APPENDIX M
CASE 10-T-0139
WATERBODY INVENTORY (114A) & WETLAND DELINEATION REPORT

Wetland & Waterbodies Delineation Report

Champlain Hudson Power Express Segment 9 - Package 5B

Bethlehem, New York

CHA Project Number: 066076

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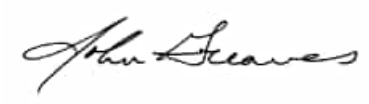

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1.0 INTRODUCTION

CHA Consulting, Inc. ("CHA") has prepared this wetland delineation report on behalf of Champlain Hudson Power Express, Inc. ("CHPE, Inc") and Kiewit Construction ("Kiewit") for the Champlain Hudson Power Express Project (Project). CHA was retained by Kiewit to identify and delineate jurisdictional wetlands and waterbodies regulated under Section 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act of 1899, and Article 24 Freshwater Wetlands Act (FWW)) & Article 15 (Protection of Waters) of the Environmental Conservation Law along the overland transmission cable route that follows State and local roadways and the CSX Corporation (CSX) railroad rights-of-way ("ROW"). Delineations were conducted with the objective of verifying and updating previous wetland delineations performed for the Project Corridor as part of the Article VII and Section 10/404 permitting processes. This report describes the wetland delineation methodology and the existing wetland and waterbody resources that were identified in the Project Corridor (also defined as the Jurisdiction Determination limits) during field surveys for the overland portions of the Project.

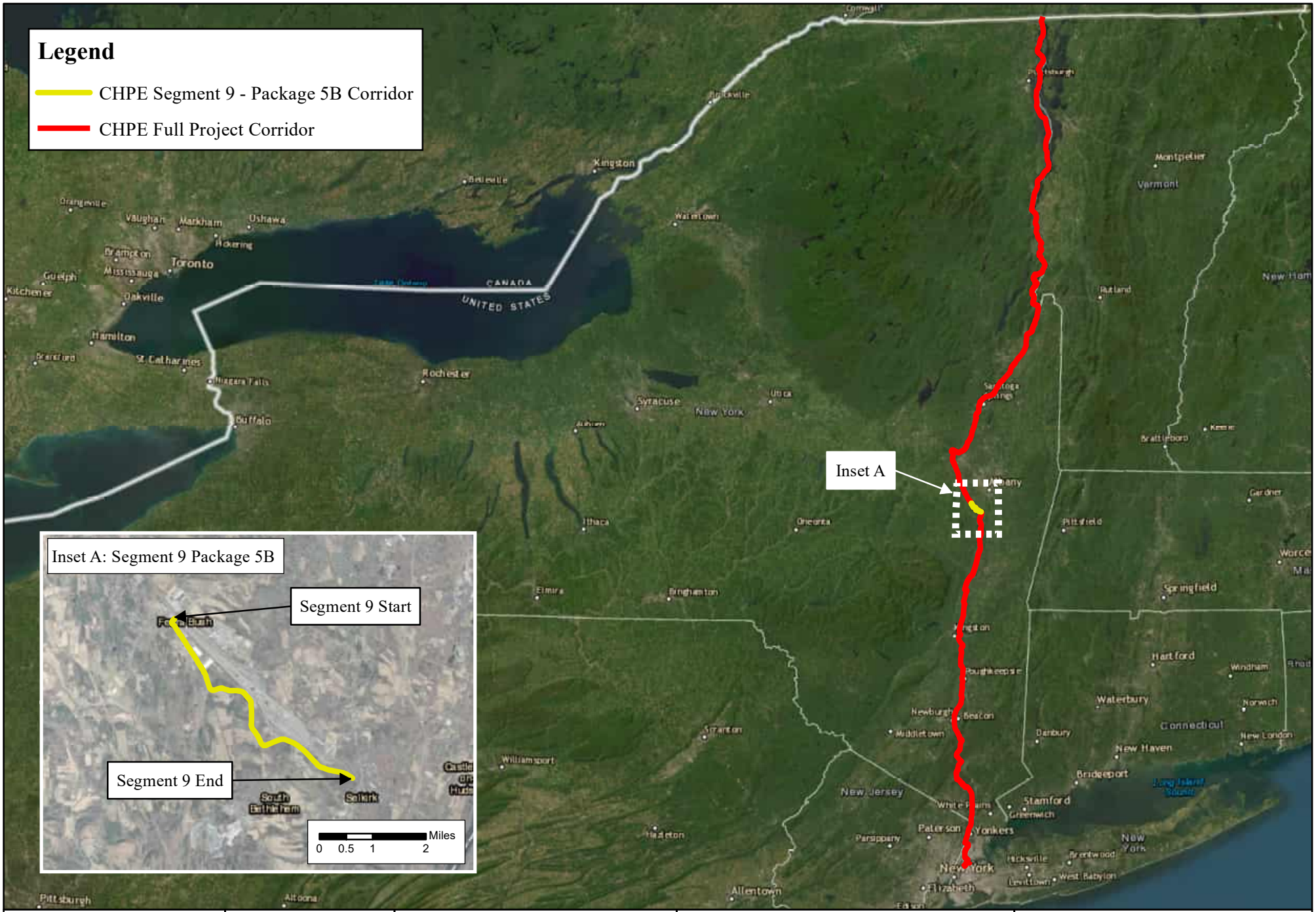
The project also includes equipment staging, laydown areas and access roads, including the Bethlehem Yard.

