary to Hannacroix Creek (MS51)	-
206.1	M48	PSS	Unnamed Tributary to Hannacroix Creek (MS49)	-
206.1	M49	PSS	Unnamed Tributary to Hannacroix Creek (MS50)	-
206.5	M47	PSS/PEM	-	-
206.8	Y29	PEM	Sickles Creek (YS31)	-
207.6	M46	PFO/PSS	Unnamed Tributary to Sickles Creek (MS46)	-
207.8	Y28	PEM/PSS	Unnamed Tributary to Sickles Creek (YS29)	-
208	Y27	PEM/PSS	-	-
208.1	M44	PFO/PEM	Unnamed Tributary to Sickles Creek (MS44)	-
208.1	M45	PEM	Unnamed Tributary to Sickles Creek (MS45)	-
208.3	Y25	PEM	-	-
208.4	Y26	PEM	-	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
208.8	M42	PSS/PEM	Unnamed Tributary to Sickles Creek (MS43)	-
208.8	M43	PSS/PEM	-	-
208.9	M41	PFO/PSS/PEM	Unnamed Tributaries to Sickles Creek (MS41, MS42)	-
209	M40	PSS	-	-
209	Y24	PEM/PSS	Unnamed Tributary to Sickles Creek (YS27)	-
209.6	Y23	PEM/PSS	-	-
209.8	Y22	PEM	-	-
210	M39	PFO/PEM	-	-
210.2	M38	PSS	Unnamed Tributary to Coxsackie Creek (MS39)	-
210.3	M37	PFO/PSS	-	-
210.4	M36	PFO	Unnamed Tributary to Coxsackie Creek (MS38)	-
210.6	M35	PSS	-	-
210.7	M34	PFO/PEM	Unnamed Tributary to Coxsackie Creek (MS35) and Coxsackie Creek (MS37)	HN-101
210.9	Y21	PEM	-	-
211.2	Y20	PEM	-	-
211.7	M33	PFO/PEM	-	-
211.8	Y19	PEM	-	-
212.3	Y18	PEM	Unnamed Tributary to Coxsackie Creek (YS22)	-
213.5	M32	PFO/PSS/PEM	Unnamed Tributary to Murderer's Creek (MS34)	-
213.9	M31	PEM	-	-
214.1	M30	PSS/PEM	-	-
214.5	Y16	PEM	Murderer's Creek (YS19) and Unnamed Tributary to Corlaer Kill (YS17)	HN-108
216.8	Y17	PEM	-	HN-108
220.2	Y15	PEM	-	-
220.4	Y14	PEM	-	-
220.8	Y13	PEM	Unnamed Tributary to Hans Vosen Kill (YS15)	-
220.9	M29	PEM	Unnamed Tributary to Catskill Creek (MS26)	-
221	M28	PFO	Unnamed Tributaries to Catskill Creek (MS25, MS26)	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
221.1	M26	PSS/PEM	Unnamed Tributary to Catskill Creek (MS23)	-
221.1	M27	PSS	Unnamed Tributary to Catskill Creek (MS25)	-
222	M25	PFO/PEM	Unnamed Tributaries to Catskill Creek (MS21, MS22)	-
222.2	Y12	PEM	Unnamed Tributary to Catskill Creek (YS13)	-
222.5	M24	PFO/PEM	Spring Brook (YS12)	-
222.7	M23	PFO	-	-
223.2	Y11	PEM	Unnamed Tributary to Spring Brook (YS08)	-
223.4	M22	PFO	Unnamed Tributary to Spring Brook (YS09)	-
223.6	M21	PEM	Unnamed Tributary to Spring Brook (MS20) and Unnamed Tributary to Mineral Brook (MS19)	-
223.8	M20	PFO	Unnamed Tributary to Mineral Brook (MS18)	-
224.1	M19	PFO	-	-
224.3	Y10	PEM	Unnamed Tributaries to Mineral Brook (YS05, YS06)	-
224.5	Y9	PEM	-	-
224.7	Y8	PEM	-	-
224.9	M17	PSS/PEM/POW	Post Creek (MS13)	-
224.9	M18	PEM	Unnamed Tributary to Post Creek (MS14)	-
225	M16	PEM	-	-
225.2	M15	PEM	Unnamed Tributary to Hudson River (MS11)	-
225.4	M14	PEM	Unnamed Tributary to Hudson River (MS10)	-
225.5	M13	PEM	-	-
226	M12	PEM	-	-
226.2	M11	PFO/PEM	Unnamed Tributary to Hudson River (MS07)	-
226.3	M9	PFO/PSS	Unnamed Tributary to Hudson River (MS05)	-
226.3	M10	PSS	Unnamed Tributary to Hudson River (MS05)	-
226.5	M8	PFO/PEM	Unnamed Tributary to Hudson River (MS03)	-
226.6	M6	PFO	-	-
226.6	M7	PEM	-	-
227	M5	PFO/PEM	-	-
227.1	M3	PSS/PEM	Unnamed Tributary to Hudson River (MS02)	-

**Table 4-1  
Summary of Wetlands Within the Study Area<sup>1</sup>**

<b>Approximate MP</b>	<b>Wetland ID<sup>2</sup></b>	<b>Cowardin Classification<sup>3</sup></b>	<b>Associated Water Course</b>	<b>NYSDEC Mapped Wetland (#)</b>
227.1	M4	PSS	-	-
227.2	M2	PEM	-	-
227.5	M1	PEM	-	-
<b>CSX Haverstraw Bay Bypass</b>				
296.1	Y1	PEM	-	HS-2
296.4	Y2	PEM	-	-
296.5	Y3	PEM	-	-
298.5	Y4	PEM	-	-
299.4	Y5	PEM	-	-
299.9	Y6	PEM	Unnamed Tributary to Haverstraw Bay (YS04)	-
301.7	Y7	PEM	-	-

<sup>1</sup> Wetlands identified include both wetlands that are directly crossed by the overland transmission cable corridor as well as wetlands that are adjacent to the Project route that were delineated during field surveys.

<sup>2</sup> A Wetland ID accompanied by an asterisk (\*) signifies a wetland that is a ditch or is associated with a ditch. A ditch may not be regulated by the USACE or New York State.

<sup>3</sup> Cowardin et al. 1979 categories include: Palustrine Emergent (PEM), Palustrine Forested (PFO), Palustrine Scrub-Shrub (PSS), and Palustrine Open Water (POW).

**Table 4-2  
Summary of Waterbodies within the Study Area**

Approximate MP	Waterbody Name	Waterbody Field ID	Flow Status	Substrate	Width <sup>1</sup> (feet)	Depth <sup>1</sup> (feet)
<b>Route 22</b>						
102.2	Unnamed Tributary to Lake Champlain	AS54	Perennial	Silt-mud	3	0.5
102.3	Unnamed Tributary to Lake Champlain	AS53	Perennial	Sand/gravel-cobble	4	0.2
102.3	Overflow channel in flood plain of AS-50	AS52	Intermittent	Silt-mud/sand/gravel-cobble	2	0.2
102.3	Unnamed Tributary to Lake Champlain	AS50	Perennial	Sand/gravel-cobble/ boulder/ bedrock	20	0.7
102.4	Unnamed Tributary to Lake Champlain	AS51	Ephemeral	Grass	2	0.0
102.5	Unnamed Tributary to Lake Champlain	AS49	Ephemeral	Silt-mud/gravel-cobble	2	0.1
102.9	Unnamed Tributary to Lake Champlain	AS48	Perennial	Silt-mud/gravel-cobble	25	0.3
103.1	Unnamed Tributary to Lake Champlain	AS47	Intermittent	Gravel-cobble	5	0.3
103.2	Unnamed Tributary to Lake Champlain	AS46	Intermittent	Silt-mud	2	0.2
103.5	Unnamed Tributary to Lake Champlain	AS45	Perennial	Gravel-cobble/boulder/ bedrock	7	0.5
103.6	Unnamed Tributary to Lake Champlain	AS44	Perennial	Gravel-cobble/boulder	7	0.4
103.7	Unnamed Tributary to Lake Champlain	AS43	Intermittent	Silt-mud	3	0.3
103.8	Unnamed Tributary to Lake Champlain	AS42	Intermittent	Gravel-cobble	5	0.3
103.8	Unnamed Tributary to Lake Champlain	AS41	Perennial	Sand/gravel-cobble/boulder	9	2.5
103.9	Unnamed Tributary to Lake Champlain	AS40	Perennial	Silt-mud	5	0.5
104.2	Unnamed Tributary to Lake Champlain	AS39	Perennial	Gravel-cobble	12	0.8
104.4	Unnamed Tributary to Lake Champlain	AS38	Intermittent	Silt-mud	2	0.1
104.8	Unnamed Tributary to Lake Champlain	AS37	Perennial	Sand/gravel-cobble/boulder	20	1.0
104.9	Unnamed Tributary to Lake Champlain	AS36	Intermittent	Gravel-cobble	2	0.3
105.1	Unnamed Tributary to Lake Champlain	AS35	Perennial	Gravel-cobble/boulder/ bedrock	6	0.3
105.2	Unnamed Tributary to Lake Champlain	AS34	Intermittent	Gravel-cobble	3	0.3