2.0 SEGMENT 9 - PACKAGE 5B CORRIDOR OVERVIEW

The entire Project Corridor is approximately 339 miles from Montreal, Quebec, Canada to New York City, New York, USA. Figure 1 below shows the route from the Canadian border to New York City and highlights the approximately 5.3 miles of the Segment 9 - Package 5B Project Corridor that was investigated for wetlands and waterbodies.

Segment 9 - Package 5B begins at NYS Route 32 (Feura Bush Road) in Bethlehem, NY where Segment 9 - Package 5A ended (50899+00) on the CSX railroad. Segment 9 - Package 5B extends south approximately 5.3 miles on NYS Route 32 (Feura Bush Road), south on W Yard Road, through a forest, east/southeast onto S Albany Road, then east/southeast through an undeveloped area to where Segment 9 - Package 5B terminates, and Segment 10 – Package 6 begins. The total distance of Segment 9 - Package 5B is 5.3 miles.

The Bethlehem Staging and Laydown Yard is situated within the Town of Bethlehem in the southern part of Segment 9 - Package 5B northeast and southwest of West Yard Road.



CHA	**CHA Project No. 066076.011**		***Figure 1*** ***Segment 9 - Package 5B*** ***Wetland & Waterbody Investigation*** ***Project Corridor***	Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community.

3.0 WETLAND DELINEATION METHODOLOGY

To determine the potential for wetland impacts from construction of the Project, CHA assessed the Project Corridor in the field for the presence of federal (Section 404 CWA & Section 10 of the Rivers and Harbors Act of 1899) and state (Article 24 FWW & Article 15 Protection of Waters) jurisdictional wetlands and waterbodies. Shumaker Consulting Engineering & Land Surveying, D.P.C. (Shumaker) assisted with the field work. Wetland scientists conducted wetland delineations in November 2021, October 2022 and December 2022. The delineation criteria and methodology were performed in accordance with the *1987 Corps of Engineers Wetland Delineation Manual*, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* Version 2.0 (January 2012) as well as the *New York State Freshwater Wetlands Delineation Manual* (Browne et. al., 1995).

The Project Corridor for the surveyed portions of the project included the land within and outside of ROWs along Feura Bush Road, W Yard Road and S Albany Road, and areas of undeveloped lands that connect these ROW's. The wetland delineation limits were approximately 50 feet from the edge of pavement, limited to the side of the road on which the alignment follows and primarily within the ROW of the aforementioned roads.

In accordance with the procedures provided in the *Corps of Engineers Wetland Delineation Manual (1987)*, and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region,* Version 2.0 (January 2012), the "Routine Wetland Determination" method was used to delineate wetland boundaries.

The wetland boundaries were determined in the field based on the three-parameter approach, whereby an area is a wetland if it exhibits vegetation adapted to wet conditions (hydrophytes), hydric soils, and the presence or evidence of water at or near the soil surface during the growing season (hydrology).

Coded surveyor's ribbons (e.g. flag code A-1, A-2, etc.) were placed along the wetland boundaries based on observations of vegetation, soils and hydrologic conditions. Data points were recorded along the wetland boundaries at various locations across different vegetative community types

correlating to each wetland. Wetland and upland data points were recorded to show the difference between the wetland and upland habitats. Generally, one data point set (wetland and upland) was collected for each wetland. Wetland Determination Data Sheets corresponding to each point can be found in Attachment 1.

Wetlands within the Segment 9 - Package 5B Project Corridor fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE). There are no New York State Department of Environmental Conservation (NYSDEC) regulated wetlands within the Segment 9 - Package 5B Project Corridor. 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 (Browne et. al. 1995). Wetlands regulated by the NYSDEC must be at least 12.4 acres (5 hectares) in size, unless they are deemed to have unusual local importance (Article 24 FWW). The NYSDEC publishes maps of wetland areas under state jurisdiction; however, it uses field delineation to determine the precise boundaries of these wetland areas.

Prior to actual field delineations for wetland resources, CHA 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 Corridor. More importantly, CHA used the previous wetland delineation prepared for this Project Corridor and alternatives for the purposes of verifying and modifying the previous delineation. Refer to Attachment 2 for NWI and NYSDEC Freshwater Wetland & Stream Mapping and Attachment 3 for NRCS Soil Mapping.

Ditches that met the three parameters for wetland delineation (i.e., presence of hydrology, hydric soils, and hydrophytic vegetation) were identified as a wetland community. Those that did not but carried stream flow from off-site (redirecting flow through the ditch), were categorized as streams.

Waterbodies within the Project Corridor, including streams under NYSDEC Article 15 jurisdiction, were identified by the presence of an ordinary high-water mark (OHWM) or stream channel. Delineation and flagging were completed to identify the ordinary high-water mark

(OHWM) for most perennial and intermittent streams. Bankfull width and depth were estimated in the field.

This report documents the wetlands and waterbodies potentially under federal jurisdiction that were identified in the Project Corridor along the current proposed underground transmission cable route. Summaries of wetlands that were identified are provided in Table 4-1 in Attachment 4. Wetlands and Waterbodies Delineation Mapping is included in Attachment 5. Wetland determination data forms and photographic documentation of the wetlands are included in Attachment 1.

4.0 WETLAND & WATERBODIES DELINEATION RESULTS

A total of 21 wetland areas were identified in the Segment 9 - Package 5B Project Corridor totaling approximately 27.3 acres. An additional three wetland areas were identified within the Bethlehem staging and laydown yard. However, access was not granted for this area for delineation purposes and the size and location are approximate at this time. Table 4-1 in Attachment 4 provides a summary of the wetlands identified, including their classification in accordance with Cowardin et al. (1979) and their federal jurisdiction. No wetlands within the Segment 9 – Package 5B Project Corridor correspond with wetlands mapped by the NYSDEC.

Descriptions of wetland vegetation, hydrology, and soils observed within the Project Corridor are presented in the following sections. The delineated wetlands are summarized in Table 4-1 (Attachment 4) and the delineated boundaries are illustrated on the Wetlands and Waterbodies Delineation Mapping (Attachment 5). Table 4-2 (Attachment 4) summarizes the waterbodies identified within the Project Corridor, with photographs of these resources provided in Attachment 6. Table 4-3 (Attachment 4) provides the soil series information.

4.1 VEGETATION

Vegetative communities within wetlands are described according to *Ecological Communities of New York State, Second Edition* (Edinger 2014)[1] and *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin 1979)[2]. Using this hierarchical wetland classification system three primary cover types were identified for vegetated wetlands in the Project Corrdor. These include palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine forested (PFO) wetlands. Some wetlands contained multiple community types.

4.1.1 Palustrine Emergent Wetland

The palustrine emergent wetland cover type is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens (Cowardin et. al., 1979), and with less than 50 percent aerial cover by shrubs and/or trees. The freshwater emergent wetlands along the Project Corridor primarily include shallow emergent marsh, common reed marsh and purple loosestrife marsh (Edinger et. al., 2014).

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., 2014). Characteristic vegetation of shallow emergent marshes within the Project Corridor includes sensitive fern (*Onoclea sensibilis*), rough goldenrod (*Solidago rugosa*), giant goldenrod (*Solidago gigantea*), devil's beggarticks (*Bidens frondosa*), scouring rush (*Equisetum hyemale*), field horsetail (*Equisetum arvense*), cattails (*Typha* spp.), sedges (*Carex spp*.), asters (*Symphyotrichum spp.*), reed canary grass (*Phalaris arundinacea*) and soft rush (*Juncus effusus*). Invasive species observed within the shallow emergent marshes include common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*) honeysuckle (*Lonicera spp*.) and common buckthorn (*Rhamnus cathartica*).

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[1] Edinger, G. J., D. J. Evans, S. Gebauer, T. G. Howard, D. M. Hunt, and A. M. Olivero (editors). 2014. *Ecological* Communities *of New York State.* Second Edition. A revised and expanded edition of Carol Reshke's *Ecological Communities of New York State*. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

[2] Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe, 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

Common reed marsh and purple loosestrife marsh consist of disturbed marshes where common reed or purple loosestrife has become dominant (Edinger et. al., 2014). This community was commonly found within disturbed areas adjacent to the rail bed.

Linear wetland ditches, which have been constructed for drainage or irrigation, are commonly found along the railroad and road ROW's. Vegetation within the ditches is typically dominated by invasive species such as common reed, purple loosestrife, and reed canary grass; however, some areas may be dominated by native, non-invasive wetland species.

4.1.2 Palustrine Scrub-Shrub Wetland

The scrub-shrub wetland cover type includes areas that are dominated by shrubs and saplings that are less than 6 meters (20 feet) tall (Cowardin et. al., 1979), and have less than 50 percent aerial cover by trees. Scrub-shrub wetlands along the Project Corridor were dominated by silky dogwood (*Cornus amomum*), gray dogwood (*Cornus racemosa*), common buckthorn and honeysuckle. Other vegetation observed includes red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), pussy willow (*Salix discolor*), gray birch (*Betula populifolia*), black willow (*Salix nigra*), sensitive fern, moneywort (*Lysimachia nummularia*) and field horsetail. Invasive species observed include honeysuckle and common buckthorn.

4.1.3 Palustrine Forested Wetland

Forested wetland cover types are dominated by trees and shrubs that have a tolerance to a seasonal high-water table. For a community 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 (Edinger et al., 2014). Red maple hardwood swamp is the only forested wetland community within the Project Corridor.