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
105.3	Unnamed Tributary to Lake Champlain	AS33	Perennial	Sand/gravel-cobble/boulder/bedrock	25	1.0
105.7	Unnamed Tributary to Lake Champlain	AS32	Intermittent	Silt-mud/gravel-cobble	2	0.2
105.9	Unnamed Tributary to Lake Champlain	AS31	Perennial	Silt-mud/gravel-cobble/boulder	5	0.4
106	Unnamed Tributary to Lake Champlain	AS30	Intermittent	Gravel-cobble	3	0.1
106.3	Pine Lake Brook	AS29	Perennial	Gravel-cobble/boulder/bedrock	30	0.5
106.5	Unnamed Tributary to Lake Champlain	AS28	Intermittent	Gravel-cobble/boulder	6	0.1
106.6	Unnamed Tributary to Lake Champlain	AS27	Intermittent	Gravel-cobble/boulder	3	0.2
107.2	Unnamed Tributary to Lake Champlain	AS26	Intermittent	Silt-mud/gravel-cobble	3	0.2
107.3	Unnamed Tributary to Lake Champlain	AS25	Perennial	Sand/gravel-cobble/boulder	8	0.5
107.3	Unnamed Tributary to Lake Champlain	AS24	Intermittent	Gravel-cobble/boulder	5	0.2
107.4	Unnamed Tributary to Lake Champlain	AS23	Intermittent	Gravel-cobble	2	0.2
107.9	Unnamed Tributary to Lake Champlain	AS22	Intermittent	Gravel-cobble/boulder	5	0.1
108	Unnamed Tributary to Lake Champlain	AS21	Perennial	Gravel-cobble/boulder/bedrock	10	0.3
108.2	Unnamed Tributary to Lake Champlain	AS20	Perennial	Gravel-cobble/boulder/bedrock	6	0.4
108.4	Unnamed Tributary to Lake Champlain	AS19	Perennial	Sand/gravel-cobble/boulder	4	0.3
108.4	Unnamed Tributary to Lake Champlain	AS18	Intermittent	Sand/gravel-cobble/boulder	3	0.3
108.5	Unnamed Tributary to Lake Champlain	AS17	Intermittent	Silt-mud/gravel-cobble	3	0.3
108.5	Unnamed Tributary to Lake Champlain	AS15	Perennial	Gravel-cobble/boulder	6	0.3
108.8	Unnamed Tributary to Lake Champlain	AS14	Perennial	Gravel-cobble/boulder/bedrock	5	0.3
108.9	Unnamed Tributary to Lake Champlain	AS12	Intermittent	Gravel-cobble/boulder/bedrock	2	0.3

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
108.9	Unnamed Tributary to Lake Champlain	AS11	Perennial	Gravel-cobble/boulder/bedrock	4	0.3
108.9	Unnamed Tributary to Lake Champlain	AS13	Intermittent	Gravel-cobble/boulder/bedrock	2	0.3
109.1	Unnamed Tributary to Lake Champlain	AS10	Intermittent	Gravel-cobble/boulder	3	0.2
109.2	Unnamed Tributary to Lake Champlain	AS09	Intermittent	Boulder	1	0.2
109.2	Unnamed Tributary to Lake Champlain	AS08	Perennial	Gravel-cobble/boulder/bedrock	4	0.3
109.3	Unnamed Tributary to Lake Champlain	AS07	Ephemeral	Boulder/bedrock	2	0.2
109.4	Unnamed Tributary to Lake Champlain	AS06	Intermittent	Gravel-cobble	2	0.2
109.8	South Bay, Lake Champlain	-	Perennial	Unknown	1,800	Unknown
110.4	Unnamed Tributary to South Bay, Lake Champlain	AS-05	Intermittent	Silt-mud	3	0.3
110.7	Unnamed Tributary to Lake Champlain	AS04	Intermittent	Silt-mud	3	0.3
111.3	Unnamed Tributary to The Elbow, Lake Champlain	AS03	Intermittent	Silt-mud/gravel-cobble	3	0.2
111.4	Unnamed Tributary to The Elbow, Lake Champlain	AS02	Intermittent	Silt-mud/gravel-cobble	3	0.3
111.7	Unnamed Tributary to The Elbow, Lake Champlain	AS01	Intermittent	Silt-mud	2	0.2
<b>CP</b>						
113	Unnamed Tributary to Champlain Canal	B54-6A	Perennial	Silt-mud	10	2
114.1	Unnamed Tributary to Champlain Canal	B54-6	Perennial	Silt-mud	6	2
114.3	Unnamed Tributary to Champlain Canal	B54-5	Perennial	Silt-mud	30	3
114.5	Unnamed Tributary to Champlain Canal	B54-4	Perennial	Silt-mud	30	3
115.2	Unnamed Tributary to Champlain Canal	B54-3	Perennial	Silt-mud	30	3
116.1	Unnamed Tributary to Champlain Canal	B54-2	Perennial	Silt-mud	20	2



**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
116.9	Unnamed Tributary to Champlain Canal	B54-1	Perennial	Silt-mud	30	3
117.3	Unnamed Tributary to Champlain Canal	B53-3	Intermittent	Silt-mud	3	0.5
117.5	Unnamed Tributary to Champlain Canal	B53-1	Intermittent	Silt-mud	2	0.5
117.5	Unnamed Tributary to Champlain Canal	B53-2	Intermittent	Silt-mud	3	0.5
117.8	Unnamed Tributary to Champlain Canal	B52-1	Intermittent	Silt-mud	6	2
119.1	Unnamed Tributary to Champlain Canal	B48-1	Intermittent	Silt-mud	6	0.5
119.3	Unnamed Tributary to Champlain Canal	F18	Intermittent	Silt-mud	6	0.5
119.4	Unnamed Tributary to Champlain Canal	F19	Intermittent	Silt-mud/gravel-cobble	3	0.5
121.4	Unnamed Tributary to Champlain Canal	F15	Intermittent	Silt-mud	8	0.5
121.7	Unnamed Tributary to Champlain Canal	F14	Intermittent	Sand	6	0.25
122.4	Unnamed Tributary to Champlain Canal	F12	Perennial	Silt-mud/gravel-cobble/boulder	15	Unknown
122.9	Halfway Creek	F11	Perennial	Silt-mud	50	Unknown
123.3	Unnamed Tributary to Champlain Canal	F9	Ephemeral	Sand	6	0.5
123.5	Unnamed Tributary to Champlain Canal	F8-2	Intermittent	Gravel-cobble	10	0.5
125.5	Unnamed Tributary to Champlain Canal	F8-1	Perennial	Silt-mud	50	Unknown
125.8	Unnamed Tributary to Champlain Canal	F7	Ephemeral	Gravel-cobble/boulder	5	0
126.1	Unnamed Tributary to Champlain Canal	F6	Ephemeral	Mix	1	0
127.1	Unnamed Tributary to Champlain Canal	F5	Perennial	Gravel-cobble/boulder	30	0.5
127.4	Unnamed Tributary to Champlain Canal	F4	Intermittent	Gravel-cobble	25	0.1
128	Unnamed Tributary to Champlain Canal	F2-2	Perennial	Gravel-cobble	25	0.5
128.7	Unnamed Tributary to Champlain Canal	F2-1	Intermittent	Silt-mud	6	0
130.8	Unnamed Tributary to Champlain Canal	A55	Perennial	Silt-mud	8	3
131.7	Bond Creek	A1	Perennial	Silt-mud	30	5