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, 2014). Hardwood species observed within this community type within the Project Corridor include red maple, green ash, American elm (*Ulmus americana*), gray birch, swamp white

oak (*Quercus bicolor*) and white pine (*Pinus strobus*). Shrub species commonly observed include dogwoods, gray birch, spicebush (*Ilex verticillata*), American elm and honeysuckle. The herbaceous layer typically includes sensitive fern, field horsetail, moneywort and young growth of the tree and shrub species. Invasive species primarily included honeysuckle and buckthorn.

4.2 HYDROLOGY

4.2.1 Streams

Table 4-2 lists the 9 streams (perennial (7), intermittent (2)) identified within the Project Corridor, which is located within the Middle Hudson Basin. This watershed stretches across New York and Massachusetts, encompassing over 1,554,773 acres. Perennial waterbodies within the Project Corridor include Coeymans Creek and two unnamed tributaries identified on USGS Topographic Maps and/or identified during the field delineation.

4.2.2 Wetlands

Site hydrology was examined within each wetland and adjacent upland areas. Indicators of wetland hydrology included surface water (A1), high water table (A2), saturation within the upper portion of the soil during the growing season (A3), water-stained leaves (B9), oxidized rhizospheres on living roots (C3), presence of reduced iron (C4), geomorphic position (D2) and FAC-neutral test (D5) (Attachment 1). Hydrologic factors contributing to wetland hydrology varied by wetland and included flooding from adjacent streams, temporary inundation from runoff, precipitation and/or snowmelt, and seasonal to permanent shallow groundwater tables.

Hydrology along the Project Corridor has been historically altered by roadway drainage ditches. The wetland delineators inspected these ditches for the presence or absence of wetland indicators and hydrologic connectivity to wetlands or streams.

4.3 SOILS

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil map units for the Project Corridor are provided in Attachment 3. Indicators of hydric soils documented during the delineations included depleted below dark surface (A11), sandy

mucky mineral (S1), sandy redox (S5), dark surface (S7), depleted matrix (F3) and redox dark surface (F6) (Attachment 1). A total of forty-one (41) different soil types have been mapped by the NRCS within the Project Corridor. The mapped soil types range from somewhat excessively drained to poorly drained soils. According to descriptions provided by the NRCS Web Soil Survey (2022) (Attachment 4, Table 4-3), four (4) of the soils mapped within the Project Corridor are classified as hydric soils (Fluvaquents-Udifluvents complex, frequently flooded, Madalin silt loam, Raynham very fine sandy loam, and Shaker fine sandy loam). 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 Corridor and lists the soils that are classified as hydric (or associated with wetland hydrology).

Many soils within the Project Corridor 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 road and railroad construction and operation, are common within the Project Corridor. The disturbed soils consist of disturbed natural deposits or human transported materials.

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 USDA Web Soil Survey (NRCS, USDA 2022). Soils survey mapping and additional information regarding relevant soil characteristics are provided in Attachment 3.

Burdett Series (BuA & BuB)

These very deep, somewhat poorly drained soils formed in till that is dominated by shale. The soils formed in silty mantles that overlie till that is strongly influenced by shale. Slopes range from 0 to 25 percent. The A horizon is dark grayish brown silt loam and is from 0-9 inches. The structure is granular. An E horizon is sometimes present. The B horizon is brown, grayish brown or yellowish brown. The texture is silt loam and the structure is very weak fine subangular blocky. The C horizon is typically a dark grayish or olive gray brown channery silty clay loam extending from

28 to 72 inches.

Chenango Series (ChB, ChC & ChD)

These are very deep, well and somewhat excessively drained soils formed in water-sorted material on outwash plains, kames, eskers, terraces, and alluvial fans. Slope ranges from 0 to 60 percent. Typically, the A horizon is a very dark grayish brown gravelly silt loam, with very weak fine subangular blocky and very blocky structure, extending 0 to 8 inches. The B horizon is dark yellowish brown to brown very gravelly silt loam, with very weak to moderate subangular blocky or granular structure. The C horizon is a dark grayish brown to brown extremely loamy coarse sand, with an upper surface of pebbles, few roots, and 10 percent soft dark brown and dark yellowish brown weathered pebbles. This horizon can be strongly acidic.

Claverack Series (ClA & ClB)

These are 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 (CoB, CoC & CoD)

These very deep, well drained to excessively drained soils formed in glaciolacustrine, glaciofluvial, or eolian deposits dominated by fine sand and very fine sand. These soils can be found on nearly level to steeply dissected slopes on Wisconsinan age lake plains, outwash plains, beach ridges, dunes, and deltas. Slopes range from 0 to 60 percent. The A horizon is dark grayish brown loamy fine sand with weak fine and very fine granular structure extending 0-8 inches. An E horizon is sometimes present. The texture is dominantly fine sand or loamy fine sand. The B horizon is a brown fine sand. The C horizon is brown fine sand extending 63-80 inches. Some

pedons have redoximorphic features below 40 inches.

Elmridge Series (ElA & ElB)

These are very deep, moderately well drained soils formed in loamy over clayey sediments. They are nearly level to moderately steep soils on glacial lacustrine and marine terraces, and on lake plains. Slope ranges from 0 to 25 percent. Typically, the A horizon consists of a fine sandy loam usually a very dark grayish brown with weak medium granular structure, extending from 0 to 6 inches. The B horizon consists of dark yellowish brown fine dandy loam with weak or moderate granular or subangular blocky structure. The B horizon has iron depletions above a depth of 24 inches. The C horizon is an olive brown varved silt and clay with massive separating to weak thick plates along varved bedding planes.

Elnora Series (EnA & EnB)

These soils are very deep and moderately well drained. These soils formed in sandy glacial lake, deltaic and eolian sediments. Slopes range from 0 to 8 percent. The A horizon is dark grayish brown loamy fine sand with weak fine granular structure. The A horizon extends from 0-10 inches. The B horizon is brown fine sand. The structure is weak coarse subangular blocky. The C horizon is grayish brown or brown fine sand extending 32 to 72 inches. The material is massive or single grain, or structure is weak platy.

Fluvaquents (Fx)

These are deep, level or nearly level, moderately well drained, low lime, sandy soils formed in glacial outwash. The available water capacity is low to moderate. Permeability is rapid.

Hudson Series (HuB, HuC, HuD & HuE)

These are 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.

Madalin Series (Ma)

These are very deep, poorly drained soils formed in water-deposited materials. They occur on lake plains and depressions in the uplands. Slopes range from 0 to 3 percent. The A horizon is very dark gray silt loam with dry, moderate medium granular structure, extending 0 to 8 inches. The B horizon is composed of a dark grayish brown silty clay with strong to weak medium subangular blocky structure. The C horizon is a grayish brown stratified silt to clay with moderate medium platy structure.

Nunda Series (NuB, NuC, NuD & NuE)

These very deep and deep, moderately well drained soils formed in a silty mantle that overlie till derived from clayey shale. They are generally found on upland till plains. Slopes range from 0 to 35 percent. The A horizon is dark grayish brown silt loam with medium granular structure from 0 to 9 inches. The E horizon, where present, is grayish brown silt loam with weak or moderate, thin or medium platy structure. The B horizon is brown silt loam with weak fine subangular blocky structure. The C horizon is gray channery silty clay loam. The structure is massive or has plate like divisions. The C horizon extends from 45 to 72 inches.

Raynham Series (Ra)

These are very deep and poorly drained soils formed in silty estuarine or glaciolacustrine deposits on glacial lake plains and marine terraces. Slopes range from 0 to 12 percent. The A horizon is dark grayish brown silt loam with moderate fine and medium granular structure, extending 0 to 6 inches. The B horizon is composed of an olive gray to olive brown silt loam with weak or moderate, very fine through medium granular or subangular blocky structure. The C horizon is an olive gray to olive silt loam with massive or plate-like divisions.

Rhinebeck Series (RhA & RhB)

These are very deep, somewhat poorly drained soils formed in clayey lacustrine sediments. They occur on glacial lake plains and uplands mantled with lake sediments. Slopes range from 0 to 15 percent. The A horizon is very dark grayish brown silt loam with moderate medium granular structure to a depth of 9 inches. The E horizon, when present, is grayish brown silty clay loam with weak medium subangular blocky structure, extending from 9 to 14 inches. The B horizon is olive brown silty clay to silty clay loam with weak to strong prismatic or subangular blocky structure, extending to a depth of 32 inches. The C horizon is typically brown silty clay loam to varved silt and clay with massive or varved very coarse prismatic structure. The C horizon may extend to a depth of 72 inches.

Scio Series (ScA & ScB)

These are very deep, moderately well drained soils formed in eolian, lacustrine, or alluvial sediments dominated by silt and very fine sand. These soils occur on terraces, old alluvial fans, lake plains, outwash plains and lakebeds. Slopes range from 0 to 25 percent. The A horizon is dark grayish brown silt loam with moderate fine granular structure extending from 0 to 9 inches. The B horizon is yellowish brown silt loam with weak fine to medium subangular blocky structure. The C horizon is typically brown to grayish brown silt to very gravelly loamy sand. This horizon is massive or single grain and may have plate-like divisions.

Shaker Series (Sh)

These are very deep, poorly drained soils formed in loamy over clayey sediments. They are nearly level to gently sloping soils occurring in low-lying positions on glaciolacustrine and marine terraces. Slopes range from 0 to8 percent. The O horizon where present is commonly black hemic material extending from 0 to 2 inches. The A horizon is very dark brown fine sandy loam with weak medium granular structure from depths of 2 to 6 inches. The B horizon is light brownish gray to brown sandy loam with weak medium subangular blocky structure. The C horizon is dark yellowish brown varved silt and clay with massive separating to weak plates along varved bedding planes extending from depths of 30 to 65 inches.