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
132	Unnamed Tributary to Champlain Canal	A2	Intermittent	Peat-muck	3.5	1
133.7	Unnamed Tributary to Champlain Canal	A7-1	Perennial	Mix	3.0	0.5
133.7	Unnamed Tributary to Champlain Canal	A7-2	Intermittent	Gravel-cobble	1.5	0
135	Hudson River (East Channel)	A11-1	Perennial	Unknown	200	20
135.2	Hudson River (West Channel)	A11-2	Perennial	Unknown	200	20
135.8	Unnamed Tributary to the Hudson River	A14	Intermittent	Silt-mud	1	0.5
136.2	Unnamed Tributary to the Hudson River	A17-1	Intermittent	Silt-mud/mix/gravel-cobble	5	0.5
136.2	Unnamed Tributary to the Hudson River	A17-2	Intermittent	Silt-mud	1	0.25
136.4	Unnamed Tributary to the Hudson River	A19	Intermittent	Silt-mud/mix	2	0.75
136.6	Unnamed Tributary to the Hudson River	A21	Intermittent	Silt-mud	5	0.6
136.7	Unnamed Tributary to the Hudson River	A23	Intermittent	Boulder	2	0.5
136.8	Unnamed Tributary to the Hudson River	A24	Intermittent	Silt-mud	2	0.5
137.9	North Branch Snook Kill	A29	Perennial	Unknown	30	4
138.6	Unnamed Tributary to North Branch Snook Kill	A36	Intermittent	Unknown/silt-mud	2.0	0.50
139.9	Unnamed Tributary to Snook Kill	A41	Perennial	Mix/Silt-mud	1	0.5
140.1	Snook Kill	A42	Perennial	Gravel-cobble	15	2
140.2	Unnamed Tributary to Snook Kill	A44-2	Intermittent	Gravel-cobble	3	0.5
140.3	Unnamed Tributary to Snook Kill	A43	Intermittent	Silt-mud/mix/gravel-cobble	2.5	0.2
141.7	Unnamed Tributary to Rice Brook	A49-1	Perennial	Mix/gravel-cobble/Silt-mud	6	1
141.8	Unnamed Tributary to Rice Brook	A53	Intermittent	Silt-mud	4	0.5
142	Unnamed Tributary to Rice Brook	A49-2	Intermittent	Silt-mud/unknown	3	0.5
142.9	Unnamed Tributary to Rice Brook	D7	Perennial	Sand/gravel-cobble	6	1
143.6	Unnamed Tributary to Rice Brook	D1	Ephemeral	Mix/peat-muck	2.5	0.5

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
145.1	Delegan Brook	B38	Perennial	Unknown	60	Unknown
149.6	Unnamed Tributary to Loughberry Lake/Spring Run	B1	Perennial	Silt-mud/peat-muck/mix	10	2.5
150	Unnamed Tributary to Loughberry Lake/Spring Run	B2	Intermittent	Unknown	3	1
150.5	Unnamed Tributary to Loughberry Lake/Spring Run	B3-2	Intermittent	Sand	6	0.5
150.6	Unnamed Tributary to Loughberry Lake/Spring Run	B3-1	Intermittent	Gravel-cobble	6	0.5
152	Unnamed Tributary to Putnam Brook	B5-1	Perennial	Silt-mud	10	2
152	Putnam Brook	B5-2	Perennial	Silt-mud	20	3.5
152.1	Unnamed Tributary to Putnam Brook	B5-3	Intermittent	Gravel-cobble/mix	3	2
152.2	Unnamed Tributary to Putnam Brook	B5-4	Intermittent	Silt-mud	0.5	0.2
153.7	Unnamed Tributary to Geyser Brook	B8-2	Intermittent	Silt-mud	3	0.5
153.8	Geyser Brook	B8-1	Perennial	Silt-mud	30	4-5
153.8	Unnamed Tributary to Geyser Brook	B8-3	Intermittent	Silt-mud	3	0.5
155.5	Unnamed Tributary to Geyser Brook	B47	Perennial	Unknown	Unknown	Unknown
156	Unnamed Tributary to Kayaderosseras Creek	B46	Intermittent	Sand	3	0.5
156.2	Unnamed Tributary to Kayaderosseras Creek	B45-1	Intermittent	Silt-mud	3	0.5
156.2	Unnamed Tributary to Kayaderosseras Creek	B45-2	Perennial	Silt-mud	10	1
156.2	Unnamed Tributary to Kayaderosseras Creek	B45-3	Intermittent	Silt-mud	3	0
156.5	Unnamed Tributary to Kayaderosseras Creek	B44	Perennial	Unknown	Unknown	Unknown
157.4	Unnamed Tributary to Kayaderosseras Creek	B9-1	Intermittent	Sand	2	0.5
157.4	Unnamed Tributary to Kayaderosseras Creek	B9-2	Intermittent	Sand	3	0.5
157.6	Unnamed Tributary to Kayaderosseras Creek	B10-1	Intermittent	Sand	3	0.5
157.7	Unnamed Tributary to Kayaderosseras Creek	B10-2	Intermittent	Sand	10	0.5

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
157.7	Unnamed Tributary to Kayaderosseras Creek	B10-3	Intermittent	Sand/Silt-mud	6	0.5
157.7	Unnamed Tributary to Kayaderosseras Creek	B10-5	Intermittent	Silt-mud	6	0.25
157.9	Unnamed Tributary to Kayaderosseras Creek	B10-6	Intermittent	Sand	4	0.5
158	Kayaderosseras Creek	B10-7	Perennial	Unknown	50	5
159.5	Unnamed Tributary to Mourning Kill	B23-1	Intermittent	Silt-mud	2	0.5
159.5	Unnamed Tributary to Mourning Kill	B23-2	Intermittent	Silt-mud	2	0.5
159.6	Unnamed Tributary to Mourning Kill	B23-3	Intermittent	Silt-mud	2	0.5
159.7	Unnamed Tributary to Mourning Kill	B23-5	Intermittent	Silt-mud	2	0.5
159.8	Unnamed Tributary to Mourning Kill	B23-4	Intermittent	Silt-mud	2	0.5
160.4	Unnamed Tributary to Mourning Kill	B25-1	Intermittent	Gravel-cobble	2.5	0.5
160.7	Mourning Kill	B28	Perennial	Gravel-cobble	20	3
161.2	Unnamed Tributary to Ballston Creek	B30-1	Ephemeral	Gravel-cobble	1	0
161.2	Unnamed Tributary to Ballston Creek	B30-2	Intermittent	Boulder	5	1
161.7	Unnamed Tributary to Ballston Creek	B31-1	Intermittent	Gravel-cobble	6	1
161.8	Unnamed Tributary to Ballston Creek	B32-1	Intermittent	Gravel-cobble	8	1
162.2	Unnamed Tributary to Ballston Lake	B34-1	Intermittent	Mix	6	1
162.6	Unnamed Tributary to Ballston Lake	B35-1	Intermittent	Gravel-cobble	6	0.5
163.1	Unnamed Tributary to Ballston Lake	C1	Perennial	Gravel-cobble	10	0.5
163.7	Unnamed Tributary to Ballston Lake	C5	Intermittent	Gravel-cobble/Unknown	6	0.5
163.9	Unnamed Tributary to Ballston Lake	C6	Intermittent	Unknown	6	0.5
164.1	Unnamed Tributary to Ballston Lake	C7	Intermittent	Unknown/gravel-cobble	10	0.5
164.2	Unnamed Tributary to Ballston Lake	C8-1	Intermittent	Unknown/gravel-cobble/peat-muck	8	0.5
164.3	Unnamed Tributary to Ballston Lake	C8-2	Intermittent	Unknown/gravel-cobble/peat-muck	8	0.5