Stafford Series (St)

These very deep, somewhat poorly drained soils formed in sandy glacio- lacustrine deposits. These nearly level soils are found on deltas and sand plains. Slopes range from 0 to 3 percent. The A horizon is very dark grayish brown loamy fine sand. The structure is granular. The B horizon is brown or grayish brown loamy fine sand. It has weak granular, subangular blocky, or platy structure or it is massive. The C horizon is light brownish gray or grayish brown fine sand to sand. It is massive or single grain.

Udipsamments (Ud & Uf)

These are very deep, nearly level to undulating, moderately well drained to excessively drained soils formed in dredged materials. Slopes range from 0 to 8 percent. Typically, the texture of the material is loamy sand or sand, with layers of silty material or gravel at varying depths. Subsurface layers are weakly stratified due to occasional new deposits on the surface.

Udorthents (Uh & Uk)

These are very deep, nearly level to gently sloping areas of well drained loamy soils that are a result of man-made cuts and fills in loamy upland soils. Slopes range from 0 to 8 percent. Typically, the surface layer is dark brown silt loam extending to 5 inches. Layers below the surface are brown and yellowish-brown silt loam containing up to 80 percent rock fragments to a depth of 72 inches or more.

Valois Series (VaB & VaC)

These are very deep, well drained soils on nearly level to steep lateral moraines along lower valley sides. These soils formed in till dominated by siltstone, sandstone or shale. The slopes range from 0 to 60 percent. The A horizon is brown gravelly loam with weak medium granular structure extending from 0 to 7 inches. The B horizon is brown silt loam/ gravelly silt loam with weak fine granular structure and weak medium subangular blocky structure. The C horizon is dark grayish brown very gravelly fine sandy loam and gravelly clay loam. The C horizon has 40 percent rock

fragments and extends from 47 to 72 inches.

Wakeland Series (Wa)

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. The C horizon is grayish brown silt loam with yellowish brown redoximorphic features. The structure is granular.

Wassaic Series (WcB & WcC)

These moderately deep, well drained soils formed in loamy till. These soils are on bedrock controlled till plains. The slopes range from 0 to 50 percent. The A horizon is dark grayish brown silt loam with moderate medium granular structure. The E horizon is grayish brown and has a texture similar to the A horizon. The B horizon is brown silt loam and has moderate medium subangular blocky structure. The C horizon is brown gravelly loam with weak medium platy structure.

5.0 SUMMARY

Wetlands identified along the Project Corridor include shallow emergent marsh, common reed marsh, purple loosestrife marsh, shrub swamp and red maple-hardwood swamp. Stream communities include artificial ditches, intermittent streams, and perennial streams.

Land use in the Project Corridor is diverse, ranging from commercial, residential, and agricultural to undeveloped areas consisting of fields, shrublands and forest. Because most of the Project Corridor consists of existing roadway corridors, many wetlands are characterized by previous anthropogenic disturbance and/or the presence of invasive plant species. The wetland boundaries abutting the roadways are typically defined by the edge of the soil fill for the roadway embankments.

Confirmation of the wetland boundaries are the responsibility of the involved regulatory agencies with jurisdiction over wetlands and waterbodies within this Package of the overall project. As previously noted, wetlands within Segment 9 - Package 5B are regulated by USACE (Section

10/404) and none of the wetlands are regulated by NYSDEC (Article 24). Streams and other waterbodies are regulated by USACE (Section 10/404). Based on review of the NYSDEC wetland mapping, none of the delineated wetlands are identified as regulated under Article 24. It is anticipated that USACE will take jurisdiction over all of the mapped wetlands within the Project Corridor and NYSDEC will not take jurisdiction of the delineated streams. Final jurisdictional determinations will be made by the respective agencies.

The Bethlehem Yard was not accessible at the time of the field investigations. All information regarding wetlands in this area are approximate. Access to this site will be required for filed verification (delineation) prior to permitting, if it is determined that these potential wetlands will be affected.

6.0 REFERENCES

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ATTACHMENT 1
WETLAND DETERMINATION DATA SHEETS AND WETLAND PHOTOGRAPHS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 11/3/21

Applicant/Owner: CHA State: NY Sampling Point D-1

Investigator(s): Nick Dominic, Justn Williams Section, Township, Range: Feura Bush

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

Subregion (LRR or MLRA): LRR R Lat: 42.54969 Long: -73.84480 Datum: NAD83

Soil Map Unit Name: NWI classification: PEM

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Wetland D-1

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches):
Water Table Present?	Yes ☒	No ☐	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches): Surface

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: D-1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	60	YES	FACW
2. *Lythrum salicaria*	25	YES	FACW
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	75 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

SOIL

Sampling Point: D-1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/2	92	10yr/4/6	8	-	-	SCILo	Prominent redox
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L, M**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? **Yes** ☒ **No** ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 12/14/2021

Applicant/Owner: CHA State: NY Sampling Point: 12.14 A-2

Investigator(s): Nick Dominic, Justn Williams Section, Township, Range: Feura Bush

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

Subregion (LRR or MLRA): LRR R Lat: 42.56457 Long: -73.86198 Datum: NAD83

Soil Map Unit Name: _____ NWI classification: PEM

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland 12.14 A

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 1

Water Table Present? Yes ☒ No ☐ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 12.14 A-2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus bicolor*	15	YES	FACW
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	YES	FAC
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		

Herb Stratum (Plot size: 5)			
1. *Typha latifolia*	70	YES	OBL
2. *Lythrum salicaria*	25	YES	FACW
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	= Total Cover		

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

SOIL

Sampling Point: 12.14 A-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10yr/2/1	95	10yr/4/6	5	-	-	SaLo	Prominent
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L, M**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Wetland 12.14 A- Soils

Phase 5	**SITE PHOTOGRAPHS**
	Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 12/14/2021

Applicant/Owner: CHA State: NY Sampling Point: 12.14 A-13 Upland

Investigator(s): Nick Dominic/Justin Williams Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope %:

Subregion (LRR or MLRA): LRR R, MLRA 144B Lat: 42.56178 Long: -73.8607 Datum:

Soil Map Unit Name: NWI classification:

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

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

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

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Upland for WL-12.14 A

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 2.14 A-13 Uplar

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	50	Yes	FACU
2. *Carya ovata*	30	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *Lonicera spp.*	35	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	35	=Total Cover	
Herb Stratum (Plot size:)			
1. *Rubus allegheniensis*	30	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	=Total Cover	
Woody Vine Stratum (Plot size:)			
1. *Celastrus orbiculatus*	8	Yes	UPL
2.			
3.			
4.			
	8	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	145	x 4 =	580
UPL species	8	x 5 =	40
Column Totals:	153 (A)		620 (B)

Prevalence Index = B/A = 4.05

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

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

Remarks: (Include photo numbers here or on a separate sheet.)
Species same as 12.13 A-7, test sites approximately 40 yards apart

SOIL

Sampling Point 2.14 A-13 Uplan

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

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

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

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

Upland 12.14 A- Soils

Phase 5

SITE PHOTOGRAPHS

Champlain Hudson Power Express

Wetland 12.14 B- Soils

Phase 5

SITE PHOTOGRAPHS

Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 12/14/2021

Applicant/Owner: CHA State: NY Sampling Point: 12.14 B-1 Upland

Investigator(s): Nick Dominic/Justin Williams Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope %:

Subregion (LRR or MLRA): LRR R, MLRA 144B Lat: 42.56074 Long: -73.85474 Datum:

Soil Map Unit Name: NWI classification:

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

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

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

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Upland for WL-12.14 B

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 2.14 B-1 Uplan

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	50	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *Lonicera spp.*	40	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	40	=Total Cover	
Herb Stratum (Plot size:)			
1. *Centaurea spp.*	40	Yes	FACU
2. *Solidago spp.*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
Woody Vine Stratum (Plot size:)			
1. *Celastrus orbiculatus*	8	Yes	UPL
2.			
3.			
4.			
	8	=Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	130	x 4 =	520
UPL species	8	x 5 =	40
Column Totals:	158 (A)		620 (B)

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

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

Remarks: (Include photo numbers here or on a separate sheet.)
Species same as 12.13 A-7, test sites approximately 40 yards apart

SOIL

Sampling Point 12.14 B-1 Upland

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

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

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

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

Upland 12.14 B- Soils

Phase 5	**SITE PHOTOGRAPHS**
	Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 11/03/2021

Applicant/Owner: CHA State: NY Sampling Point: H-10

Investigator(s): J. L. Williams, N. G. Dominic Section, Township, Range:

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

Subregion (LRR or MLRA): LRR - R Lat: 42°33'56.518"N Long: 73°51'29.665"W Datum: NAD83

Soil Map Unit Name: NWI classification: PEM

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐
Hydric Soil Present?	Yes ☒	No ☐	If yes, optional Wetland Site ID: Wetland H - Feura Bush
Wetland Hydrology Present?	Yes ☒	No ☐	

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

Identified as Wetland H-1 on wetland mapping and in report text.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): 1"
Water Table Present?	Yes ☒	No ☐	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes ☐	No ☐	Depth (inches):

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Drains into culvert under road

VEGETATION – Use scientific names of plants.

Sampling Point: H-8

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	90	YES	FACW
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	90 = Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

SOIL

Sampling Point: FB-TS1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100			-	-	SCL	restrictive layer at 10"
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L, M**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10"

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Wetland H (Feura Bush) - View facing South

Wetland H (Feura Bush) - Soils

Phase 5

SITE PHOTOGRAPHS

Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 11/03/2021

Applicant/Owner: CHA State: NY Sampling Point: I-6

Investigator(s): J. L. Williams, N. G. Dominic Section, Township, Range:

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

Subregion (LRR or MLRA): LRR - R Lat: Long: Datum: NAD83

Soil Map Unit Name: NWI classification: PEM

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☒	No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐
Hydric Soil Present?	Yes ☒	No ☐	If yes, optional Wetland Site ID: Wetland I - Feura Bush
Wetland Hydrology Present?	Yes ☒	No ☐	

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

Identified as Wetland I-1 on wetland mapping and in report text.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): 1"
Water Table Present?	Yes ☒	No ☐	Depth (inches): 3"
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches): surface

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Drains into culvert under road

VEGETATION – Use scientific names of plants.