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
164.5	Unnamed Tributary to Ballston Lake	C8-3	Intermittent	Unknown/gravel-cobble/peat-muck	8	0.5
164.7	Unnamed Tributary to Ballston Lake	C11	Intermittent	Unknown/mix/gravel-cobble	2	0.2
165	Unnamed Tributary to Ballston Lake	C13	Intermittent	Unknown/gravel-cobble	6	0.4
165.1	Unnamed Tributary to Ballston Lake	C16	Intermittent	Gravel-cobble/mix	7	0.4
165.3	Unnamed Tributary to Ballston Lake	C18	Intermittent	Gravel-cobble	3	0.3
165.7	Unnamed Tributary to Alplaus Kill	C21	Intermittent	Gravel-cobble/mix/silt-mud	12	1.5
166.1	Unnamed Tributary to Alplaus Kill	C24	Ephemeral	Gravel-cobble	5	2
166.2	Unnamed Tributary to Alplaus Kill	C25	Ephemeral	Gravel-cobble/mix/silt-mud	2.5	1
166.6	Unnamed Tributary to Alplaus Kill	C26	Perennial	Mix	8	3
167	Unnamed Tributary to Alplaus Kill	C28	Ephemeral	Gravel-cobble	3	0.5
167.2	Unnamed Tributary to Alplaus Kill	C29	Ephemeral	Silt-mud	4	1
167.5	Unnamed Tributary to Alplaus Kill	C31	Ephemeral	Silt-mud/mix/gravel-cobble	6	1
168.1	Unnamed Tributary to Alplaus Kill	C34	Intermittent	Mix	3	0.6
168.4	Unnamed Tributary to Alplaus Kill	C36	Intermittent	Mix	3	0.6
168.6	Alplaus Kill	C33	Perennial	Silt-mud/Gravel-cobble	30	5
169	Unnamed Tributary to Alplaus Kill	C38	Intermittent	Silt-mud	3	0.3
169.4	Unnamed Tributary to Alplaus Kill	C40	Intermittent	Silt-mud	1.5	0.1
169.5	Unnamed Tributary to Alplaus Kill	C39	Intermittent	Gravel-cobble	3	0.2
170.1	Unnamed Tributary to Mohawk River	C42-1	Intermittent	Peat-muck/unknown	4	0.5
170.2	Unnamed Tributary to Mohawk River	C42-2	Intermittent	Peat-muck/gravel-cobble	12	1.5
170.9	Unnamed Tributary to Mohawk River	XS1	Intermittent	Silt-Mud/Gravel/Cobble	4	3
170.9	Unnamed Tributary to Mohawk River	XS2	Intermittent	Silt-Mud/Sand	4	2

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Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
171.2	Unnamed Tributary to Mohawk River	C43	Ephemeral	Unknown/silt-mud	8	0.5
171.7	Mohawk River	C43A	Perennial	Unknown	465	Unknown
174.9	Unnamed Tributary	C46	Intermittent	Peat-muck, silt-mud, unknown	2	0.2
174.9	Unnamed Tributary	C47	Ephemeral	Silt-mud	0.5	2
175	Unnamed Tributary	C48	Intermittent	Silt-mud	1	0.1
175	Unnamed Tributary	C49	Intermittent	Silt-mud	3	0.1
175.1	Unnamed Tributary	C50	Intermittent	Silt-mud	2	0.1
175.1	Unnamed Tributary	C51	Intermittent	Silt-mud	5	0.1
175.1	Unnamed Tributary	C52	Ephemeral	Mix	2	0.1
175.1	Unnamed Tributary	C53	Intermittent	Silt-mud/mix/unknown	3	0.1
175.2	Unnamed Tributary	C54	Intermittent	Unknown/gravel-cobble/silt-mud	3	0.1
175.2	Unnamed Tributary	C55	Ephemeral	Silt-mud	4	0.1
176	Unnamed Tributary	C57	Intermittent	Unknown	0.5	0.1
176.9	Poentic Kill	C58	Perennial	Boulder	25	1.5
177	Poentic Kill	E1	Perennial	Gravel-cobble/boulder	15	0.5
<b>CSX</b>						
178.9	Unnamed Tributary to Normans Kill	E3-1	Perennial	Silt-mud/gravel-cobble	6	0.5
179.2	Unnamed Tributary to Normans Kill	E4-1	Perennial	Silt-mud/gravel-cobble	12	1
179.8	Unnamed Tributary to Normans Kill	E7-1	Perennial	Silt-mud	10	0.5
180.1	Unnamed Tributary to Normans Kill	E9-1	Perennial	Silt-mud	5	0.5
180.4	Unnamed Tributary to Normans Kill	E9-2	Perennial	Silt-mud	8	0.5
180.5	Unnamed Tributary to Normans Kill	E10-1	Perennial	Silt-mud/gravel-cobble	12	1
180.7	Unnamed Tributary to Normans Kill	E10-2	Perennial	Gravel-cobble	12	1
181	Unnamed Tributary to Normans Kill	E12-1	Perennial	Gravel-cobble	15	1
181.1	Unnamed Tributary to Normans Kill	E14-1	Perennial	Sand	8	1

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Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
181.6	Unnamed Tributary to Watervliet Reservoir	E15-1	Perennial	Silt-mud	15	1
181.7	Unnamed Tributary to Watervliet Reservoir	E15-2	Perennial	Silt-mud	25	1
182	Unnamed Tributary to Watervliet Reservoir	E95	Perennial	Gravel-cobble	10	1
182.4	Unnamed Tributary to Watervliet Reservoir	E97	Perennial	Silt-mud/gravel-cobble	10	0.5
183	Unnamed Tributary to Unnamed Pond (E98)	E98	Intermittent	Silt-mud	3	0.1
183.7	Normans Kill	E74	Perennial	Bedrock	300	4
186	Unnamed Tributary to Black Creek	E22	Intermittent	Silt-mud	2	0.25
186.2	Unnamed Tributary to Black Creek	E21	Intermittent	Silt-mud/gravel-cobble	2	0.5
187.7	Unnamed Tributary to Vly Creek	E28	Perennial	Silt-mud/gravel-cobble	4	1.5
188	Unnamed Tributary to Vly Creek	E29	Perennial	Silt-mud	10	1.5
188.4	Vly Creek	E30	Perennial	Gravel-cobble/boulder	35	1
189.6	Unnamed Tributary to Vloman Kill	E32	Perennial	Mix	5	0.75
189.8	Unnamed Tributary to Vloman Kill	E33-1	Perennial	Gravel-cobble	4	0.5
189.8	Unnamed Tributary to Vloman Kill	E33-2	Perennial	Silt-mud	1	0.25
190	Unnamed Tributary to Vloman Kill	E82-1	Intermittent	Silt-mud	6	0.25
190.6	Unnamed Tributary to Vloman Kill	E37	Perennial	Silt-mud	4	1
190.9	Unnamed Tributary to Vloman Kill	E38	Perennial	Gravel-cobble	15	1
191.1	Unnamed Tributary to Vloman Kill	E39-1	Intermittent	Silt-mud	3	0.5
191.8	Unnamed Tributary to Vloman Kill	E45-1	Intermittent	Gravel-cobble	6	0.25
191.8	Unnamed Tributary to Vloman Kill	E45-2	Intermittent	Silt-mud	3	0.5
191.8	Vloman Kill	E45-2	Perennial	Silt-mud/gravel-cobble	15	1
192.4	Unnamed Tributary to Vloman Kill	E50-1	Perennial	Gravel-cobble	10	1
192.5	Unnamed Tributary to Vloman Kill	E50-2	Intermittent	Gravel-cobble	3	0.5



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<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
192.5	Unnamed Tributary to Vloman Kill	E50-3	Perennial	Gravel-cobble	6	0.5
192.8	Unnamed Tributary to Vloman Kill	E86	Perennial	Gravel-cobble	30	1-3
193.2	Unnamed Tributary to Vloman Kill	E48-1	Intermittent	Silt-mud/gravel-cobble	4	0.25
193.9	Unnamed Tributary to Coeymans Creek	E48-2	Perennial	Silt-mud	10	0.5
193.9	Unnamed Tributary to Coeymans Creek	E48-3	Intermittent	Silt-mud	6	0.5
194.2	Unnamed Tributary to Coeymans Creek	E53-1	Perennial	Mix	8	0.5
195.9	Coeymans Creek	E58	Perennial	Silt-mud	15	0.5
196.3	Unnamed Tributary to Coeymans Creek	E62-1/E103-1	Perennial	Silt-mud/gravel-cobble	15	2
196.4	Unnamed Tributary to Coeymans Creek	E103	Intermittent	Silt-mud	3	0.5
196.7	Unnamed Tributary to Coeymans Creek	E103-2	Intermittent	Silt-mud/boulder	3	0.5
197.3	Unnamed Tributary to Vloman Kill	E63-3	Perennial	Silt-mud	4	0.1
197.4	Unnamed Tributary to Vloman Kill	E63-1	Ephemeral	Silt-mud	3	0.5
197.4	Unnamed Tributary to Vloman Kill	E63-2	Ephemeral	Silt-mud	6	0.5
197.5	Unnamed Tributary to Coeymans Creek	E105	Perennial	Silt-mud/concrete	10	3
197.6	Unnamed Tributary to Vloman Kill	E66-1	Perennial	Silt-mud	10	0.5
197.6	Unnamed Tributary to Vloman Kill	E66-2	Intermittent	Silt-mud/gravel-cobble	3	0.5
198.2	Unnamed Tributary to Coeymans Creek	E89-1	Perennial	Silt-mud	30	0.5
198.2	Unnamed Tributary to Coeymans Creek	E89-2	Ephemeral	Silt-mud	3	0.1
198.3	Unnamed Tributary to Coeymans Creek	E89-3	Intermittent	Silt-mud	6	1
199.3	Unnamed Tributary to Coeymans Creek	MS68	Perennial	Silt-mud/sand/gravel-cobble	5	0.2
199.4	Unnamed Tributary to Coeymans Creek	E99	Perennial	Boulder	20	1
199.4	Unnamed Tributary to Coeymans Creek	E99-1	Ephemeral	Silt-mud	1	0.1
199.5	Unnamed Tributary to Coeymans Creek	E107	Ephemeral	Silt-mud	3	0.5

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Summary of Waterbodies within the Study Area**

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199.6	Unnamed Tributary to Coeymans Creek	E73	Intermittent	Silt-mud	6	0.25
199.6	Unnamed Tributary to Coeymans Creek	E73-1	Ephemeral	Silt-mud	1	0.1
199.6	Unnamed Tributary to Coeymans Creek	E73-2	Ephemeral	Silt-mud	1	0.1
200	Unnamed Tributary to Hudson River	E69	Intermittent	Silt-mud/gravel-cobble	3	0.5
200.4	Unnamed Tributary to Coeymans Creek	YS38	Intermittent	Silt-mud	2	0.3
200.5	Unnamed Tributary to Coeymans Creek	MS66	Perennial	Silt-mud/sand/gravel-cobble	4	0.3
200.5	Unnamed Tributary to Coeymans Creek	MS66a	Perennial	Silt-mud/sand/gravel-cobble	4	0.3
200.5	Unnamed Tributary to Coeymans Creek	MS67	Intermittent	Silt-mud/sand/gravel-cobble	4	0.2
200.6	Unnamed Tributary to Coeymans Creek	MS66b	Intermittent	Silt-mud/sand/gravel-cobble	4	0.3
200.7	Unnamed Tributary to Coeymans Creek	MS62	Intermittent	Silt-mud/sand/gravel-cobble	4	0.3
200.7	Unnamed Tributary to Coeymans Creek	MS63	Intermittent	Silt-mud/sand/gravel-cobble	3	0.2
200.7	Unnamed Tributary to Coeymans Creek	MS64	Intermittent	Sand/gravel-cobble	5	0.3
200.7	Coeymans Creek	MS65	Perennial	Silt-mud/sand/gravel-cobble	40	5
200.7	Unnamed Tributary to Coeymans Creek	YS37	Perennial	Silt-mud/clay	3	0.5
200.9	Unnamed Tributary to Coeymans Creek	MS60	Perennial	Silt-mud/sand/gravel-cobble	8	1
200.9	Unnamed Tributary to Coeymans Creek	MS61	Intermittent	Sand/gravel-cobble	5	0.5
200.9	Unnamed Tributary to Coeymans Creek	YS36	Perennial	Silt-mud/clay	1	0.5
201	Unnamed Tributary to Coeymans Creek	MS59	Intermittent	Silt-mud/sand	3	0.2
202	Unnamed Tributary to Coeymans Creek	MS58	Perennial	Silt-mud/sand/gravel-cobble	5	1

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
202	Unnamed Tributary to Coeymans Creek	YOW1	Perennial	Silt-mud	30	3
202	Unnamed Tributary to Coeymans Creek	YS35	Intermittent	Silt-mud	3	0.3
202.1	Unnamed Tributary to Coeymans Creek	MS57	Perennial	Silt-mud/sand/gravel-cobble	10	0.5
202.1	Unnamed Tributary to Coeymans Creek	YS34	Perennial	Silt-mud/clay	5	0.5
202.9	Unnamed Tributary to Coeymans Creek	MS56	Intermittent	Silt-mud/sand/gravel-cobble	8	0.5
202.9	Unnamed Tributary to Coeymans Creek	YS33	Intermittent	Silt-mud	2	0
203.5	Unnamed Tributary to Hannacroix Creek	MS55	Intermittent	Silt-mud/sand/gravel-cobble	4	0.3
204	Unnamed Tributary to Hannacroix Creek	MS54	Intermittent	Gravel-cobble	4	0.2
204.3	Unnamed Tributary to Hannacroix Creek	MS53	Intermittent	Sand/gravel-cobble	4	0.1
204.3	Unnamed Tributary to Hannacroix Creek	YS32b	Perennial	Gravel-cobble	4	0.3
204.8	Unnamed Tributary to Hannacroix Creek	YS32	Perennial	Gravel-cobble	4	0.3
205.9	Hannacroix Creek	MS52	Perennial	Gravel-cobble/boulder	50	3
206	Unnamed Tributary to Hannacroix Creek	MS51	Intermittent	Silt-mud/sand/gravel-cobble	4	0.2
206.1	Unnamed Tributary to Hannacroix Creek	MS49	Intermittent	Sand/gravel-cobble	4	0.2
206.1	Unnamed Tributary to Hannacroix Creek	MS50	Intermittent	Sand/gravel-cobble	4	0.2
206.7	Sickles Creek	YS31	Intermittent	Silt-mud/gravel-cobble	5	1.5
206.9	Sickles Creek	YS31	Perennial	Gravel-cobble/boulder	15	2
207	Unnamed Tributary to Sickles Creek	MS48	Intermittent	Silt-mud/sand/gravel-cobble	2	0.2
207.1	Unnamed Tributary to Sickles Creek	MS47	Perennial	Silt-mud/sand/gravel-cobble	4	0.3
207.2	Unnamed Tributary to Sickles Creek	YS30	Perennial	Gravel-cobble	3	0.5
207.5	Unnamed Tributary to Sickles Creek	MS46	Perennial	Sand/gravel-cobble	3	0.3

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
207.8	Unnamed Tributary to Sickles Creek	YS29	Perennial	Silt-mud/gravel-cobble/clay	3	0.7
208.1	Unnamed Tributary to Sickles Creek	MS44	Intermittent	Peat-muck/silt-mud	3	0.2
208.1	Unnamed Tributary to Sickles Creek	MS45	Intermittent	Peat-muck/silt-mud/sand	2	0.2
208.4	Unnamed Tributary to Sickles Creek	YS28	Perennial	Gravel-cobble/boulder/clay	5	0.7
208.9	Unnamed Tributary to Sickles Creek	MS41	Perennial	Silt-mud/sand	3	0.3
208.9	Unnamed Tributary to Sickles Creek	MS42	Perennial	Peat-muck/silt-mud/sand	8	0.3
208.9	Unnamed Tributary to Sickles Creek	MS43	Intermittent	Silt-mud/sand	2	0.2
209	Unnamed Tributary to Sickles Creek	YS27	Intermittent	Silt-mud/gravel-cobble/clay	1	0
209.2	Unnamed Tributary to Cocksackie Creek	YS26	Perennial	Clay	1	0.2
209.4	Unnamed Tributary to Cocksackie Creek	YS25	Perennial	Silt-mud	3	0.4
209.5	Unnamed Tributary to Sickles Creek	YS24	Perennial	Sand/gravel-cobble/clay	5	0.7
209.7	Unnamed Tributary to Cocksackie Creek	YS23	Perennial	Sand/gravel-cobble/clay	5	0.7
210.1	Unnamed Tributary to Cocksackie Creek	MS40	Intermittent	Silt-mud/sand/gravel-cobble	4	0.3
210.3	Cocksackie Creek	MS37	Perennial	Silt-mud/sand/gravel-cobble	40	2
210.3	Unnamed Tributary to Cocksackie Creek	MS39	Intermittent	Silt-mud/sand	4	0.2
210.4	Unnamed Tributary to Cocksackie Creek	MS38	Intermittent	Silt-mud/sand	3	0.2
210.6	Unnamed Tributary to Cocksackie Creek	MS36	Intermittent	Silt-mud/sand	3	0.2
210.7	Unnamed Tributary to Cocksackie Creek	MS35	Perennial	Silt-mud	5	0.3
212.1	Unnamed Tributary to Cocksackie Creek	YS22	Perennial	Silt-mud/gravel-cobble	3	0.5
212.4	Unnamed Tributary to Cocksackie Creek	YS21	Perennial	Silt-mud/gravel-cobble	3	0.5
213.8	Unnamed Tributary to Murderer's Creek	MS34	Intermittent	Silt-mud/gravel-cobble	3	0.2
213.8	Unnamed Tributary to Murderer's Creek	MS34a	Intermittent	Silt-mud/gravel-cobble	3	0.2

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
213.8	Unnamed Tributary to Murderer's Creek	MS34b	Intermittent	Silt-mud/gravel-cobble	3	0.2
213.9	Unnamed Tributary to Murderer's Creek	MS33	Intermittent	Silt-mud/gravel-cobble	3	0.2
214	Unnamed Tributary to Murderer's Creek	MS31	Intermittent	Silt-mud/sand/gravel-cobble	2	0.2
214	Unnamed Tributary to Murderer's Creek	MS32	Intermittent	Silt-mud/sand/gravel-cobble	2	0.2
214.2	Unnamed Tributary to Murderer's Creek	YS20	Perennial	Silt-mud/sand/gravel-cobble	2	1
214.5	Murderer's Creek	YS19	Perennial	Peat-muck/silt-mud/gravel/cobble	35	2
215.5	Unnamed Tributary to Murderer's Creek	YS18	Perennial	Silt-mud/gravel-cobble	2	0.5
219.3	Unnamed Tributary to Corlaer Kill	YS17	Perennial	Silt-mud/gravel-cobble	3	0.7
219.4	Corlaer Creek	MS30	Perennial	Silt-mud/sand/gravel-cobble	20	1.5
219.7	Unnamed Tributary to Corlaer Kill	MS29	Perennial	Silt-mud/gravel-cobble	3	0.3
220.1	Unnamed Tributary to Corlaer Kill	MS27	Perennial	Silt-mud/gravel-cobble	3	0.2
220.1	Unnamed Tributary to Corlaer Kill	MS28	Intermittent	Silt-mud/gravel-cobble	2	0.1
220.6	Unnamed Tributary to Hans Vosen Kill	YS16	Perennial	Silt-mud	30	3
220.7	Unnamed Tributary to Hans Vosen Kill	YS15	Perennial	Silt-mud/gravel-cobble	2	0.25
221	Unnamed Tributary to Catskill Creek	MS25	Perennial	Silt-mud/gravel-cobble	4	0.2
221	Unnamed Tributary to Catskill Creek	MS26	Perennial	Gravel-cobble	3	0.2
221.1	Unnamed Tributary to Catskill Creek	MS23	Perennial	Gravel-cobble	7	0.2
221.1	Unnamed Tributary to Catskill Creek	MS24	Intermittent	Gravel-cobble	2	0.1
221.1	Unnamed Tributary to Catskill Creek	MS24a	Intermittent	Gravel-cobble	2	0.1
221.3	Catskill Creek	YS14	Perennial	Gravel-cobble/boulder/bedrock	324	10
222	Unnamed Tributary to Catskill Creek	MS21	Intermittent	Silt-mud	1	0.1

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
222	Unnamed Tributary to Catskill Creek	MS22	Intermittent	Gravel-cobble	2	0.2
222.1	Unnamed Tributary to Catskill Creek	YS13	Perennial	Clay	4	1
222.6	Spring Brook	YS12	Perennial	Clay	55	3
222.7	Unnamed Tributary to Spring Brook	YS11	Perennial	Boulder/bedrock	3	0.5
222.9	Unnamed Tributary to Spring Brook	YS10	Perennial	Boulder/bedrock	5	0.3
223.1	Unnamed Tributary to Spring Brook	YS9	Perennial	Gravel-cobble/boulder	4	0.7
223.2	Unnamed Tributary to Spring Brook	YS8	Perennial	Silt-mud	3	0.5
223.4	Unnamed Tributary to Spring Brook	MS20	Intermittent	Silt-mud/sand	5	0.3
223.6	Unnamed Tributary to Mineral Brook	MS19	Perennial	Gravel-cobble	5	0.3
223.8	Unnamed Tributary to Mineral Brook	MS17	Intermittent	Gravel-cobble	5	0.2
223.8	Unnamed Tributary to Mineral Brook	MS18	Perennial	Gravel-cobble	3	0.2
223.9	Unnamed Tributary to Mineral Brook	MS16	Perennial	Gravel-cobble	8	0.2
224.1	Unnamed Tributary to Mineral Brook	YS7	Perennial	Sand/boulder	1	0.2
224.3	Unnamed Tributary to Mineral Brook	YS6	Perennial	Boulder	3	0.1
224.5	Unnamed Tributary to Mineral Brook	YS5	Perennial	Silt-mud/gravel-cobble	3	0.5
224.6	Unnamed Tributary to Mineral Brook	YS4	Perennial	Boulder	1.5	0.2
224.9	Post Creek	MS13	Perennial	Silt-mud	12	0.5
224.9	Unnamed Tributary to Post Creek	MS14	Perennial	Silt-mud	8	0.3
224.9	Unnamed Tributary to Post Creek	MS15	Ephemeral	Silt-mud	3	1.0
225.3	Unnamed Tributary to Hudson River	MS11	Intermittent	Gravel-cobble	3	0.3
225.4	Unnamed Tributary to Hudson River	MS10	Intermittent	Sand	3	0.2
225.9	Unnamed Tributary to Hudson River	MS9	Perennial	Silt-mud	4	0.3
226	Unnamed Tributary to Hudson River	MS7	Intermittent	Boulder	3	0.3

**Table 4-2  
Summary of Waterbodies within the Study Area**

<b>Approximate MP</b>	<b>Waterbody Name</b>	<b>Waterbody Field ID</b>	<b>Flow Status</b>	<b>Substrate</b>	<b>Width<sup>1</sup> (feet)</b>	<b>Depth<sup>1</sup> (feet)</b>
226.1	Unnamed Tributary to Hudson River	MS8	Intermittent	Gravel-cobble	4	0.3
226.3	Unnamed Tributary to Hudson River	MS5	Perennial	Gravel-cobble	14	0.3
226.3	Unnamed Tributary to Hudson River	MS6a	Ephemeral	Silt-mud	4	0.1
226.3	Unnamed Tributary to Hudson River	MS6b	Ephemeral	Silt-mud	4	0.1
226.4	Unnamed Tributary to Hudson River	MS3	Intermittent	Gravel-cobble	8	0.1
226.4	Unnamed Tributary to Hudson River	MS4	Intermittent	Silt-mud	6	0.1
226.5	Unnamed Tributary to Hudson River	MS6	Intermittent	Silt-mud	4	0.1
227	Unnamed Tributary to Hudson River	MS2	Perennial	Gravel-cobble	10	0.2
227.3	Unnamed Tributary to Hudson River	MS1	Intermittent	Gravel-cobble	4	0.1
<b>CSX Haverstraw Bay Bypass</b>						
297.4	Cedar Pond Brook	YS1	Perennial	Silt-mud	50	4
297.9	Unnamed Tributary to Minisceongo Creek	YS2	Perennial	Bedrock	8	0.8
298.6	Minisceongo Creek	YS3	Intermittent	Silt-mud/gravel-cobble	45	1.5
299.9	Unnamed Tributary to Haverstraw Bay	YS4	Intermittent	Silt-mud/gravel-cobble	3	0.7
<sup>1</sup> Width and depth measurements are approximate.						



**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
<b>Hydric Soils</b>					
Albany	Birdsall mucky silt loam	Br	0-2	Y	Very Poorly Drained
Albany	Fluvaquents-Udifluvents complex, frequently flooded	Fx	0-3	Y	Poorly Drained
Albany	Granby loamy fine sand	Gr	0-2	Y	Very Poorly Drained
Albany	Ilion silt loam	In	0-3	Y	Poorly Drained
Albany	Madalin silt loam	Ma	0-3	Y	Poorly Drained
Albany	Raynham very fine sandy loam	Ra	0-3	Y	Poorly Drained
Albany	Shaker fine sandy loam	Sh	0-3	Y	Poorly Drained
Albany	Wayland silt loam	Wo	0-3	Y	Poorly Drained
Greene	Covington and Madolin Soils	CO	-	Y	Poorly Drained
Greene	Wayland silt loam	Wa	-	Y	Very Poorly Drained
Rockland	Ipswich muck	Ip	-	Y	Very Poorly Drained
Rockland	Sloan silt loam	Sa	-	Y	Very Poorly Drained
Rockland	Udorthents, wet substratum	Uw	-	Y	Moderately Well Drained
Saratoga	Allis silt loam	As	0-3	Y	Poorly Drained
Saratoga	Fluvaquents frequently flooded	Fl	0-3	Y	Poorly Drained
Saratoga	Ilion silt loam	In	0-3	Y	Poorly Drained
Saratoga	Limerick-Saco complex	Lm	0-3	Y	Poorly Drained
Saratoga	Madalin mucky silty clay loam	Ma	0-3	Y	Very Poorly Drained
Saratoga	Palms muck	Pm	0-2	Y	Very Poorly Drained
Greene/ Saratoga	Shaker very fine sandy loam	Sh	0-3	Y	Poorly Drained
Saratoga	Sun silt loam	Sn	0-3	Y	Poorly Drained

**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
Saratoga	Wareham loamy sand	Wa	0-3	Y	Poorly Drained
Schenectady	Cheektowaga fine sandy loam	Ce	0-3	Y	Very Poorly Drained
Schenectady	Fluvaquents, loamy	Fl	0-2	Y	Poorly Drained
Schenectady	Fredon silt loam	Fr	0-3	Y	Somewhat Poorly Drained
Schenectady	Granby loamy fine sand	Gr	0-3	Y	Poorly Drained
Schenectady	Ilion silt loam	IIA	0-3	Y	Poorly Drained
Schenectady	Junius loamy fine sand	Ju	0-3	Y	Poorly Drained
Schenectady	Madalin silty clay loam	Ma	0-3	Y	Poorly Drained
Schenectady	Wayland silt loam	Wy	0-2	Y	Poorly Drained
Washington	Carlisle muck	Ca	0-2	Y	Very Poorly Drained
Washington	Covington silty clay loam	Cv	0-2	Y	Poorly Drained
Washington	Limerick silt loam	Lm	0-2	Y	Poorly Drained
Washington	Saco silt loam	Sa	0-2	Y	Very Poorly Drained
Washington	Sapristis, Aquepts, and Aquepts	SB	0-2	Y	Very Poorly Drained
<b>Non-hydric Soils</b>					
Albany	Burdett silt loam	BuA	0-3	N	Somewhat Poorly Drained
Albany	Burdett silt loam	BuB	3-8	N	Somewhat Poorly Drained
Albany	Castile gravelly loam	CeA	0-3	N	Moderately Well Drained
Albany	Chenango gravelly silt loam, loamy substratum	ChB	3-8	N	Well Drained
Albany	Chenango gravelly silt loam, loamy substratum, rolling	ChC	8-15	N	Well Drained
Albany	Chenango channery silt loam, fan	CkB	3-8	N	Well Drained
Albany	Claverack loamy fine sand	CIB	3-8	N	Moderately Well Drained

**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
Albany	Colonie loamy fine sand	CoB	3-8	N	Well Drained
Albany	Colonie loamy fine sand, rolling	CoC	8-15	N	Somewhat Excessively Drained
Albany	Colonie loamy fine sand, hilly	CoD	15-25	N	Somewhat Excessively Drained
Albany	Cosad loamy fine sand	Cs	0-3	N	Somewhat Poorly Drained
Albany	Elmridge fine sandy loam	EIA	0-3	N	Moderately Well Drained
Albany/ Greene	Elmridge fine sandy loam	EIB	3-8	N	Moderately Well Drained
Albany	Elnora loamy fine sand	EnA	0-3	N	Moderately Well Drained
Albany	Elnora loamy fine sand	EnB	3-8	N	Moderately Well Drained
Albany	Hudson silt loam	HuB	3-8	N	Moderately Well Drained
Albany	Hudson silt loam	HuC	8-15	N	Moderately Well drained
Albany	Hudson silt loam, hilly	HuD	15-25	N	Moderately Well Drained
Albany	Hudson silt loam	HuE	25-45	N	Moderately Well Drained
Albany	Manlius channery silt loam	MbE	25-35	N	Somewhat Excessively Drained
Albany/ Greene	Nassau very channery silt loam, hilly, very rocky	NrD	15-25	N	Somewhat Excessively Drained
Albany	Nassau channery silt loam	NaB	Undulating	N	Somewhat Excessively Drained
Albany	Nunda silt loam	NuB	3-8	N	Moderately Well Drained
Albany	Rhinebeck silty clay loam	RhA	0-3	N	Somewhat Poorly Drained
Albany	Rhinebeck silty clay loam	RhB	3-8	N	Somewhat Poorly Drained
Albany	Riverhead fine sandy loam	RkA	0-3	N	Well Drained
Albany	Riverhead fine sandy loam	RkB	3-8	N	Well Drained
Albany	Scio silt loam	ScA	0-3	N	Moderately Well Drained
Albany	Scio silt loam	ScB	3-8	N	Moderately Well Drained

**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
Albany	Stafford loamy fine sand	St	0-3	N	Somewhat Poorly Drained
Albany	Sudbury fine sandy loam	SuA	0-3	N	Moderately Well Drained
Albany	Teel silt loam	Te	0-3	N	Moderately Well Drained
Albany	Udipsamments, smoothed	Ud	0-45	N	Well Drained
Albany	Udipsamments, dredged	Ue	0-8	N	Well Drained
Albany	Udipsamments-Urban land complex	Uf	0-8	N	Somewhat Excessively Drained
Albany	Udorthents, loamy	Ug	0-8	N	Moderately Well Drained
Albany	Udorthents, clayey-Urban land complex	Uh	0-8	N	Moderately Well Drained
Albany	Udorthents, loamy-Urban land complex	Uk	0-8	N	Well Drained
Albany	Unadilla silt loam	UnC	8-15	N	Well Drained
Albany	Unadilla silt loam	UnD	15-25	N	Well Drained
Albany	Urban land	Ur	0-15	N	-
Albany	Wakeland silt loam	Wa	-	N	Somewhat Poorly Drained
Albany	Urban land-Udorthents complex	Ut	0-8	N	-
Greene	Farmington gravelly silt loam, steep, rocky	FaE	-	N	Somewhat Excessively Drained
Greene	Hudson and Vergennes soils	HvB	3-8	N	Moderately Well Drained
Greene	Hudson and Vergennes soils	HvC	8-15	N	Moderately Well Drained
Greene	Hudson and Vergennes soils	HvE	25-50	N	Moderately Well Drained
Greene	Hudson and Vergennes silty clay loams, severely eroded	HwC3	8-15	N	Moderately Well Drained
Greene	Hudson and Vergennes silty clay loams, severely eroded	HwD3	15-25	N	Moderately Well Drained
Greene	Kingsbury and Rhinebeck soils	KrA	0-3	N	Somewhat Poorly Drained

**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
Greene	Kingsbury and Rhinebeck soils	KrB	3-8	N	Somewhat Poorly Drained
Greene	Nassau channery silt loam, rolling	NaC	-	N	Somewhat Excessively Drained
Greene	Nassau channery silt loam rolling, very rocky	NrC	-	N	Somewhat Excessively Drained
Greene	Nassau channery silt loam, steep, very rocky	NrE	-	N	Somewhat Excessively Drained
Greene	Riverhead loam	RhA	0-3	N	Well Drained
Greene	Riverhead loam, rolling	RhC	-	N	Well Drained
Greene	Tioga loam	Ta	-	N	Well Drained
Greene	Udorthents, loamy	Ur	-	N	Somewhat Excessively Drained
Greene	Valois-Nassau complex, undulating	VdB	-	N	Well Drained
Greene	Valois-Nassau complex, hilly	VdD	-	N	Well Drained
Rockland	Chatfield rock outcrop complex, Hilly	CoD	-	N	Well Drained
Rockland	Haven loam	HaB	3-8	N	Well Drained
Rockland	Hinckley gravelly, loamy sand	HcB	3-8	N	Excessively Drained
Rockland	Hinckley gravelly, loamy sand	HcD	15-25	N	Excessively Drained
Rockland	Hinckley-Urban land complex	HdB	0-8	N	Well Drained
Rockland	Holyoke-Rock outcrop complex, rolling	HoC	-	N	Well Drained
Rockland	Holyoke-Rock outcrop complex, hilly	HoD	-	N	Well Drained
Rockland	Holyoke-Rock outcrop complex, very steep	HoF	-	N	Well Drained
Rockland	Udorthents, smoothed	Us	-	N	Somewhat Excessively Drained
Rockland	Urban land	Ux	-	N	-
Rockland	Wethersfield gravelly silt loam	WeB	3-8	N	Well Drained
Rockland	Wethersfield gravelly silt loam	WeC	8-15	N	Well Drained

**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
Rockland	Wethersfield gravelly silt loam	WeD	15-25	N	Well Drained
Rockland	Wethersfield-Urban land complex	WuB	2-8	N	-
Rockland	Yalesville sandy loam	YaD	15-25	N	Well Drained
Saratoga	Broadalbin silt loam	BtB	3-8	N	Moderately Well Drained
Saratoga	Broadalbin-Manlius-Nassau, complex, undulating	BvB	3-8	N	Moderately Well Drained
Saratoga	Broadalbin-Manlius-Nassua, complex, rolling	BvC	8-15	N	Moderately Well Drained
Saratoga	Burdett silt loam	BxB	3-8	N	Moderately Well Drained
Saratoga	Claverack loamy fine sand	CIA	0-3	N	Moderately Well Drained
Saratoga	Claverack loamy fine sand	CIB	3-8	N	Moderately Well Drained
Saratoga	Cosad fine sandy loam	Cs	0-3	N	Somewhat Poorly Drained
Saratoga	Deerfield loamy fine sand, nearly level	DeA	0-3	N	Moderately Well Drained
Saratoga	Deerfield loamy fine sand, undulating	DeB	3-8	N	Moderately Well Drained
Saratoga	Elmridge very fine sandy loam	EIB	3-8	N	Moderately Well Drained
Saratoga	Hudson silt loam	HuB	3-8	N	Moderately Well Drained
Saratoga	Hudson silt loam	HuC	8-15	N	Moderately Well Drained
Saratoga	Hudson silt loam, hilly	HuD	15-25	N	Moderately Well Drained
Saratoga	Manlius-Nassau complex, undulating, rocky	MnB	3-8	N	Well Drained
Saratoga	Mosherviller silt loam	MvA	0-3	N	Somewhat Poorly Drained
Saratoga	Mosherviller silt loam	MvB	3-8	N	Somewhat Poorly Drained
Saratoga	Mosherville-Hornell complex, undulating	MxB	3-8	N	Somewhat Poorly Drained
Saratoga	Nunda silt loam	NuB	3-8	N	Moderately Well Drained
Saratoga	Oakville loamy fine sand, nearly level	OaA	0-3	N	Well Drained

**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
Saratoga	Oakville loamy fine sand, undulating	OaB	3-8	N	Well Drained
Saratoga/ Washington	Oakville loamy fine sand, rolling	OaC	8-15	N	Well Drained
Saratoga	Oakville and Windsor soils	OaE	25-35	N	Well Drained
Saratoga	Rhinebeck silt loam	RhA	0-3	N	Somewhat Poorly Drained
Saratoga	Rhinebeck silt loam	RhB	3-8	N	Somewhat Poorly Drained
Saratoga	Scio silt loam	SeB	3-8	N	Moderately Well Drained
Saratoga	Teel silt loam	Te	0-3	N	Moderately Well Drained
Saratoga	Unadilla very fine sandy loam	UnB	3-8	N	Well Drained
Saratoga	Unadilla very fine sandy loam	UnC	8-15	N	Well Drained
Saratoga	Windsor loamy sand, nearly level	WnA	0-3	N	Excessively Drained
Saratoga	Windsor loamy sand, undulating	WnB	3-8	N	Excessively Drained
Saratoga	Windsor loamy sand, rolling	WnC	8-15	N	Excessively Drained
Schenectady	Burdett-Scriba channery silt loams	BvA	0-3	N	Somewhat Poorly Drained
Schenectady	Claverack loamy fine sand	CIA	0-3	N	Moderately Well Drained
Schenectady	Claverack loamy fine sand	CIB	3-8	N	Moderately Well Drained
Schenectady	Colonie loamy fine sand	CoA	0-3	N	Well Drained
Schenectady	Colonie and Plainfield soils, steep	CPE	15-20	N	Well Drained
Schenectady	Cut and fill land	Cu	-	N	Somewhat Excessively Drained
Schenectady	Elnora loamy fine sand	En	0-3	N	Moderately Well Drained
Schenectady	Howard soils, very steep	HTF	25-70	N	Well Drained
Schenectady	Hudson silty clay loam	HuB	3-8	N	Moderately Well Drained
Schenectady	Mardin gravelly silt loam	MrB	3-8	N	Moderately Well Drained

**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
Schenectady	Nunda channery silt loam	NuB	3-8	N	Moderately Well Drained
Schenectady	Plainfield loamy sand	PsA	0-3	N	Excessively Drained
Schenectady	Raynham silt loam	Ra	0-3	N	Somewhat Poorly Drained
Schenectady	Rhinebeck silty clay loam	RhA	0-3	N	Somewhat Poorly Drained
Schenectady	Rhinebeck silty clay loam	RhB	3-8	N	Somewhat Poorly Drained
Schenectady	Scio silt loam	ScA	0-3	N	Moderately Well Drained
Schenectady	Scio silt loam	ScB	3-8	N	Moderately Well Drained
Schenectady	Teel silt loam	Te	0-3	N	Moderately Well Drained
Washington	Charlton soils, very stony, gently sloping and sloping	CHC	-	N	Well Drained
Washington	Charlton soils, very stony, moderately steep and steep	CHE	-	N	Well Drained
Washington	Claverack loamy fine sand	CIA	0-2	N	Moderately Well Drained
Washington	Claverack loamy fine sand	CIB	2-6	N	Moderately Well Drained
Washington	Hollis-Charlton association, moderately steep and steep	HLE	15-25	N	Well Drained
Washington	Hoosic gravelly sandy loam, rolling and hilly	HSDK	-	N	Somewhat Excessively Drained
Washington	Hudson and Vergennes soils, steep and very steep	HWE	-	N	Moderately Well Drained
Washington	Kingsbury silty clay	KbA	0-2	N	Somewhat Poorly Drained
Washington	Kingsbury silty clay	KbB	2-6	N	Somewhat Poorly Drained
Washington	Orthents and Psamments	OP	0-15	N	Well Drained
Washington	Vergennes silty clay loam	VeB	2-6	N	Moderately Well Drained
Washington	Vergennes silty clay loam	VeC	6-12	N	Moderately Well Drained
Washington	Vergennes silty clay loam	VeD	12-20	N	Moderately Well Drained



**Table 4-3  
Soil Description Summary**

<b>County</b>	<b>Soil Name</b>	<b>Symbol</b>	<b>% Slopes</b>	<b>Hydric (y/n)</b>	<b>Drainage Class</b>
Washington	Wallington silt loam, sandy substratum	Wa	0-2	N	Somewhat Poorly Drained
Washington	Farmington-Rock outcrop association, nearly level through moderately steep	FCC	-	N	Well Drained
Washington	Hollis-Rock outcrop association, gently sloping and sloping	HNC	3-8	N	Well Drained
Washington	Pits, gravel and sand	Pr	-	N	-
Washington	Rock outcrop-Hollis association, moderately steep through very steep	ROF	-	N	-
Washington	Rock outcrop-Vergennes association, gently sloping through moderately sloping	RPC	-	N	Moderately Well Drained

## **ATTACHMENT C**

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### **WETLAND AND STREAM PHOTOGRAPHS**