Sampling Point: I-6

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	YES	FACU
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	20 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Lonicera sp.*	20	YES	FACU
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	20 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	90	YES	FACW
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	90 = Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

SOIL

Sampling Point: I-6

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

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L, M**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10"

Hydric Soil Present? Yes ☐ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 11/03/2021

Applicant/Owner: CHA State: NY Sampling Point: G-7

Investigator(s): J. L. Williams, N. G. Dominic Section, Township, Range:

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

Subregion (LRR or MLRA): LRR - R Lat: 42°34'34.313" N Long: 73°52'8.925" W Datum: NAD83

Soil Map Unit Name: NWI classification: PEM

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

PEM Wetland G

Identified as Wetland G-1 on wetland mapping and in report text.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): 1"
Water Table Present?	Yes ☒	No ☐	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches): surface

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Drains into culvert under road

VEGETATION – Use scientific names of plants.

Sampling Point: G-7

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	YES	FAC
2. *Quercus rubra*	30	YES	FACU
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	90	YES	FACW
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	90 = Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

SOIL

Sampling Point: G-7

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100			-	-	SiCL	restrictive layer at 10"
2-10	10YR 3/1	100			-	-	SiCL	restrictive layer at 10"
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L, M**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10"

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Wetland G (Feura Bush) - View facing North

Wetland G (Feura Bush) - Soils

Phase 5

SITE PHOTOGRAPHS

Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 11/03/2021

Applicant/Owner: CHA State: NY Sampling Point: E-2

Investigator(s): J. L. Williams, N. G. Dominic Section, Township, Range:

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

Subregion (LRR or MLRA): LRR - R Lat: Long: Datum: NAD83

Soil Map Unit Name: NWI classification: Upland

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

Identified as Wetland E on mapping and in report text.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ☒	No ☐	Depth (inches): 1"
Water Table Present?	Yes ☒	No ☐	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes ☐	No ☐	Depth (inches):

Wetland Hydrology Present? **Yes** ☒ **No** ☐

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

Remarks:

Drains into culvert under road

VEGETATION – Use scientific names of plants.

Sampling Point: E-2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	YES	-
2. *Quercus rubra*	30	YES	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	90	YES	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	90 = Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

SOIL

Sampling Point: E-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100			-	-	SCL	restrictive layer at 10"
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L, M**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10"

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Wetland E (Feura Bush) - View facing North

Wetland E (Feura Bush) - Soils

Phase 5

SITE PHOTOGRAPHS

Champlain Hudson Power Express

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 11/03/2021

Applicant/Owner: CHA State: NY Sampling Point: E-4 Upland

Investigator(s): Nick Dominic/Justin Williams Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope %:

Subregion (LRR or MLRA): LRR R, MLRA 144B Lat: 42°34'47.715" N Long: 73°52'9.515" W Datum: NAD83

Soil Map Unit Name: NWI classification: Upland

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

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

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

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

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

Remarks: (Explain alternative procedures here or in a separate report.)
Upland of Wetland E-4

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: E-4 Upland

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	10	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 5)			
1. *Poa spp.*	60	Yes	FAC
2. *Taraxacum officinale.*	30	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	30	x 4 =	120
UPL species	10	x 5 =	50
Column Totals:	100 (A)		350 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

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

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

SOIL

Sampling Point E-4 Upland

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

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

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: CHPE Phase 5 City/County: Feura Bush Sampling Date: 11/03/2021

Applicant/Owner: CHA State: NY Sampling Point: F-2

Investigator(s): J. L. Williams, N. G. Dominic Section, Township, Range:

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

Subregion (LRR or MLRA): LRR - R Lat: 42°34'40.125" N Long: 73°52'9.273" W Datum: NAD83

Soil Map Unit Name: NWI classification: PEM

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

Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation NO, Soil NO, or Hydrology NO naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

Hydric Soil Present? Yes ☒ No ☐

Wetland Hydrology Present? Yes ☒ No ☐

Is the Sampled Area within a Wetland? Yes ☐ No ☒

If yes, optional Wetland Site ID: Wetland F

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

Identified as Wetland F-1 on wetland mapping and in report text.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 1"

Water Table Present? Yes ☒ No ☐ Depth (inches): 6"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): surface

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Drains into culvert under road

VEGETATION – Use scientific names of plants.

Sampling Point: F-2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	20	YES	-
2. *Quercus rubra*	30	YES	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
	= Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phragmites australis*	90	YES	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	90 = Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.		-	-
2.		-	-
3.		-	-
4.		-	-
	= Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

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

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? Yes ☒ No ☐

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

SOIL

Sampling Point: F-2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100			-	-	SCL	restrictive layer at 10"
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		
					-	-		

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L, M**)
- ☐ Polyvalue Below Surface (S8) (**LRR K, L**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10"

Hydric Soil Present? Yes ☐ No ☒

Remarks: