NextEra Energy Transmission New York, Inc.

(NEETNY)

Empire State Line

Case 18-T-0499

WETLAND MITIGATION PLAN

APPENDIX G

September 2020

EMPIRE STATE LINE
WETLAND MITIGATION PLAN
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ACRONYMS & ABBREVIATIONS

AGM	New York State Department of Agriculture and Markets
Certificate	Article VII Certificate of Environmental Compatibility and Public Need
CWA	Clean Water Act
Dysinger Switchyard	New 345 kV switchyard in Niagara County
E & E	Ecology and Environment, Inc., member of WSP
East Stolle Switchyard	New switchyard in Erie County connected to the existing NYSEG Stolle Road Switchyard
ECL	Environmental Conservation Law
EM&CP	Environmental Management and Construction Plan
GIS	geographic information system
GPS	Global Positioning System
IS	invasive plant species
kV	kilovolt
NEETNY	NextEra Energy Transmission New York, Inc.
NYCRR	New York Codes, Rules, and Regulations
NYPA	New York Power Authority
NYSDEC	New York State Department of Environmental Conservation
NYSDPS	New York State Department of Public Service
NYSEG	New York State Electric & Gas Corporation
PEM	palustrine emergent (wetland)
PFO	palustrine forested (wetland)
PSS	palustrine scrub-shrub (wetland)

Project	Empire State Line Project
Project Line	20-mile-long 345 kV transmission line
Project ROW	105-foot-wide ROW NEETNY is in the process of acquiring
ROW	right-of-way
SWPPP	stormwater pollution prevention plan
USACE	U.S. Army Corps of Engineers

1.0 INTRODUCTION

NextEra Energy Transmission New York, Inc. (NEETNY) has prepared this Wetland Mitigation Plan ("Plan" or "WMP") to describe the wetland mitigation measures that will be implemented in connection with the Empire State Line Project (Project). This Plan is being submitted to the New York State Public Service Commission (Commission) as part of the Environmental Management and Construction Plan (EM&CP) filed in compliance with the Article VII Certificate of Environmental Compatibility and Public Need (Certificate) issued by the Commission on June 16, 2020, as well as to the U.S. Army Corps of Engineers (USACE) as part of NEETNY's application for a Section 404 Nationwide Permit.

1.1 Project Description

The Project includes an approximately 20-mile 345 kilovolt (kV) transmission line and associated switchyards in the town of Royalton in Niagara County, New York, and the towns of Alden, Newstead, Lancaster, and Elma in Erie County, New York. Specifically, the Project consists of: (a) a new 345 kV switchyard (Dysinger Switchyard) in the town of Royalton in Niagara County; (b) a new switchyard (East Stolle Switchyard) to be connected to the existing New York State Electric & Gas Corporation (NYSEG) Stolle Road Substation in the town of Elma in Erie County; and, (c) an approximately 20-mile-long 345 kV transmission line (Project Line) that will connect the Dysinger and East Stolle Switchyards. The Dysinger Switchyard will be connected to the New York Power Authority (NYPA) 345 kV Niagara lines and NYSEG 345 kV Somerset lines via two sets of parallel transmission lines (Dysinger Tie-Ins), totaling approximately 0.5 miles. Likewise, the East Stolle Switchyard will be connected to the NYSEG Stolle Road Substation and NYSEG's 345 kV Stolle Road-to-Homer City transmission line via two sets of transmission lines (East Stolle Tie-Ins), totaling approximately 0.4 miles. The transmission line structure will primarily consist of steel monopoles. Figure 1-1 shows the general Project location.

The Project Line will be built primarily within the existing NYSEG Utility Corridor. The NYSEG Utility Corridor is generally 500 feet wide, with some areas widening to approximately 800 feet. NYSEG's 230 kV Line 65 extends the length of the corridor. The 115 kV Line 926, 115 kV Line 928, and 34.5 kV Line 525 parallel Line 65 for varying distances. NYSEG maintains fee ownership of the majority of land within the corridor; exceptions include railroad, trail, and road crossings, as well as one private landowner holding. In these areas, NYSEG owns right-of-way (ROW) easements to operate their transmission system. NYSEG manages vegetation in order to operate their transmission lines in areas ranging from approximately 100 to 260 feet wide throughout the corridor. Areas not subject to vegetation management are a mixture of mature forest cover and agricultural land.

NEETNY is in the process of acquiring a 130-foot-wide ROW easement (Project ROW) from NYSEG, which is within the NYSEG Utility Corridor, to construct and operate the ESL. Vegetation clearing will be required on the Project ROW. The ROW, access roads, and work areas will be cleared to provide safe operation of construction equipment; there may be the need to cut dead ash trees that represent dangerous conditions within these areas.

All wetlands and other waters potentially regulated by the USACE under Section 404 of the Clean Water Act (CWA) and by NYSDEC under Articles 15 and 24 of the Environmental Conservation Law (ECL) are documented in the *Wetland Delineation Report for the Empire State Line Project, Towns of Elma, Lancaster, Alden, Newstead and Royalton, Erie and Niagara Counties, New York* (E & E 2018) included as Appendix F of NEETNY's Certificate application.

1.2 Regulatory Requirements

The Freshwater Wetlands Act (ECL Article 24) recognizes that wetlands provide a variety of functions and benefits important to the people and environment of New York. The Freshwater Wetlands Act requires that wetlands be preserved, protected, and conserved "consistent with the general welfare and beneficial economic, social and agricultural development of the state." To meet the standards in 6 New York Codes, Rules and Regulations (NYCRR) 663 and receive a freshwater wetland permit, an applicant must:

- First demonstrate that impacts on the wetland cannot be avoided entirely; and
- Then demonstrate that unavoidable losses or impacts on the functions or benefits of the wetland have been minimized; and
- Finally, fully compensate for (replace) any remaining loss of wetland acreage and function unless it can be shown that the losses are inconsequential or that, on balance, economic or social need for the project outweighs the losses (NYSDEC 1993).

Section 2 of this WMP outlines the measures that NEETNY has taken to avoid and minimize impacts on wetlands. Section 3 outlines any unavoidable impacts on wetlands. The remaining sections of the WMP describe the measures being implemented to fully compensate for the unavoidable conversion of forested wetlands to scrub-shrub or emergent wetlands, including Mitigation Site Description (Section 4), Mitigation Site Design, (Section 5), Monitoring Plan (Section 6), Long-term Protection: Mitigation Site Land Controls (Section 7), and Maintenance Plan (Section 8).

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Dysinger Road Switchyard
N 43.10897, W 78.56312

East Stolle Road Switchyard
N 42.83676, W 78.57997

Proposed Empire State Transmission Line
Tie-in Line
Temporary or Existing Access Road
Proposed Switchyard Area

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Project Overview
Empire State Line Project
Erie & Niagara Counties, New York

0 1 2 Miles

PRIVILEGED AND CONFIDENTIAL
Attorney-Client Communication/Attorney Work Product, Prepared at the Direction of Legal Counsel

2.0 AVOIDANCE AND MINIMIZATION MEASURES

NEETNY has avoided, to the extent practicable, adverse impacts on aquatic resources, including wetlands, streams, and NYSDEC 100-foot adjacent areas. Where the Project footprint intersects with aquatic resources, impacts on these resources will be minimized by implementing the protection measures outlined in the EM&CP for the Project. Such measures include: the use of equipment matting, tracked equipment, and large rubber-tired equipment for construction access through wetlands. Timber air bridges will also be used to span the vast majority of streams crossed by access roads. All Project stream crossings will be over non-Article 15 streams. Article 15 streams will not be crossed. Instead, work will be completed from either side of each Article 15 stream. Avoidance and minimization measures for waterbodies and wetlands are described in detail in Sections 5.3.1 through 5.3.3 and 6.4.1 and 6.4.2 of the EM&CP, respectively. Per the invasive plant control measures outlined in Section 11.1.2 of the EM&CP, equipment and matting will arrive at the Project Site clean and without visible soil clumps or plant material. Once work is completed in an area, the equipment and matting will be cleaned before moving to the next area.

To further minimize impacts on aquatic resources, a Stormwater Pollution Prevention Plan (SWPPP) has been prepared as required for coverage under the NYSDEC State Pollutant Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity. Implementation of the SWPPP will ensure that indirect impacts on environmental resources located downstream of the Project will be minimized to the maximum extent possible.

3.0 WETLAND IMPACTS

The Project will result in some unavoidable impacts on wetlands, including permanent fill, structure embedments, temporary equipment matting for access roads and structure embedments, and tree clearing. NYSDEC has indicated that wetland mitigation will be required for any conversion of NYSDEC-regulated palustrine forested (PFO) wetlands to palustrine emergent (PEM) and/or palustrine scrub-shrub (PSS) wetlands in the Project ROW. Specifically, the Project will result in unavoidable clearing within 16 NYSDEC-regulated forested wetlands, totaling 34.84 acres. Table 3-1 summarizes PFO wetland conversion within each of the 16 NYSDEC wetlands.

Table 3-1. NYSDEC Forested Wetland Conversion

NYSDEC Wetland ID (Classification Code)	Wetland Field ID[1]	NYSDEC Forested Wetland Conversion[2] (acres)
WO-17	W-T04-002A, W-T04-002B, W-04-002C	2.66
WO-25	W-T04-010B, W-T04-010C	5.59
WO-21	W-T04-12A, W-T04, 12B, W-T04-12C	1.74
WO-37	W-T04-013A, W-T04-013B, W-T04-013C	3.48
WO-13	W-T04-019B, W-T04-019C	1.51
WO-15	W-T04-020A, W-T04-020B, W-T04-020C	5.99
CL-8	W-T01-023C	1.11
CL-10	W-T02-002B, W-T02-002C	3.62
CL-6	W-T02-004B-1, W-W-T02-005A, W-T02-005C, W-T02-007A, W-T02-007B, W-T02-007C	3.69
Unmapped Wetland 1	W-T04-003A, W-T04-003B, W-T04-003C	0.60
Unmapped Wetland 3	W-T02-012B, W-T02-015A, W-T02-015B, W-T02-015C	0.09
Unmapped Wetland 4	W-T01-016A, W-T01-016B, W-T01-016C	3.55
Unmapped Wetland 5	W-T01-004A, W-T01-004C	1.20
	Total	**34.84**

Notes:

[1] Delineated wetland codes ending with an A indicates PEM wetland; B indicates PSS wetland; and C indicates PFO wetland.

[2] Permanent conversion will occur where forested wetland is cleared within the portion of the Project ROW that will be maintained in herbaceous and/or shrub cover.

4.0 WETLAND MITIGATION SITE DESCRIPTION

4.1 Mitigation Goals and Objectives

July 24, 2019 correspondence from NYSDEC states that the mitigation ratio for forested wetland conversion is 2:1 (NYSDEC 2019). As such, NEETNY is required to provide 69.68 acres of mitigation to offset the conversion of 34.84 acres of forested wetland.

NYSDEC staff informed NEETNY that wetland mitigation areas should preferably be located in areas contiguous with existing mapped NYSDEC wetlands that will be impacted by the Project. If the sites are associated with other mapped NYSDEC wetlands not impacted by the Project, the mitigation site would ideally be located no more than 1 mile from the Project ROW. In addition, mitigation areas should be spread out along the Project area in relation to impacted NYSDEC wetlands. Lastly, NYSDEC stressed that they must be able to take jurisdiction of the mitigation site for the site to be considered suitable (Netti 2019).

Considering the total wetland mitigation requirement and direction from NYSDEC, NEETNY determined that the preferable approach to wetland mitigation is restoration of forested wetland by planting trees in existing emergent and scrub-shrub wetland areas. All wetland mitigation areas identified in this Plan are in varying stages of reverting agricultural fields.

4.2 Mitigation Site Selection

4.2.1 Site Selection Process

Ecology and Environment, Inc. (E & E) reviewed aerial photography and topographic maps to identify potentially suitable wetland mitigation sites that meet the mitigation goals and objectives. Once potential sites were selected, landowners were contacted to determine their willingness to enter into a potential agreement for wetland mitigation siting. Field reconnaissance visits of these potentially suitable areas were then completed to determine if a sufficient amount of existing emergent or scrub-shrub wetlands were present to support establishment of PFO wetland via tree planting.

On June 18, 2019, E & E, on behalf of NEETNY, submitted mapping of seven potential wetland mitigation sites (Options 1 through 7) to NYSDEC. NEETNY requested that NYSDEC staff review the mapping and provide comments on whether each potential wetland mitigation site was acceptable for further evaluation. These seven sites were the result of a much larger number of potential sites where some landowners were uninterested in entering into a potential restrictive deed covenant on their properties, or never responded to inquiries, or - based on initial field

reconnaissance - were determined to have minimal potential land available (i.e., less than 5 contiguous acres) for mitigation.

Comments from NYSDEC were received on July 24, 2019, as an attachment to an e-mail from Mr. Michael Higgins, NYSDEC, Major Projects Management, Division of Environmental Permits (NYSDEC 2019). In the response, NYSDEC requested that NEETNY submit a conceptual description of the planned mitigation approach as the next step in the review process. The correspondence from NYSDEC also included the following data requests: (1) identify the extent of forested state wetland conversion (in acres) within the Project Area and how that acreage was determined; (2) provide a table that itemizes the forested wetland conversion and provide maps and/or shapefiles of the conversion areas; (3) provide a description of the planned mitigation approach; and (4) describe perpetual protection of mitigation areas.

The evaluation of Options 1 through 7 continued through summer and into fall 2019 and included full wetland delineations of the sites and landowner coordination. However, as the evaluation continued, it was determined that some sites did not have sufficient hydrology for wetland mitigation and/or that many landowners were not willing to release significant portions of their properties into restrictive deed covenants. In addition, the New York State Department of Agriculture and Markets (AGM) commented in October 2019 that the mitigation site(s) should not be located in active agricultural fields without their permission. AGM's position was formalized in a December 19, 2019, e-mail stating that the following should be added to the ESL Project Article VII Conditions: "The Certificate Holder shall not propose a wetland mitigation site on agricultural land without the express consent of the property owner in consultation with NYSDAM [AGM]."

In late October 2019, NEETNY reached out to NYSDEC to discuss the possibility of restoring ash (*Fraxinus* spp.) wetlands impacted by emerald ash borer (*Agrilus planipennis*) as an alternative form of mitigation. The primary reasons for this request were: (1) AGM concerns about the loss of agricultural land that would result from conversion of wet fields to forested wetland; and (2) challenges in identifying a suitable number of sites with willing landowners to meet the mitigation requirement through forested wetland creation. As an initial effort examining ash restoration, NEETNY and E & E completed a brief review of the general conditions of wetlands near the Project as they relate to the regional emerald ash borer infestation and the resulting mortality of ash trees and impacts on wetlands. This effort included drone flights to obtain an estimate of dead ash trees within given areas and roadside observations. The review included observations of approximately 590 acres of affected wetland within 1 mile of the ROW; approximately 230 acres of affected wetland between 1 and 2 miles from the ROW; and approximately 27 acres of affected wetland just beyond 2 miles.

While examining the possibility of ash restoration as an alternative form of mitigation, NEETNY and E & E continued to look for viable sites for PFO wetland creation, which included review of sites not directly contiguous to wetlands impacted by the Project. An additional seven sites were identified (Options 8 through 14). Like the previous options, many of the sites lacked landowner interest and/or did not have sufficient existing emergent and/or scrub-shrub wetland to create forested wetlands. On December 19, 2019, NEETNY submitted a conceptual wetland mitigation plan to NYSDEC that identified Option 10 (Tonawanda Creek-Fletcher Road Mitigation Site) as the proposed site for mitigation (NEETNY 2019). The conceptual wetland mitigation plan included responses to NYSDEC's comments provided to NEETNY on July 24, 2019. It also provided an update on the mitigation site selection, the planned mitigation approach for the selected site, and NEETNY's proposal to protect the site in perpetuity.

In total, 24 options were investigated for potential consideration as wetland mitigation sites. Of those, 21 were removed from further consideration because of landowner considerations, and/or the level of impact to active agricultural land. Of the remaining three options, one (Option 5) was dropped from further consideration because the landowner wished to maintain trails and access, which would prevent the establishment of a contiguous forested wetland system. Option 13 was dropped because the potential mitigation site was disconnected from a NYSDEC wetland by a roadway. The final option (Option 10, Tonawanda Creek-Fletcher Road Mitigation Site) is NEETNY's proposed mitigation site.

There are many factors supporting the assertion that the Tonawanda Creek-Fletcher Road Mitigation Site is a suitable location to complete the entirety of wetland mitigation for the Project, including:

- The preferred order of compensatory mitigation in New York is wetland restoration, followed by creation, and lastly enhancement (NYSDEC 1993). Each of these forms of compensatory mitigation include an element of long-term protection. Given site soils, hydrology, and pioneering and mature vegetation species across the mitigation site, this plan is a restoration plan to reclaim degraded wetland systems by restoring wetland functions that have been partially lost through historical agricultural practices and the recent decline of ash tree species. The site represents a high probability for successfully restoring natural forested wetland structure and functions. Additionally, the landowners have expressed their willingness to include long-term protection provisions for the restored acreage through restrictive deed covenants (e.g., deed restrictions).
- This Plan and the agreements reached with landowners involves restoring and protecting 69.84 acres of contiguous forested wetland as mitigation acreage (69.68 acres are required for mitigation for the Project). This Plan also includes an option for the long-term protection of 8.22 acres existing forested wetland that is contiguous with the restoration acreage, creating 78.06 acres of contiguous protected forested wetland habitat.

- The four landowners are on adjoining properties, thus allowing for one large contiguous mitigation area, which NEETNY feels provides the best possibility for success (multiple sites would present challenges in terms of protection from human and wildlife impacts).
- In addition to the contiguity of the areas comprising the selected mitigation site, mapped National Wetland Inventory PFO-PSS wetlands (including NYSDEC wetland W0-25) occur immediately to the south and to the east of the mitigation site. Over time, the mitigation site and the surrounding wetlands will create a block of approximately 566 acres of forested wetland habitat in this area (see Figure 4-1).
- The current habitats are comprised of varying stages of old field, scrub shrub, and wooded-shrub communities. The majority of the site supports hydrophytic vegetation and exhibits wetland hydrology – the major drivers support wetland habitat – which indicate that they are appropriate for restoring to sustained forested wetland communities. Given site characteristics and those in nearby forested wetlands, there is no need to excavate or otherwise "engineer" for suitable wetland hydrology. In addition, the mitigation site soils are mapped as either hydric or contain hydric inclusions (USDA 1986).
- The site includes several fields in various states of succession. During a January 14, 2020, field review, AGM gave their approval to all areas currently proposed for forested wetland conversion.
- The site is less than 0.25 miles from the Project area.
- The site is within 1 mile of 24% of the total NYSDEC forested wetland conversion areas.
- The site is within 4 miles of over 50% of the total NYSDEC forested wetland conversion areas.
- The site is within 9 miles of over 85% of the total NYSDEC forested wetland conversion areas.
- The site is within the 5-mile buffer of the state-threatened northern long-eared bat (*Myotis septentrionalis*) hibernaculum at the Akron Mine. Establishment of a 69.84-acre contiguous forested wetland in perpetuity will provide habitat benefits for this species.
- The site is in proximity to wetlands identified by NYSDEC as potentially supporting populations of western chorus frog (*Pseudacris triseriata*), a species of concern indicated to NEETNY by NYSDEC (a western chorus frog was identified on the site in February 2020). Restoring and long-term protection of 69.84 acres of contiguous forested wetland will provide habitat benefits for this species in perpetuity.
- None of the wetlands impacted by the Project have specialized functions or specific habitat values that the proposed mitigation site cannot suitably offset.

Landowner Negotiations and Mitigation Acreage Summary

The NYSDEC provided their approval of the Fletcher Road-Tonawanda Creek wetland mitigation site via telephone conversation on March 12, 2020 (NYSDEC 2020). Subsequent to NYSDEC's approval of the mitigation site, NEETNY proceeded to secure options with each landowner for the mitigation site to purchase deed restrictions for permanent site preservation. NEETNY has fully secured the entire required 69.68 acres. NEETY has also secured 8.22 acres of existing forested wetland contiguous to the mitigation site that is available to preserve through deed restriction should a need arise for additional mitigation acreage in the future as a result of any Project design changes during the permitting process (69.84 acres wetland restoration and 8.22 acres wetland protection totaling 78.06 acres of mitigation preservation).

4.2.2 Site Description

The Fletcher Road-Tonawanda Creek wetland mitigation site is located near the intersection of Towanda Creek and Fletcher Road in the town of Newstead, Erie County, New York (see Figure 4-1). It is approximately 0.18 miles west of where the Project Line crosses Tonawanda Creek Road. The mitigation site appears to be hydrologically connected to two NYSDEC-mapped wetlands, WO-25 and WO-11, as well as to Tonawanda Creek. WO-25 is located southeast of the mitigation site, within the Project ROW; Tonawanda Creek is located northeast of the mitigation site and is crossed by the Project ROW (via spanning); and WO-11 is located southwest of the mitigation site and outside (west of) the Project ROW (see Figure 4-1).

A drainage along the southeastern portion of the mitigation site connects to the forested area east of Fletcher Road through a culvert under the road. Additionally, there is a drainage that flows northeast from the mitigation site. The drainage crosses under Fletcher Road and Tonawanda Creek Road through culverts and flows through the Project ROW. The drainage along the southeastern portion of the mitigation site also connects to WO-11 to the south.

4.2.2.1 General Site Characterization

The mitigation site is comprised of nine designated mitigation restoration units across four land parcels, owned by four landowners, and accounts for 69.84 acres. Additionally, NEETNY has negotiated one optional 8.22-acre mitigation preservation unit. The units are labelled and defined for the purposes of mitigation planning and design, including determining planting approach for each (see Table 4-1 and Figure 4-2). Acreages for each parcel and for mitigation units within parcels were calculated as well, based upon those selected for planting or restoration, and in ash decline areas.

Table 4-1. Mitigation Unit Landowners, General Habitat Characterization, and Area, Tonawanda Creek–Fletcher Road Mitigation Site

Landowner	Mitigation Unit Label	Current Habitat Structure	Area (Acres)
Peters	Peters 1	Early reverting old field	8.04
	Peters 2	Early reverting old field	4.32
	Peters 3	Late successional old field/early scrub shrub	9.82
	Peters 4	Successional shrubland/forest	10.20
DeYoung	DeYoung North	Successional shrubland/forest	14.94
	DeYoung South	Early reverting old field	13.76
Seguin	Seguin North	Emergent wetland/early successional scrub shrub	2.75
	Seguin South	Successional shrubland	2.26
Lacey	Lacey	Successional shrubland/forest	3.75
		Total Mitigation Restoration Area	**69.84**
DeYoung	DeYoung Mitigation Preservation Option	Forested wetland	8.22
		Total area including protection unit option	**78.06**

Restoration Units

Historically, all of the restoration units have been in some form of agricultural production and are, therefore, remnant fallow agricultural fields in various stages of natural succession. Active farming has not occurred over the majority of the site for past 10 to 20 years, although there has been some more recent (more than three years ago) activity including haying on some of the Peters fields. Farming of any kind was halted due to prolonged wet field conditions.

Overall, the mitigation site represents varying conditions of reverting agricultural fields including early old field, late old field, densely populated early successional shrub communities with varying degrees of scattered tree cover and early successional forest. Long ago, excavation of larger surface drainage features (currently in hedgerows) created linear spoil piles where larger green ash trees have persisted with occasional bur oak, swamp white oak (*Q. bicolor*), and American elm trees. While trees are prevalent in the hedgerows, there has been scattered and light tree recruitment across the shrub communities. The predominant canopy tree species is green ash, and some areas contain eastern cottonwood (*Populus deltoides*).

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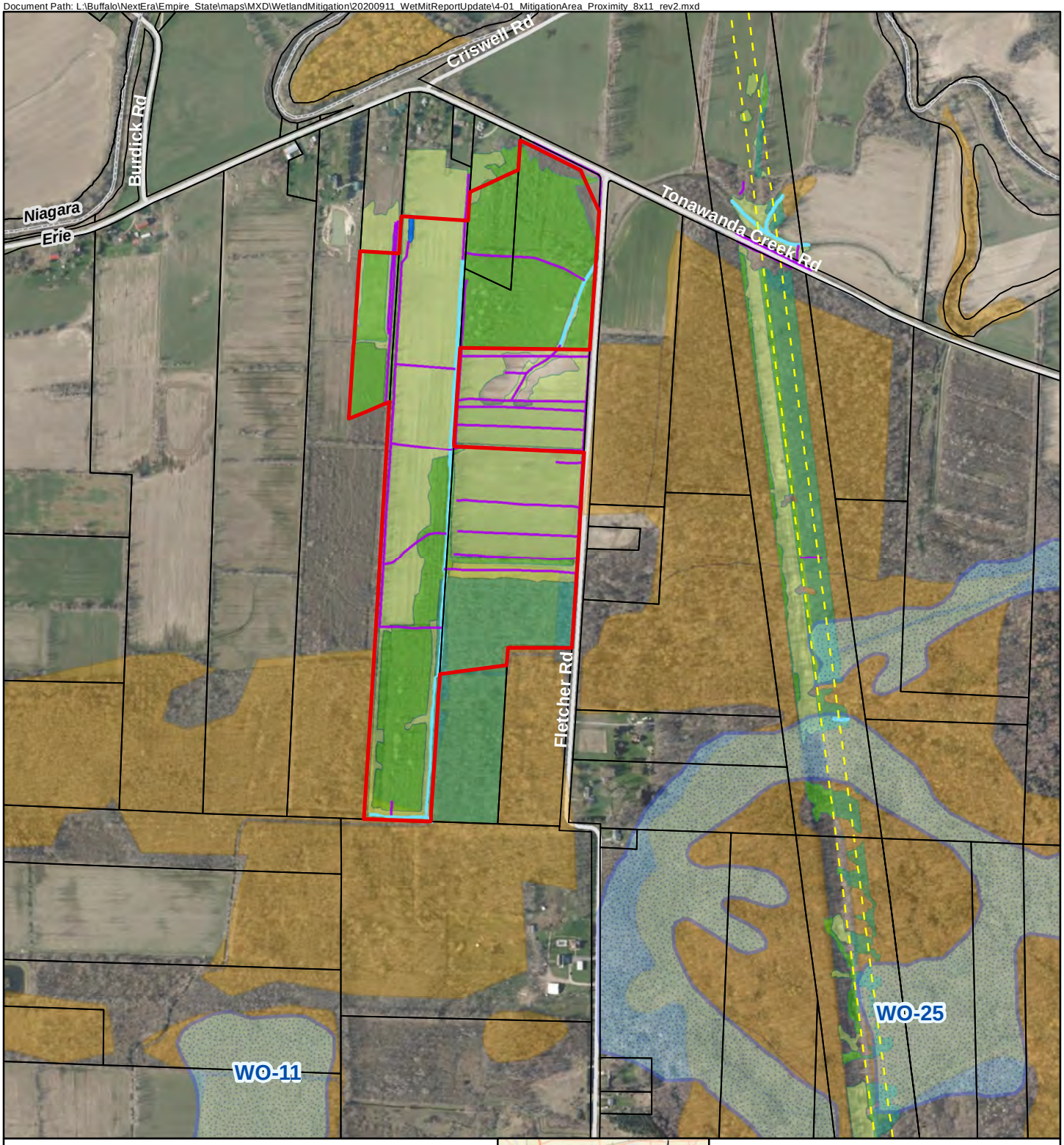

- Mapped NYSDEC Wetland
- Mapped NWI PFO-PSS Wetland
- Delineated PEM Wetland
- Delineated PSS Wetland
- Delineated PFO Wetland
- Delineated Drain
- Delineated Stream
- Delineated Waterbody
- Tax Parcel Boundary
- County Boundary
- Wetland Mitigation Site
- Proposed Empire State Line Right-of-Way

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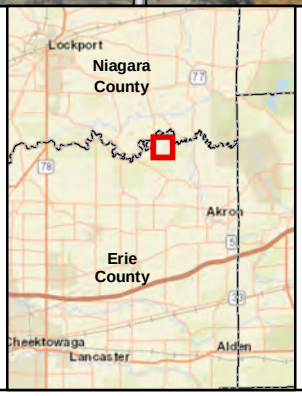

Figure 4-1
Tonawanda Creek-Fletcher Road
Wetland Mitigation Site
and General Vicinity
Empire State Line Project
Erie County, New York

N

0 200 400 600 800 1,000 Feet

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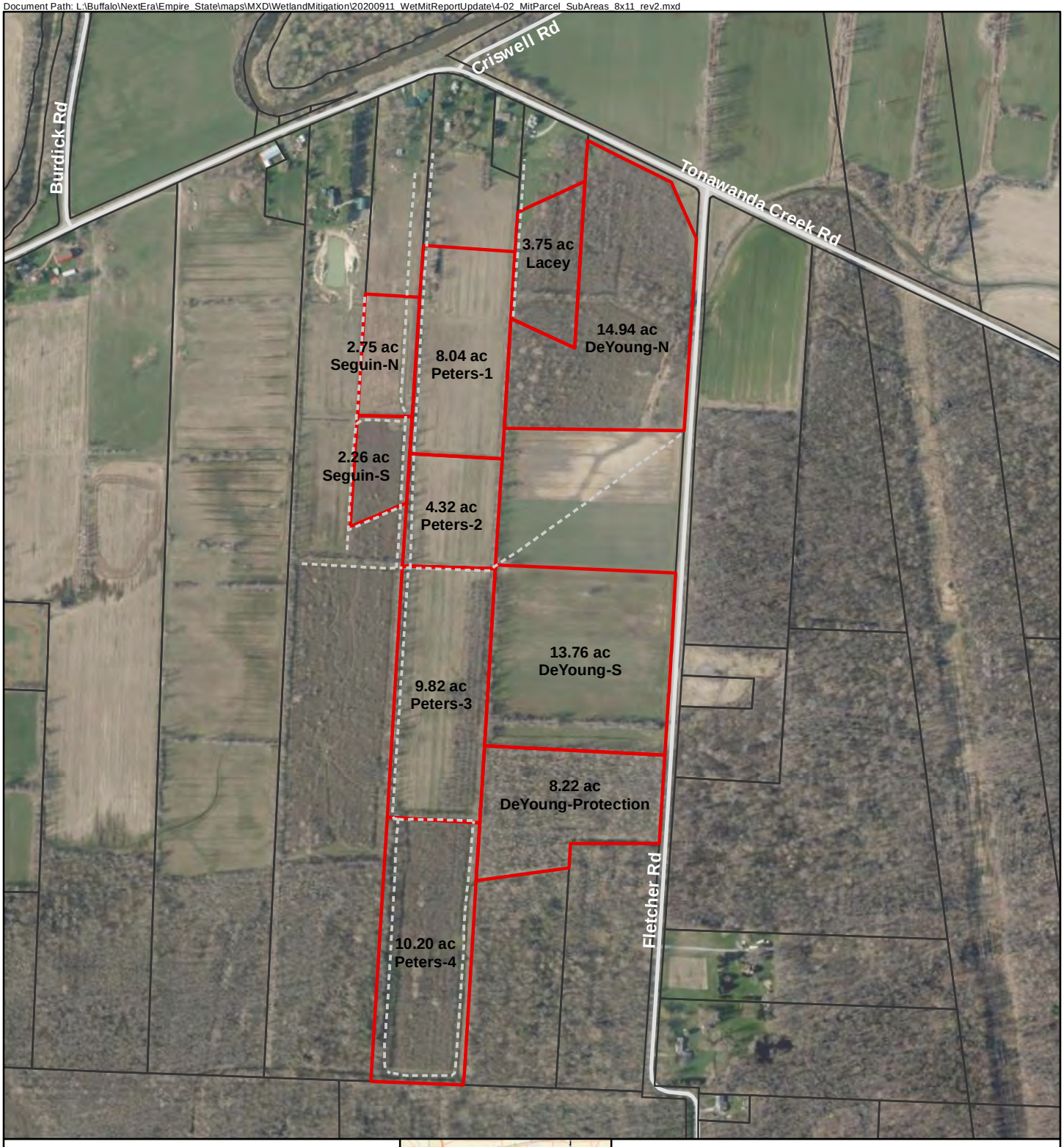

Wetland Mitigation Unit
Tax Parcel Boundary
Maintained Path

Figure 4-2
Tonawanda Creek-Fletcher Road
Mitigation Units and Associated Acreages
Wetland Mitigation Site
Empire State Line Project
Erie County, New York

N

0 200 400 600 800 Feet

Existing surface drainage patterns across the site are the result of deforestation and agricultural land use. Soil types, slight gradient changes, and drainage swales were historically utilized to plan and design fields for agricultural crop production, including scheduling in response to seasonal soil moisture variability and flooding during the growing season. Crop planting was made possible by construction of drainage furrows within fields and larger ditch drainage features with connection to off-site areas.

DeYoung Mitigation Protection Unit - Option

This portion of the mitigation site is located south and adjacent to the DeYoung South mitigation restoration unit and southeast of other restoration units (see Figure 4-3). As discussed above, this unit is secured as an option for protection of existing forested wetland; no active restoration activities area proposed for this unit. However, as part of field activities for the mitigation site, restoration specialists and biologists conducted a field reconnaissance across the DeYoung mitigation protection unit to characterize existing conditions and identify plant communities. Field activities occurred over two days (March 11 and 12, 2020). There was no snow on the ground during that time, and, although early in the growing season, some of the tree and shrub species were beginning to bud. Results of the field reconnaissance of the DeYoung mitigation protection unit indicate that area was apparently left fallow for approximately 30 or more years and, therefore, provides a reference opportunity for how forested wetlands have naturally evolved within the surrounding area.

Field data collected during the dormant season survey indicated that the entire area is PFO. Dormant season vegetation was identified primarily in tree and shrub layers, with some confirmation of a limited number of herbaceous species. This area is densely-to-somewhat densely forested, with predominant canopy species including red maple (*Acer rubrum*), silver maple (*A. saccharinum*), and eastern cottonwood. The cottonwoods appear to have recruited into the area before the maples. The older cottonwood trees are both scattered and clustered in varying densities throughout the woodland. Red maple and silver maple are abundant throughout. The tree species were observed to have similar diameters at breast height, with the area characterized as mid-to-late successional forested community. Although most tree species were even aged, scattered, a small number of older trees, including red maple, swamp white oak and silver maple, of much greater age were also observed. Shallow, inundated depressions and pit and mound features from old wind throws were observed throughout the site. A small number of hummocks and slight elevation changes of less than 2 feet were observed. There was no visible evidence of logging or disturbance in the recent past. Herbaceous and shrub species indicate the site is seasonally saturated with inundated portions. At the time of the field effort, the entire area contained saturated soils, with ponding occurring across more than 50% of the surface area.

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Wetland Mitigation Protection Unit
Forested Wetland Protection
Tax Parcel Boundary

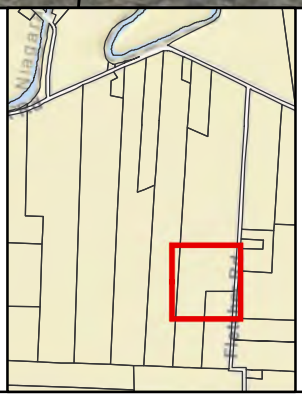

Figure 4-3 - DeYoung-Mitigation Protection Unit
Tonawanda Creek-Fletcher Road Wetland Mitigation Site
Empire State Line Project
Erie County, New York

NEXTera ENERGY TRANSMISSION NEW YORK

ecology and environment, inc.
Global Environmental Specialists

N

0 50 100 Feet

1 inch = 125 feet

This unit has characteristics of forested wetlands (Red Maple Hardwood Swamp and Red Maple White Oak Swamp) as described in the *Ecological Communities of New York State Second Editio*n (Reschke 2014). This forested wetland does not have the same high-density shrub layer, as in the other restoration units. Recruiting saplings included shellbark hickory (*Carya laciniosa*), which is designated as "Threatened" in New York State. Tree, shrub, and herbaceous species that were identified during the March 2020 field activities are listed below.

Trees identified during the dormant season site survey included the following:

- American elm (*Ulmus americana*);
- Shellbark hickory (in the shrub and understory layers as recruiting saplings;
- Black walnut (*Juglans nigra*);
- Bur oak (*Quercus macrocarpa*);
- Eastern cottonwood;
- Red maple;
- Red oak (*Q. rubra*);
- Silver maple; and
- Swamp white oak.

Shrubs identified included:

- Silky dogwood (*Cornus amomum*);
- Gray dogwood (*C. racemosa*);
- Multiflora rose (*Rosa multiflora*);
- Nanny berry (*Viburnum nudum v.cassinoides*);
- Prickly ash (*Zanthoxylum americanum*); and
- Red osier dogwood (*C. sericea*).

Herbaceous species identified included:

- Poison ivy (*Toxicodendron radicans*);
- Reed canary grass (*Phalaris arundinacea*);
- Sedges (*Carex* spp.);
- Sensitive fern (*Onoclea sensibilis*);
- Skunk cabbage (*Symplocarpus foetidus*);
- Virginia creeper (*Parthenocissus quinquefolia*);
- Wild grapes (*Vitis* spp.);
- Wood reed (*Cinna arundinacea*); and
- Woolgrass (*Scirpus cyperinus*).

4.2.2.2 Restoration Unit Soils

Five soil types are mapped within the restoration units (see Table 4-2 and Figure 4-4). The predominant soil is Swormville clay loam, which contains hydric soil inclusions and is termed as "somewhat poorly drained" (USDA 1986). Other mapped soils include Getzville silt loam, Raynham silt loam, Lamson very fine sandy loam, and Wayland silt loam, in decreasing order of predominance (e.g., area). By virtue of field observations, all the soils exhibit ponded/saturated soil conditions for varying periods of time over the course of a calendar year and during portions of the growing season. These soils support obligate, facultative wet, facultative, and facultative upland tree species. All of the soils mapped as occurring with the mitigation restoration units appear to fall within the "Mineral Soil Flats" category, per the Hydrogeomporphic Wetland Classification System, where the dominant contributing hydrodynamic variable is precipitation and the dominant controlling factor is vertical fluctuation (USDA 2008).

Table 4-2. Mitigation Site Mapped Soil Types

Soil Type	Drainage Class	Hydric	Hydric Inclusions	Units	Area (acres)
Getzville Silt Loam	Poorly drained and very poorly drained	X	-	Lacey, DeYoung - North & South, Peters 1 – 3, DeYoung South	15.49
Lamson very fine sandy loam	Poorly drained and very poorly drained	X		DeYoung Mitigation Protection Peters 4	0.30

Table 4-2. Mitigation Site Mapped Soil Types

Soil Type	Drainage Class	Hydric	Hydric Inclusions	Units	Area (acres)
Raynham Silt Loam	Somewhat poorly drained	-	X	DeYoung South (central portion), Peters 4 (southern portion)	9.49
Swormville Clay Loam	Somewhat poorly drained	-	X	All units	42.34
Wayland Silt Loam	Poorly drained and very poorly drained	X	-	Limited to swale and immediate adjacent areas in DeYoung North	2.22
				Total	**69.84**

4.2.2.3 Field Reconnaissance

Prior to development of the planting design for the mitigation site, restoration specialists and biologists conducted a field reconnaissance across the site to characterize existing conditions, identify plant communities, and qualitatively obtain an understanding of hydrologic characteristics and dynamics. Field activities occurred over two days (March 11 and 12, 2020). There was no snow on the ground during that time, and although early in the growing season, some of the tree and shrub species were beginning to bud. Information collected during this field reconnaissance supplemented the field data collected during the formal wetland delineation of the site, which was completed in October 2019.

Although there are structural habitat differences and variable species abundances between the more open herbaceous-dominated and the dense scrub shrub communities, there are species that are common to most of the restoration units. Commonly observed herbaceous species included knapweed (*Centaurea* sp.), purple loosestrife (*Lythrum salicaria*), various golden rod species (*Solidago* spp.), aster species (*Symphyotrichum* spp.), rushes (*Juncus* spp.), blue flag (*Iris versicolor*), dog bane (*Apocynum cannabinum*), swamp milkweed (*Asclepias incarnata*), reed canary grass, and blue vervain (*Verbena hastata*). Other less abundant and more localized herbaceous species included wool grass (*Scirpus cyperinus*), bent grass (*Agrostis palustris*), boneset (*Eupatorium perfoliatum*), sedges, rushes, and moss species.

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Wetland Mitigation Unit
Proposed Empire State Line
Right-of-Way
Tax Parcel Boundary

SSURGO Soils Farm Class
All areas are prime farmland
Farmland of statewide importance
Prime farmland if drained
Not prime farmland

Symbol	Soil Map Unit Name
CrA	Claverack loamy fine sand, 0 to 3 percent slopes
CsA	Collamer silt loam, 0 to 3 percent slopes
CuB	Colonie loamy fine sand, 3 to 8 percent slopes
Cv	Cosad loamy fine sand
ElA	Elnora loamy fine sand, 0 to 3 percent slopes
GaB	Galen very fine sandy loam, 3 to 8 percent slopes
Ge	Getzville silt loam
Ha	Hamlin silt loam
Lc	Lamson very fine sandy loam
Mh	Minoa very fine sandy loam
RaA	Raynham silt loam, 0 to 3 percent slopes
Sw	Swormville clay loam
Te	Teel silt loam
W	Water
Wd	Wayland soils complex, 0 to 3 percent slopes, frequently flooded

Figure 4-4 - Mapped Soil Types
Tonawanda Creek-Fletcher Road
Wetland Mitigation Site
Empire State Line Project
Erie County, New York

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N

0 200 400 Feet

Silky dogwood is the predominant shrub species across the entire mitigation site. Silky dogwood was found pioneering - scattered and locally clustered- in reverting agricultural fields and occurs in dense thickets in the scrub shrub units. Other species encountered in the shrub layer included steeplebush (*Spirea tomentosa*), green ash (*Fraxinus pennsylvanica*), Bebb willow (*Salix bebbiana*), eastern cottonwood (*Populus deltoides*), and crack willow (*Salix fragilis*). Common canopy trees include green ash and eastern cottonwood, with uncommon-to-locally rare occurring individuals of American elm, bur oak, hawthorn (*Crataegus* sp.), and bird cherry (*Prunus avium*; identification to species not confirmed).

Invasive Plant Species. Invasive plant species (IS) were observed in low numbers of limited distribution during the field effort, including purple loosestrife (*Lythrum salicaria*), common reed (*Phragmites australis*), bush honeysuckle species (*Lonicera* spp.). Multiflora rose was observed in the forested wetland to the south of the site and occasionally in hedgerows. Purple loosestrife is abundant across some of the units (e.g., DeYoung South) but is not considered a significant threat to the success of forested wetland revegetation efforts. IS monitoring would determine the need for introduction of biological control measures in the form of leaf or root eating beetles (*Galerucella calmariensis* and *G. pusilla*) approved for release in New York by NYSDEC. Common reed and exotic bush honeysuckle are most problematic and have the capacity to expand and colonize in all portions of the site by seed and rhizomatous vegetative propagation.

The existing areal extent of IS is manageable at this time. Soil disturbance associated with construction and continuing ATV/hunting activities represent pathways for IS spread and infestation.

5.0 Mitigation Site Design

5.1 Mitigation Design Summary

This mitigation design is specifically for the long-term restoration of forested wetland habitat across 69.84 acres. Habitat structure across the nine units that comprise the restoration component of the wetland mitigation site is variable, and all represent different stages of successional transition from historical agricultural fields to successional old field, late successional old field/successional shrubland, to successional shrubland/early forest. Green ash is the predominant canopy tree across most of the units that contain a tree layer; ash is also predominant in the hedgerows that bound many of the units. Ash trees are experiencing regional mortality due to the emerald ash borer. Every mature ash tree observed across the mitigation site is either dead or dying. The mitigation design approach focuses on restoring forested wetland through habitat succession acceleration and protection/monitoring of planted areas.

5.2 Selected Tree Species

Native canopy and understory trees will be introduced across these units and planted as number 3 gallon (#3) container-grown plants. The native species assemblage for this Plan was developed by identifying species in nearby forested wetlands, and in other areas in Erie County near the mitigation site. Other considerations include establishment characteristics, genetic plasticity, resilience to weather episodes, wetland indicator status and observed surface hydrology, and soils. As listed in Table 5-1, 14 species have been selected for this mitigation site, and are those that have demonstrated tolerances for prolonged durations of soil saturation/ponding, varying rates of growth, and growth form (canopy species vs. understory species).

Table 5-1. Native Tree Species Selected for the Tonawanda Creek-Fletcher Road Mitigation Site

Scientific Name	Common Name	Wetland Indicator Status[1]
Acer rubrum	Red maple	FAC
Acer saccharinum	Silver maple	FACW
Alnus incana	Speckled alder	FACW
Amelanchier canadensis	Serviceberry	FAC
Carpinus carolinianum	American hornbeam	FAC
Morella pensylvanica[2]	Northern bayberry	FAC
Nyssa sylvatica	Black gum	FAC
Populus deltoides	Eastern cottonwood	FAC

Table 5-1. Native Tree Species Selected for the Tonawanda Creek-Fletcher Road Mitigation Site

Scientific Name	Common Name	Wetland Indicator Status[1]
Quercus bicolor	Swamp white oak	FACW
Quercus macrocarpa	Bur oak	FACU
Quercus palustris	Pin oak	FACW
Salix sericea	Silky willow	OBL
Salix nigra	Black willow	OBL
Ulmus Americana	American elm	FACW

Notes:
1. USACE 2012
2. Although not a common species in Western New York, northern bayberry has been utilized for other regional habitat restoration projects and has performed well. Based upon monitoring for the Times Beach Aquatic Invasive Species Control Demonstration Project, it was noted that this species appears to be unpalatable to deer and, therefore, unprotected plants survived at greater incidences than other unprotected native species.

Key:
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL – obligate wetland

A total of approximately 17,200 trees will be planted across the mitigation restoration units. Tree planting densities include planting canopy trees on 15-foot centers and understory trees on 6-foot centers (e.g., speckled alder, serviceberry, northern bayberry, and Bebb willow). The average density per acre is approximately 244 trees per acre; however, the planting scheme for units with less density will increase the number of trees planted per acre in those areas.

5.3 Seeding

Seeding of exposed and disturbed areas will occur where needed. Maintaining an herbaceous layer will support community integrity as the planted trees grow. The seed mixes are provided in Table 5-2. Monitoring and adaptive management will determine the ultimate seeding rates and locations where seed mixes are applied.

Table 5-2. Seed Mixes Selected for Post-Tree Planting Activities

Source	Seed Mix Description		Quantity (pounds per Acre)	Planting Zone
Ernst Conservation Seed	FACW Wetland Meadow Mix	ERNMX-122	20	FACW Wetland
Ernst Conservation Seed	OBL Wetland Mix	ERNMX-131	20	OBL Wetland
Ernst Conservation Seed	Specialized Wetland Mix for Shaded OBL-FACW Areas	ERNMX-137	20	Wetland
Ernst Conservation Seed	Annual Ryegrass (*Lolium multiflorum*)		30	Disturbed areas

Key:
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL – obligate wetland

5.4 Restoration Techniques

This WMP employs different restoration techniques for converting areas to forested wetland by accounting for observed conditions across the mitigation restoration units. The primary techniques in this mitigation plan for restoration involve the thinning of dense successional shrub communities, the cutting of dead ash trees, and planting of native forest tree species. Each of these techniques will involve utilizing methods to avoid and minimize impacting site soils such as compaction, modifying local topographic characteristics, and other ground disturbances. Additionally, excavation or tree/shrub root wad removal will not be conducted in order to reduce disturbance of surface soils and to local topography and sheet flow drainage patterns. The primary techniques have been developed in response to existing habitat structure and specifically for restoring forested wetland, given the existing habitat structure. They are as follows:

Cottonwood Thinning/Planting. This technique applies only to the Seguin North unit (see Figure 4-2). The area is characterized as emergent wetland trending toward scrub shrub habitat. Currently most of the canopy is open; however, pole-sized cottonwoods occur throughout the unit, some in evolving dense clusters. Selective thinning in areas will provide space for increasing wetland tree species diversity through active planting (assuming 40% of area on average will be planted). Some areas will be left to evolve into part of the forested wetland community and, therefore, will not be thinned or planted. The active thinning/planting area is approximately 1.82 acres.

The planting approach for this unit will use similar tree planting layouts and percentages as those described for the Old Field Planting/Variable Shrub Thinning/Planting.

Old Field Planting/Variable Shrub Thinning/Planting. This technique involves "successional acceleration" by planting predominantly open fields with no/lower presence of woody shrub species, and the variable thinning in those mitigation units characterized by higher incidences and abundances of shrubs and successional shrub communities to create planting pockets. Existing vegetation is characterized by wetland plants and will evolve into an herbaceous and shrub understory within the designed forested wetland. Overall, the approach applies to open fields (e.g., early reverting old field), successional shrublands, late successional old field/early scrub shrub, and successional shrubland/forest areas. Those mitigation restoration units containing greater densities and abundance of shrubs will be subjected to more thinning (e.g., Lacey, DeYoung North, Peters 3, Peters 4, and Seguin South) compared to early reverting old fields (e.g., DeYoung South, Peters 1, and Peters 2). A total of 39.12 acres have been selected for planting and the combination of thinning and planting for the establishment of forested wetland. This approach applies to Peters 1, Peters 2, Peters 3, and DeYoung South units (see Figure 4-2).

The Old Field Planting/Variable Shrub Thinning/Planting areas will be planted using a clustering approach. Each cluster will occur within a 0.25-acre subunit. Adaptive management will drive the overall planting process; however, it is assumed that 20% of trees in each cluster will be oak species. Swamp white oak and pin oak would be planted in wetter locations and bur oak in drier locations. Ten percent (10%) of each subunit will be planted with faster growing trees, such as American elm for wettest locations and eastern cottonwood and red maple for somewhat drier locations. Five percent (5%) will be silver maple and black willow (for wettest locations). Across the balance of the total trees, these percentages for 0.25-acre subunits translate to 50% oak species, 25% elm/cottonwood/red maple, 12.5% silver maple and black willow, and 12.5% understory trees.

The layout spacing within the subunit is one canopy tree per 225 square feet (equivalent to 15 feet on center). Care will be taken to segregate oaks from faster growing maples, with higher canopy producing shade, to allow more sunlight exposure to facilitate higher survival rate and maximum growth of oaks. Understory trees will be planted at one tree per 36 square feet (equivalent to 6 feet on center). Serviceberry, northern bayberry, black gum, and American hornbeam will be planted in drier areas, while speckled alder and silky willow will be installed in wetter areas. These smaller trees will be integrated around the canopy trees and remaining desirable vegetation.

Targeted Ash Cutting/Selective Shrub Thinning/Planting. This technique involves restoring native forest tree species to areas that exhibit canopy ash tree decline across predominantly successional shrub and shrub/early forest communities. The variability of ash tree occurrence and

local densities will influence the degree that paths of interior areas containing ash will be cleared. Ash trees will be felled, followed by planting forested wetland tree species to restore native canopy trees and forest structure. An estimate of 40% has been applied to the units for determining the number of trees to be planted within these identified areas with the exception of Peters 3 where cutting/thinning will be 90%. A total of 21.41 acres have been identified for targeted ash cutting/selected thinning of shrubs and planting of native forest tree species. Felled ash trees will be handled in a variety of ways including removal, potential chipping, and piled for brush pile creation. Some dead ash will be left standing for snag habitat.

As noted in other sections of this plan, there are a number of densely-to-moderately abundant successional shrub communities. Selective thinning of shrubs will occur and dead ash trees that are encountered will be cut to support the acceleration of forested wetland restoration. Restoration planting will occur following thinning/cutting activities. Trees will be planted using similar percentages as those described for the Old Field Planting/Variable Shrub Thinning/Planting technique.

This approach applies to Lacey, DeYoung North, Seguin South, and Peters 4 units (see Figure 4-2).

Targeted Hedgerow Ash Cutting/Planting. This technique also includes canopy tree restoration through the targeted cutting of canopy ash trees along, and within, hedgerows, followed by native forest tree species plantings. Mitigation site hedgerows contain a variety of native tree species and occasionally invasive shrub species (e.g., bush honeysuckle, *Lonicera* spp.). The predominant canopy tree is green ash. Restoration of 3.64 acres of hedgerow will be completed through cutting ash and planting native forest tree species.

Hedgerows are a common part of the agricultural landscape and have developed into wooded linear strips, with varying densities of understory trees and shrubs. The hedgerows are comprised of a series of narrow, linear rows of mature trees containing dead and dying ash. Depending on predominance of ash trees, cutting trees in hedgerows will vary from unit to unit. As noted above, cut ash will either be removed, chipped, or pushed into brush piles. Restoration planting will occur after tree cutting. It is assumed that 40%, on average, of the hedgerows will be cut, followed by planting. Trees will be planted using similar percentages and densities as those applied to the Old Field Planting/Variable Shrub Thinning/Planting units.

This approach applies to all units that contain well-established hedgerows, including DeYoung South, Peters 1 through 4, Seguin North, and Seguin South (see Figure 4-2).

5.5 Wetland Mitigation Unit Descriptions and Techniques

The following subsections describe the mitigation techniques planned for each unit. Mitigation technique areas for each unit are shown on Figures 5-1 through 5-8.

5.5.1 Seguin North Restoration Unit

Unit Description. This unit is in the northwest portion of the mitigation site (see Figure 5-1). The area is unlike any of the other mitigation units due its habitat structure. The mitigation unit appears to hold more water for extended durations compared to the other reverting old field units. Some areas exhibit hummocks that result from the rise and fall of standing water over time in wetlands. The habitat structure is one of an emergent wetland that is in early stages of transitioning to a scrub shrub wetland. The vegetative cover is predominantly herbaceous, with scattered young recruiting shrubs and pole-sized eastern cottonwood saplings and trees. The cottonwoods range from less than 2 feet tall to approximately 20 feet tall. All trees are young. Other pioneering woody species include silky dogwood, steeplebush, black willow (*Salix nigra*), Bebb willow, and crack willow. Ash trees were not observed in this location, but it is possible there are some young, pioneering individuals. Other identifiable species included reed canary grass, common water-plantain (*Alisma plantago-aquatica*), dogbane (*Apocynum cannabinum*), aster species, and wool grass.

The occurrence of cottonwoods is variable across the site, with clustering in some areas and a more scattered presence in others. Given the growth form and age of the cottonwood trees, the canopy is largely open across the balance of the unit. Sheet flow appears to be to the south as the southern quarter (approximately) of the unit was observed to contain more water and depressions that were lower than other locations to the north. Hydrology appears to be driven by direct precipitation and ice and snow melt in place, combined with slow percolation and a nearly flat slope (U.S. Department of Agriculture 2008). Slight depressional areas occur in varying shapes; these areas hold more water for longer periods compared to other nearby locales and the canopy is generally more open.

Mitigation Techniques. The approach for this unit is to augment and accelerate the community successional process that is currently underway by implementing the Cottonwood Thinning/Planting (assuming 40% cottonwoods will be thinned) and Targeted Hedgerow Ash Cutting/Planting techniques. Activities will include limited and targeted thinning of cottonwoods along with an active planting program. Thinning will be in those areas where clustering of cottonwoods is relatively dense to allow for competition from planted species and to create more openings in the canopy for greater access to, and extended duration of, sunlight exposure. The localized thinning of cottonwoods will also create diversity of structure and species within the future canopy layer. Some areas will not be targeted for planting or thinning and, therefore, will

continue to evolve toward the direction of scrub shrub/forested wetland (see Figure 5-1). Planting of tree species will occur across the unit and along the unit edges.

Approximately 300 trees will be planted in this unit. See Table 5-3 for selected species and numbers.

5.5.2 Seguin South Restoration Unit

Unit Description. This unit is located due south of the Seguin North unit (see Figure 5-2). The area is characterized as a dense shrub wetland stand that is predominantly comprised of silky dogwood. Quantitative sampling was not conducted but qualitative observations suggest that silky dogwood is likely 90% or more of the total cover. Dying/dead ash trees are scattered across this unit but in reduced numbers and in lower densities compared to other mitigation units. Other observed species include Bebb willow, bird cherry (identification to species not confirmed), and an apple tree (*Malus* sp.). Observations of these latter species included less than 10 trees. The density of silky dogwood allows for only fractured light to reach the ground surface. Most areas along the surface are covered in moss, with narrow, undulating, and shallow rivulets where water has pooled and drained over many years. The microtopography exhibiting shallow pits and short mounds may have been formed via frost heave over the years, as well as through changes in local water levels. Relict north-south furrow drainages can still be detected, with drainage apparently slow, dispersed, and toward the southern portion of the unit.

See Photos A-1 and A-2 in the photolog for areas in the Seguin South mitigation unit (Attachment A).

Mitigation Techniques. Generally, the approach for this unit will involve accelerating the development and spread of forested wetland and laying the groundwork for increasing structural complexity through active plantings and the thinning of shrub communities across approximately 0.73 acres. Three techniques will be implemented: Shrub Thinning/Planting; Targeted Ash Cutting/Selective Shrub Thinning/Planting; and Targeted Hedgerow Ash Cutting/Planting (assumed 40% of both areas) (see Figure 5-2).

The planned actions will increase biodiversity and will diversify the structure of the future forested wetland. Thinning the two planting areas will create open areas for the plantings. The northern planting area is densely populated with mature silky dogwood. The opening will create a large planting area for new trees. The southern planting area includes a greater number of large dead ash trees that will be felled to create an open area to plant trees; some ash may be left standing for snag habitat. Targeted thinning will occur outside the planting areas where native trees are located near the planting areas, and in the scattered areas where ash trees occur, to enhance the growth and recruitment opportunities of those species/areas. Planting for interior and edge will create

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Cottonwood Thinning/Planting
Targeted Hedgerow Ash Cutting/Planting
Wetland Mitigation Restoration Unit
Tax Parcel Boundary
Maintained Path
Potential Planting Access

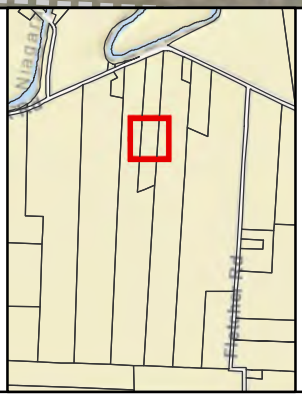

Figure 5-1 - Seguin-North Mitigation Restoration Unit
Tonawanda Creek-Fletcher Road Wetland Mitigation Site
Empire State Line Project
Erie County, New York

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N

0 20 40 60 Feet

1 inch = 70 feet

Table 5-3. Wetland Forest Tree Species Planting Totals – Seguin North Unit

Species	Common Name	Density (feet)	Cotton-wood Thinning/ Planting Area (1.49 ac) Quantity	Cottonwood thinning/ Planting Area (.32 ac) Quantity	Targeted Hedgerow Ash Cutting/ Planting Area (.23ac) Quantity	Wetland Indicator Status	Size
Acer rubrum	Red maple	15 x 15	24	6	4	FAC	3C
Acer saccharinum	Silver maple	15 x 15	6	2	1	FACW	3C
Alnus incana	Speckled Alder	6 x 6	36	8	6	FACW	3C
Amelanchier canadensis	Serviceberry	6 x 6	36	8	6	FAC	3C
Carpinus caroliniana	American hornbeam	15 x 15	5	1	1	FAC	3C
Morella pensylvanica	Northern Bayberry	6 x6	9	2	1	FAC	3C
Nyssa sylvatica	Black gum	15 x 15	4	1	1	FAC	3C
Quercus bicolor	Swamp white oak	15 x 15	24	6	4	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	24	6	4	FACU	3C
Quercus palustris	Pin oak	15 x 15	24	6	4	FACW	3C
Salix sericea	Silky willow	6 x 6	18	4	3	FACW	3C
Ulmus americana	American elm	15 x 15	12	3	2	FACW	3C
		Total	222	53	37		**312**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

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- Shrub Thinning/Planting
- Targeted Ash Cutting/Selective Shrub Thinning/Planting
- Targeted Hedgerow Ash Cutting/Planting
- Wetland Mitigation Restoration Unit
- Tax Parcel Boundary
- Maintained Path
- Potential Planting Access

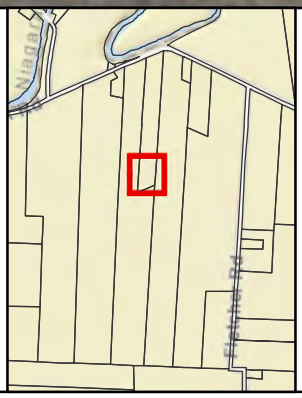

Figure 5-2 - Seguin-South Mitigation Restoration Unit Tonawanda Creek-Fletcher Road Wetland Mitigation Site Empire State Line Project Erie County, New York

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N

0 20 40 60 Feet

1 inch = 63 feet

relatively dense planted areas and seed sources for future natural recruitment of native species. Leaving portions of the shrub community intact will help to combat introductions of IS.

A total of 300 trees will be planted in this unit. See Table 5-4 for selected species and numbers.

Table 5-4. Wetland Forest Tree Species Planting Totals – Seguin South Unit

Species	Common Name	Density (feet)	Targeted Ash Cutting/ Selective Shrub Thinning /Planting (.84 Ac) Quantity	Shrub Thinning/ Planting Area (.73 ac) Quantity	Targeted Hedgerow Ash Cutting/ Planting Area (.19 ac) Quantity	Wetland Indicator Status	Size
Acer rubrum	Red maple	15 x 15	7	14	2	FAC	3C
Acer saccharinum	Silver maple	15 x 15	4	7	1	FACW	3C
Alnus incana	Specked alder	6 x 6	10	22	2		
Quercus bicolor	Swamp white oak	15 x 15	14	28	4	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	14	28	4	FACU	3C
Quercus palustris	Pin oak	15 x 15	14	28	4	FACW	3C
Salix sericea	Silky willow	6 x 6	10	22	3	FACW	3C
Salix nigra	Black willow	15 x 15	4	7	1	OBL	3C
Ulmus americana	American elm	15 x 15	14	28	4	FACW	3C
		Total	91	184	25		**300**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

5.5.3 Peters 1 Restoration Unit

Unit Description. This unit is the most recent of the Peters parcels along the old field succession continuum, with vegetation primarily comprised of perennial herbs and grasses and annual species occurring in some areas. Species observed during field surveys included reed canary grass, soft rush (*Juncus effusus*), wool grass, dog bane, aster species, swamp milkweed, knapweed, and a large concentration (30 feet by 60 feet) of what is presumed to be blue flag in the southcentral half of the unit. Blue flag was also found across this unit in varying incidences of abundance. It appears that swamp milkweed is a relatively recent species that is more abundant in the northern half of the unit with seed migrating predominantly in a southeasterly direction. Shrub species have recently (one to three years) begun to pioneer into the field, including silky dogwood and Bebb willow. The willows were rare within this unit but had begun to recruit into shallow north-south drainage furrows; some were observed in a line, approximately 3 feet apart, within the same furrow. The hedgerow that defines the western side of unit contains dead/dying ash trees (see Figure 5-3).

Hydrology in this field is similar to the other mitigation units in that it is defined by direct precipitation and snow/ice melt, slow percolation from the surface into the soil profile, and relict furrows and drainage furrows. Deeper drainage furrows occur approximately every 25 feet to 30 feet (from east to west), which convey water to the south. The field is nearly flat; there was no flow observed during the field visit.

See Photos A-3 through A-6 in the photolog for views of some of areas in Peters 1 (Attachment A).

Mitigation Techniques. The approach for this early, reverting old field is to enhance and accelerate the process of ecological succession toward forested wetland by implementing Old Field Planting and Targeted Hedgerow Ash Cutting/Planting (assuming 40% of area) techniques (see Figure 5-3). Due to the open nature of the field, there will be little thinning of shrubs. Areas for thinning/mowing will be identified and marked during field preparation activities. Emerging clusters are likely to be preserved in some areas. The majority of the tree species selected includes those observed occurring in other areas around the mitigation site and also within the Peters 4 unit. These include swamp white oak, bur oak, pin oak, American elm, red maple, and silver maple (see Table 5-5). Shrubby trees include Silky willow, northern bayberry, speckled alder, and serviceberry. The selected species are anticipated to create multi-tiered structural complexity over time.

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- Old Field Planting
- Targeted Hedgerow Ash Cutting/Planting
- Pond
- Concentrated Blue Flag Population
- Wetland Mitigation Restoration Unit
- Tax Parcel Boundary
- Maintained Path

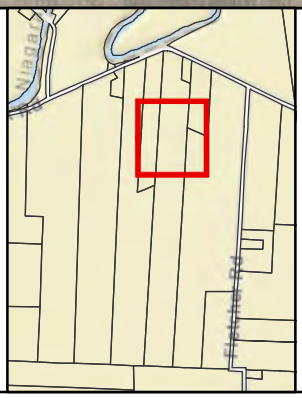

Figure 5-3 - Peters-1
Mitigation Restoration Unit
Tonawanda Creek-Fletcher Road
Wetland Mitigation Site
Empire State Line Project
Erie County, New York

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N

0 20 40 60 80 Feet

1 inch = 125 feet

Targeted cutting of ash trees will occur along the western field boundary hedgerow to create openings, followed by planting of a variety of canopy and understory trees (see Figure 5-3). This is a restorative action to support long-term integrity of native canopy trees species along the current windrow. Ultimately, the windrow and the forested area in the field will become an expanded forested wetland community.

A total of 2,807 trees will be planted across approximately 7.79 acres (see Table 5-5).

Table 5-5. Wetland Forest Tree Species Planting Totals – Peters 1 Unit

Species	Common Name	Density (feet)	Planting Area (7.55 ac) Quantity	Targeted Ash Hedgerow Area (.24 ac) Quantity	Wetland Indicator Status	Size
Acer rubrum	Red maple	15 x 15	219	4	FAC	3C
Acer saccharinum	Silver maple	15 x 15	74	1	FACW	3C
Alnus incana	Speckled Alder	6 x 6	460	8	FACW	3C
Amelanchier canadensis	Serviceberry	6 x 6	457	6	FAC	3C
Carpinus caroliniana	American hornbeam	15 x 15	58	1	FAC	3C
Morella pensylvanica	Northern Bayberry	6 x 6	113	1	FAC	3C
Nyssa sylvatica	Black gum	15 x 15	57	1	FAC	3C
Quercus bicolor	Swamp white oak	15 x 15	293	5	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	293	5	FACU	3C
Quercus palustris	Pin oak	15 x 15	293	5	FACW	3C
Salix sericea	Silky willow	6 x 6	228	3	FACW	3C
Ulmus americana	American elm	15 x 15	219	3	FACW	3C
	Total		2,764	43		**2,807**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

5.5.4 Peters 2 Restoration Unit

Unit Description. This unit is located immediately to the south of Peters 1 (see Figure 5-4) similar in composition and landform to Peters 1 and reflects early successional old field habitat that is moderately farther along than Peters 1 unit. The vegetation community is largely characterized by perennial herbs and grasses, with some annuals throughout. Observed species included reed canary grass, soft rush, and wool grass, with occasional patches of dog bane. An area of concentrated blue flag with an approximate 50-foot radius is in southern portion of the field (see Figure 5-4. Swamp milkweed is scattered across the unit, along what appears to be a seed drift line from Peters 1 to the northwest. Bebb willow has recruited in along north-south oriented drainage furrows. Hedgerows occur along the western and eastern borders of the field, which contain dead/dying ash trees.

The field is flat with a slight slope southward; drainage is to the south. Hydrological dynamics are similar to what was observed in the other field units. A prolonged inundation zone runs along a north-south oriented drainage furrow located in the eastern half of the unit (see Figure 5-4). Ponding occurs from the "overbank" flooding of a deeper drainage furrow, with water spreading to nearby locations. No flow was observed; however, water depths were somewhat greater toward the southern end of the unit.

See Photos A-6 and A-7 in the photolog for views of some of areas in Peters 2 (Attachment A).

Mitigation Techniques. The approach for this unit will be similar to Peters 1 unit, which predominantly includes accelerating the establishment of forested wetland through intensive planting. Two techniques will be implemented: Old Field Planting/Shrub Thinning/Planting; and Targeted Hedgerow Ash Cutting/Planting (assumed 40% of area) (see Figure 5-4). Selected species include American Elm, swamp white oak, bur oak, pin oak, black willow, red maple, silver maple, and eastern cottonwood. Smaller trees include serviceberry, Bebb willow, northern bayberry, and speckled alder. Planting will be conducted to avoid disturbing the large concentration of blue flag and to support complexity across the ground stratum.

The hedgerows that define the western and eastern unit boundaries contain dead/dying ash trees (see Figure 5-4). Ash trees will be cut and removed, followed by the planting of native canopy and understory trees in the openings. Some standing dead ash may be left in place for snag habitat.

A total of 1,221 trees will be planted across 4.84 acres (see Table 5-6).

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- Old Field Planting/Shrub Thinning/Planting
- Targeted Hedgerow Ash Cutting/Planting
- Prolonged Inundation Zone
- Concentrated Blue Flag Population
- Wetland Mitigation Restoration Unit
- Tax Parcel Boundary
- Maintained Path

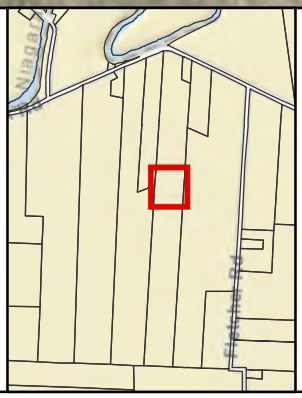

Figure 5-4 - Peters-2
Mitigation Restoration Unit
Tonawanda Creek-Fletcher Road
Wetland Mitigation Site
Empire State Line Project
Erie County, New York

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N

0 20 40 60 Feet

1 inch = 67 feet

Table 5-6. Wetland Forest Tree Species Planting Totals – Peters 2 Unit

Species	Common Name	Density (feet)	Early Old Field Planting/ Shrub thinning/ Planting Area (3.81 ac) Quantity	Targeted Hedgerow Ash Cutting/ Planting Area (.24 ac) Quantity	Targeted Hedgerow Ash Cutting/ Planting Area (.18 ac) Quantity	Wetland Indi-cator Status	Size
Acer rubrum	Red maple	15 x 15	93	3	2	FAC	3C
Acer saccharinum	Silver maple	15 x 15	37	1	1	FACW	3C
Alnus incana	Speckled Alder	6 x 6	116	3	2	FACW	3C
Amelanchier canadensis	Serviceberry	6 x 6	231	6	4	FAC	3C
Carpinus caroliniana	American hornbeam	15 x 15	29	1	1	FAC	3C
Morella pensylvanica	Northern Bayberry	6 x 6	58	1	1	FAC	3C
Nyssa sylvatica	Black gum	15 x 15	29	1	1	FAC	
Populus deltoides	Eastern cottonwood	15 x 15	37	1	1	FAC	3C
Quercus bicolor	Swamp white oak	15 x 15	148	4	3	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	148	4	3	FACU	3C
Quercus palustris	Pin oak	15 x 15	148	4	3	FACW	3C
Ulmus americana	American elm	15 x 15	92	2	2	FACW	3C
		Total	1,166	31	24		**1,221**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

5.5.5 Peters 3 Restoration Unit

Unit Description. From a north to south direction, this is the third Peters unit, with each subsequent unit (proceeding in a southerly direction) exhibiting characteristics of more mature successional old field transition. The cover types are characterized by late successional old field with an expanded series of hedgerows that run nearly the entire eastern extent of the unit (see Figure 5-5). The entire unit is approximately 9.82 acres — 6 acres is reverting old field and 3.46 acres is wooded hedgerows. The hedgerow along the eastern unit edge is comprised of a series of narrow rows of mature trees, with a shrub understory of varying densities, that are separated by trails. There are four trails in all and each but the easternmost trail is grown over by silky dogwood.

Ash trees are the predominant canopy tree throughout these strips of woodland, comprising 90% or greater of the total canopy cover. The vegetation community in the old field portion is similar to what was observed in the Peters 1 and Peters 2 fields. The field is a combination of perennial herbs and grasses, with increasing stem density and distribution of silky dogwood and green ash in the shrub layer. Bebb willow was not identified during the field reconnaissance but may occur in this unit as well. Herbaceous species observed during the field reconnaissance included reed canary grass, soft rush (*Juncus effuses*), wool grass, dog bane, aster species, swamp milkweed, knapweed, and blue flag. Occasional other trees species included Bebb willow, American elm, and hawthorn. The shrub layer is predominantly silky dogwood. Hydrology is similar to the other field units. Drainage occurs from north to south within furrows and drainage furrows. The field was variably ponded the days during which the field reconnaissance occurred. Overall, the field is nearly flat; no flow was observed. Local topographic variability is somewhat more evident across the field, with some slightly elevated areas paralleling deeper furrows, with the higher areas more pronounced compared to what was observed in other fields.

See Photos A-7 through A-11 in the photolog for views of some areas in Peters 3 (Attachment A).

Mitigation Techniques. The approach for this unit combines successional acceleration from late old field – early scrub shrub to forested wetland, and the restoration of native canopy trees in hedgerows. Three techniques will be implemented, including Old Field Planting/Shrub Thinning/Planting, Targeted Ash Cutting/Selective Shrub Thinning/Planting (Assuming 40%), and Targeted Hedgerow Ash Cutting/Planting (assumed 90% thinning and planting) (see Figure 5-5). The early stages of shrub community recruitment dictate that some thinning and mowing of shrubs will occur across the field portion of this unit. The cutting and removal activity will provide increased openings across the planting surface and will reduce competition from the pioneering shrubs. Not all shrubs will be removed; rather, clusters for preservation will be identified in the field as part of the field preparation activities.

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Old Field Planting/Shrub Thinning/Planting
Targeted Ash Cutting/Selective Shrub Thinning/Planting
Targeted Hedgerow Ash Cutting/Planting
Wetland Mitigation Restoration Unit
Tax Parcel Boundary
Maintained Path

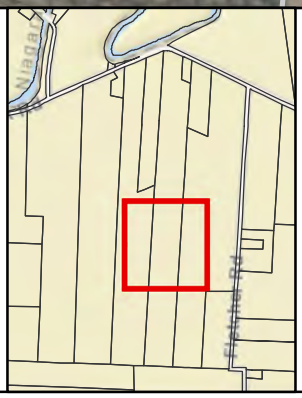

Figure 5-5 - Peters-3
Mitigation Restoration Unit
Tonawanda Creek-Fletcher Road
Wetland Mitigation Site
Empire State Line Project
Erie County, New York

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ecology and environment, inc.

N

0 50 100 Feet

1 inch = 150 feet

Due to the predominance of green ash, the majority of the expanded windrow will be cut to remove the dead/dying ash to create an additional area for the planting of native forest trees. Non-ash native trees will be flagged for preservation prior to cutting. It is expected that some standing dead trees will be strategically spaced for additional habitat value. Tree species to be planted across the field and current windrow include swamp white oak, pin oak, black willow, and American elm. A total of 2,738 trees will be planted across this unit (see Table 5-7).

Table 5-7. Wetland Forest Tree Species Planting Totals – Peters 3 Unit

Species	Common Name	Density (feet)	Planting Area (6.00 ac) Quantity	Targeted Hedgerow Ash Cutting/ Planting Area (.46 ac) Quantity	Targeted Ash/Cutting/ Selective Shrub Thinning/ Planting Area (3.00 ac) Quantity	Wetland Indicator Status	Size
Acer rubrum	Red maple	15 x 15	116	4	52	FAC	3C
Acer saccharinum	Silver maple	15 x 15	58	2	26	FACW	3C
Alnus incana	Speckled alder	6 x 6	182	6	82		
Amelanchier canadensis	Serviceberry	6 x 6	363	12	163	FAC	3C
Quercus bicolor	Swamp white oak	15 x 15	232	8	105	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	232	8	105	FACU	3C
Quercus palustris	Pin oak	15 x 15	232	8	105	FACW	3C
Salix sericea	Silky willow	6 x 6	181	6	81	FACW	3C
Salix nigra	Black willow	15 x 15	58	2	26	OBL	3C
Ulmus americana	American elm	15 x 15	116	4	163	FACW	3C
		Total	1,770	60	908		**2,738**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

5.5.6 Peters 4 Restoration Unit

Unit Description. This is the most evolved unit in the Peters parcel along the old field succession continuum. It located due south of Peters 3 and is characterized by well-established shrubland-woodland community across approximately 10.2 acres (see Figure 5-6). Observed tree species included green ash, hawthorn, American elm, bur oak, eastern white pine (*Pinus strobus*), eastern cottonwood, and a presumed pin cherry and also presumed red maple and swamp white oak (the latter two species were viewed from a distance with binoculars). Ash is the predominant canopy tree species. Dead ash trees occur in clusters and in scattered lines. While trees are common throughout, the shrub layer is dominated by silky dogwood of varying densities. Gray dogwood was observed as well. The understory and mid-story strata are densely vegetated, with the stem density greater than what was observed in the Lacey and DeYoung North units. The ground surface is somewhat variable from ponding and overland drainage characteristics and tree falls. In-field observations suggest that drainage is toward the east and the south into the maintained ditch. Relict north-south oriented drainage furrows persist in some locations. Standing and flowing water were observed during the field reconnaissance effort.

See Photo A-12 in the photolog for a view of Peters 4 (Attachment A).

Mitigation Techniques. As noted above, this woodland is more mature than any of the other mitigation units; therefore, the approach will be to balance disturbance of the existing community by planting native forest tree species. The restoration techniques will include Shrub Thinning/Planting, Targeted Ash Cutting/Selective Shrub Thinning/Planting area, and Targeted Hedgerow Ash Cutting/Planting (all assumed to include 40% of area). These techniques will involve creating openings in areas where shrub growth is relatively dense, and in those locations that have relatively greater cover and abundance of dead ash trees (see Figure 5-6). An additional mitigation opportunity area is located along the western boundary of the unit. Presumably, this strip of woodland had been a hedgerow at one time in the past and now represents the eastern edge of the forested unit to the west. Dead ash trees occur along this edge, providing easy access opportunities for felling and planting. Across the rest of the unit, two planting areas will be cleared and thinned with the aim of restoring healthy and productive canopy tree species. Native tree species other than ash will not be cut or thinned. The plantings of a variety of tree species will restore the structural complexity across the woodland that has been impacted by the mass mortalities of ash species. Additionally, because there are some native tree species occurring, thinning will allow greater opportunities for successful recruitment of existing species while creating openings in the canopy for planted trees. The combined effect will be to "release" native species by providing a more open canopy and restoring the trajectory of forest development with the plantings.

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- Shrub Thinning/Planting
- Targeted Ash Cutting/Selective Shrub Thinning/Planting
- Targeted Hedgerow Ash Cutting/Planting
- Wetland Mitigation Restoration Unit
- Tax Parcel Boundary
- Maintained Path
- Potential Planting Access

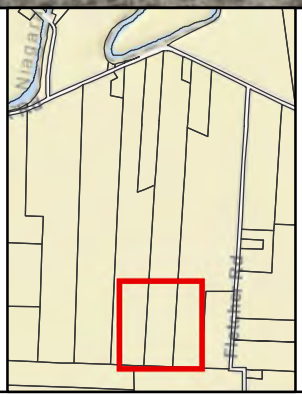

Figure 5-6 - Peters-4 Mitigation Restoration Unit
Tonawanda Creek-Fletcher Road Wetland Mitigation Site
Empire State Line Project
Erie County, New York

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N

0 50 100 Feet

1 inch = 150 feet

A total of 1,653 trees will be planted across approximately 4.41 acres (see Table 5-8).

Table 5-8. Wetland Forest Tree Species Planting Totals – Peters 4 Unit

Species	Common Name	Density (feet)	Shrub Thinning/ Planting Area (1.82 ac) Quantity	Targeted Hedgerow Ash Cutting/ Planting Area (1.08 ac) Quantity	Targeted Ash Cutting/ Selective Shrub Thinning/ Planting Area (5.4 ac) Quantity	Wetland Indicator Status	Size
Acer rubrum	Red maple	15 x 15	44	10	53	FAC	3C
Acer saccharinum	Silver maple	15 x 15	18	4	21	FACW	3C
Alnus incana	Speckled Alder	6 x 6	110	26	132	FACW	3C
Amelanchier canadensis	Serviceberry	6 x 6	110	26	131	FAC	3C
Carpinus caroliniana	American hornbeam	15 x 15	14	4	17	FAC	3C
Morella pensylvanica	Northern Bayberry	6 x 6	27	6	33	FAC	3C
Nyssa sylvatica	Black gum	15 x 15	14	3	16	FAC	3C
Populus deltoides	Eastern cottonwood	15 x 15	17	4	21	FAC	3C
Quercus bicolor	Swamp white oak	15 x 15	70	16	84	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	70	16	84	FACU	3C
Quercus palustris	Pin oak	15 x 15	70	16	84	FACW	3C
Salix sericea	Silky willow	6 x 6	55	13	65	FACW	3C
Salix nigra	Black willow	15 x 15	18	4	21	OBL	3C
Ulmus americana	American elm	15 x 15	44	10	52	FACW	3C
		Total	681	158	814		**1,653**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

5.5.7 Lacey and DeYoung North Restoration Units

Unit Description. These two units are the northernmost of the mitigation units. Although there are two property owners, the units represent contiguous early forested – successional shrub habitat (see Figure 5-7). While variability occurs across this mitigation unit with regard to topography, drainage, hydrology, degree of wetness/inundation, vegetation cover, and, to some extent, species composition, this unit is somewhat similar to the Peters 4 mitigation area. The structure and composition of the habitat indicates advanced scrub shrub wetland that is progressing toward forested wetland. Field observations indicated hummocky forest wetland with standing water in some locations, drainage swales, which convey water off-site to the east, wooded areas dominated by ash trees, and a moderately higher "knoll like" area in the southeast portion of this mitigation unit. Ash is the predominant canopy tree species with what also appear to be cottonwood and maple species (likely silver maple). Limited observations of other species included riverbank grape (*Vitis riparia*), blue flag, bent grass, and moss. The predominant understory species is silky dogwood, which ranges from densely colonized to more scattered growth. Stem densities in all layers is the lowest in the southeast corner, with moderately older shrub-early forest in the remaining portions. The southwest quadrant appears to be characterized by prolonged periods of ponding and soil saturation (e.g., comparatively wetter than other locations).

Mitigation Technique. The approach for this unit is a combination of restoring forested wetland habitat in some areas (targeted ash cutting/thinning/planting areas) and augmenting and accelerating the establishment of forested wetland habitat in other areas (see Figure 5-7). The restoration techniques will include Shrub Thinning/Planting and Targeted Ash Cutting/Selective Shrub Thinning/Planting (assumed 40% of areas for both technique). These techniques will create pathways across interior areas through clearing and thinning of the shrub layer, and creating smaller paths to ash-dominated clusters, followed by planting native tree species in both types of locations. A large area of dead ash occurs in a linear west-to-east corridor adjacent to a central drainage ditch and extends beyond the ditch/swale to the east (see Figure 5-7). The clearing/thinning will allow greater opportunities for recruitment success of existing native trees and will expand the overall footprint of forested wetland through planting. Native tree species other than ash will not be cut or thinned. Shrub communities will remain to maintain site integrity and habitat complexity, while also reducing the opportunity for IS to become introduced. Seven hundred twelve (712) trees will be planted across the Lacey unit and 3,465 trees will be planted on the DeYoung North unit, totaling 4,177 trees across 11.22 acres (see Tables 5-9 and 5-10).

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Shrub Thinning/Planting
Targeted Ash Cutting/Selective Shrub Thinning/Planting
Wetland Mitigation Restoration Unit
Tax Parcel Boundary
Maintained Path
Potential Planting Access

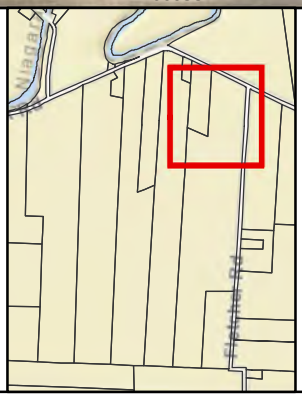

Figure 5-7 - DeYoung-N and Lacey
Mitigation Restoration Units
Tonawanda Creek-Fletcher Road
Wetland Mitigation Site
Empire State Line Project
Erie County, New York

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N

0 50 100 Feet

1 inch = 167 feet

Table 5-9. Wetland Forest Tree Species Planting Totals – Lacey Unit

Species	Common Name	Density (feet)	Shrub Thinning/ Planting Area (.93 ac) Quantity	Targeted Ash Cutting/ Selective Shrub Thinning/ Planting Area (2.66 ac) Quantity	Wetland Indicator Status	Size
Acer rubrum	Red maple	15 x 15	18	21	FAC	3C
Acer saccharinum	Silver maple	15 x 15	9	11	FACW	3C
Alnus incana	Speckled Alder	6 x 6	56	64	FACW	3C
Amelanchier canadensis	Serviceberry	6 x 6	56	64	FAC	3C
Carpinus caroliniana	American hornbeam	15 x 15	7	8	FAC	
Morella pensylvanica	Northern Bayberry	6 x 6	14	16	FAC	3C
Nyssa sylvatica	Black gum	15 x 15	7	8		
Quercus bicolor	Swamp white oak	15 x 15	36	42	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	36	42	FACU	3C
Quercus palustris	Pin oak	15 x 15	36	42	FACW	3C
Salix sericea	Silky willow	6 x 6	28	32	FACW	3C
Salix nigra	Black willow	15 x 15	9	11	OBL	3C
Ulmus americana	American elm	15 x 15	18	21	FACW	3C
		Total	330	382		**712**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

Table 5-10. Wetland Forest Tree Species Planting Totals – DeYoung North Unit

Species	Common Name	Density (feet)	Shrub Thinning/ Planting Area (5.42 ac) Quantity	Targeted Ash Cutting/Selective Shrub Thinning/Planting Area (9.52 ac) Quantity	Wetland indicator Status	Size
Acer rubrum	Red maple	15 x 15	131	93	FAC	3C
Acer saccharinum	Silver maple	15 x 15	53	37	FACW	3C
Alnus incana	Speckled Alder	6 x 6	328	230	FACW	3C
Amelanchier canadensis	Serviceberry	6 x 6	328	230	FAC	3C
Carpinus caroliniana	American hornbeam	15 x 15	41	29	FAC	3C
Morella pensylvanica	Northern Bayberry	6 x 6	82	57	FAC	3C
Nyssa sylvatica	Black gum	15 x 15	41	29	FAC	3C
Populus deltoides	Eastern cottonwood	15 x 15	53	37	FAC	3C
Quercus bicolor	Swamp white oak	15 x 15	210	148	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	210	148	FACU	3C
Quercus palustris	Pin oak	15 x 15	210	148	FACW	3C
Salix sericea	Silky willow	6 x 6	164	115	FACW	3C
Salix nigra	Black willow	15 x 15	53	37	OBL	3C
Ulmus americana	American elm	15 x 15	131	92	FACW	3C
		Total	2,035	1,430		**3,465**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

5.5.8 DeYoung South Restoration Unit

Unit Description. This unit is characterized largely by open old field, with wooded hedgerows: one along the western boundary that is north-south oriented; and one that occurs toward the southern edge of the unit that is east-west oriented (see Figure 5-8). The field is similar in composition and stage of old field succession as Peters 1, however, this field appears to be somewhat earlier in the transition phase, perhaps having been cut/mowed more recently. The vegetation community is primarily characterized by annual and perennial herbaceous species, with some scattered young, and small clusters of, pioneering ash. The ash saplings appeared to be more prevalent in the southern third to southern half of the field. Observed species included reed canary grass, purple loosestrife, soft rush, blue flag, boneset, blue vervain (*Verbena hastata*), American bugleweed (*Lycopus americanus*), sedges (*Carex* spp.), swamp milkweed, asters, and dog bane. Steeplebush was observed across portions of the field, and silky dogwood saplings were uncommon. The hedgerows contain varying numbers of dead/dying ash; the tree species within the southern windrow is almost entirely ash trees.

The field is flat, with east-west drainage furrows that appear to convey water to the east toward Fletcher Road. These furrows direct water toward a roadside ditch that parallels the east side of Fletcher Road. Common reed (*Phragmites australis*) was observed in the roadside ditch. There was no flow, per se, observed across the field during the reconnaissance. The field exhibited a mosaic of pockets of standing water with dendritic connections throughout the field. Puddle depths were less than 1 inch to approximately 2 to 3 inches. A larger, deeper drainage ditch runs east – west toward the southern edge of this unit, south of the southern windrow. Drainage flow is to the east.

Mitigation Technique. Similar to the other open field units, the approach for the field portion is to plant native tree species that were observed in the forested wetland to the south of this unit, within the hedgerows, and in other local areas (see Figure 5-8). The restoration techniques will include Old Field Planting and Targeted Hedgerow Ash Cutting/Planting (see Figure 5-8). For restoration planting, canopy trees will include swamp white oak, bur oak, pin oak, American elm, red maple, and silver maple. Smaller trees would be planted in the understory such as serviceberry and speckled alder. Planting will accelerate the establishment of forested wetland and create multi-tiered structural complexity. The selected species include a combination of faster growing species, such as the red and silver maples, and moderately slower growing species, such as swamp white oak, bur oak, and pin oak.

The clearing of dead ash tree in the hedgerows will create openings for the planting of a variety of canopy and understory trees for a more structurally complex forested wetland (see Figure 5-8).

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Old Field Planting
Targeted Hedgerow Ash Cutting/Planting
Wetland Mitigation Restoration Unit
Tax Parcel Boundary
Maintained Path

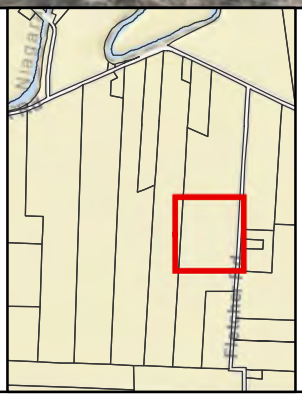

Figure 5-8 - DeYoung-South Mitigation Restoration Unit
Tonawanda Creek-Fletcher Road Wetland Mitigation Site
Empire State Line Project
Erie County, New York

NEXTera ENERGY TRANSMISSION NEW YORK

ecology and environment, inc. Global Environmental Specialists

N

0 50 100 Feet

1 inch = 125 feet

A total of 4,010 trees will be planted across 13.11 acres (see Table 5-11).

Table 5-11. Wetland Forest Tree Species Planting Totals – DeYoung South Unit

Species	Common Name	Density (feet)	Early Old Field Planting Area (12.68 ac) Quantity	Targeted Hedgerow Ash Area (.48 ac) Quantity	Targeted Hedgerow Area (.6 ac) Quantity	Wetland Indicator Status	Size
Acer rubrum	Red maple	15 x 15	308	5	7	FAC	3C
Acer saccharinum	Silver maple	15 x 15	123	2	3	FACW	3C
Alnus incana	Speckled Alder	6 x 6	384	6	7	FACW	3C
Amelanchier canadensis	Serviceberry	6 x 6	767	12	14	FAC	3C
Carpinus caroliniana	American hornbeam	15 x 15	96	2	2	FAC	3C
Morella pensylvanica	Northern Bayberry	6 x 6	192	3	3	FAC	3C
Nyssa sylvatica	Black gum	15 x 15	96	1	2	FAC	3C
Populus deltoides	Eastern cottonwood	15 x 15	123	2	2	FAC	3C
Quercus bicolor	Swamp white oak	15 x 15	492	8	10	FACW	3C
Quercus macrocarpa	Bur oak	15 x 15	492	8	10	FACU	3C
Quercus palustris	Pin oak	15 x 15	492	8	10	FACW	3C
Ulmus americana	American elm	15 x 15	307	5	6	FACW	3C
		Total	3,872	62	76		**4,010**

Key:
C = #3 container-grown plant
FAC = facultative
FACW = facultative wetland
FACU = facultative upland
OBL = obligate wetland

5.6 Site Preparation for Project Access and Disturbance Minimization

Site preparation activities are conducted for the purposes of formalizing travel routes for shrub thinning and planting activities over the course of the Project, and for minimizing impacts while Project actions are occurring. As such, site preparation activities will function to limit transit of work vehicles and people to those areas identified in the field. The specifics of ingress and egress routes will be finalized with the property owners but are likely to include field edges in order to minimize surface soil disturbance within the mitigation units. Selective thinning activities will also be conducted to minimize surface soil disturbance; there will be no grading, contouring, or any other forms of earthwork activities.

Prior to active planting, the following will occur:

- In-field marking (e.g., flagging or staking) of specific areas where selective thinning/cutting of shrub and dead ash trees are to occur;
- Mapping of invasive plant species;
- Marking access routes and equipment and material staging areas (in concert with landowner agreements); and
- Marking designated landowner access and recreational trails that are to remain unaffected by the execution and completion of this Plan.

Existing paths and snowmobile trails (or segments thereof) identified and mapped for landowner access/use may be used as travel routes and staging areas during the construction of the mitigation site (e.g., thinning/cutting and planting). Travel routes and staging areas will be established to protect existing native vegetation, sensitive natural features including but not limited to drainage features, recreational trails, hedgerows, and designated private land buffer or access areas.

Vegetation clearing for vehicle ingress and egress, and equipment and material staging areas is not anticipated to be required because it is expected that field edges will be used. However, there may be the need to selectively cut low hanging branches in some locations. Erosion control matting or bridging of drainage furrows/drainages will be used where needed, with the specific purpose of avoiding and minimizing impacts during selective thinning and planting activities. The determination to use erosion control matting and bridging (and the locations for these) will be finalized in the field.

Once equipment access has been marked in the field, site preparation will include selective shrub thinning across portions of all units to prepare for forested wetland restoration planting activities. It is expected that thinning and cutting activities will occur during the winter months when the ground surface is frozen to minimize disturbance to surface soils. Conducting these activities

during winter months is also expected to minimize impacts on local wildlife. Selective cutting of ash trees will create openings for planting in successional shrubland/early forest areas and along hedgerows. The cutting of ash trees is expected to occur using handheld equipment such as chainsaws. Excavation or tree/shrub root wad removal will not be conducted in order to reduce disturbance of surface soils and to local drainage patterns.

Additionally, ash tree decline may have "hazard trees" where existing dead ash may occur adjacent to Project access routes and/or staging areas. Windstorms could result in blockage of construction access routes, landowner recreational access, or present danger to humans. Some ash trees in areas of low risk may be left standing for wildlife value or be cut at an elevated height to provide standing woody debris or "wildlife snags." Options for cut ash trees include removal, leaving felled trees in place, chipping and spreading in layers of approximately 1 inch, and/or creating woody debris piles for habitat structure.

Given the relative scarcity of native trees that are not ash, avoidance of native trees within hedgerows and other areas will also be practiced. Native tree species will not be cut. As described above, avoidance procedures and the flagging of work areas will be part of the site preparation prior to shrub thinning.

It is anticipated that some mechanized equipment will be used to support thinning, cutting, and planting. Rubber tracked vehicles/machinery will be used in order to reduce ground surface impacts, such as soil compaction. Additional impact minimization measures may include, but not be limited to, erosion control matting, wetland matting, and bridging materials. Equipment will be allowed in designated areas only. Localized cutting and thinning methods will include hand tools and hand-held power cutting tools to the extent that they can be used, and equipment with "forestry mulcher" or "brush hog" attachments for shrub and sapling removal will used in specified areas (e.g., open fields, early successional old field-shrub communities). Forestry mulchers are effective in removing shrub layer and saplings to ground level with little-to-no soil disturbance. Chainsaw felling of hazard/danger and dead/dying ash trees will be conducted as described above, followed by removal, chipping, or creating brush piles or snags where appropriate. Final determination of equipment to be used will occur as part of the contracting and bidding portion of the Project. Adaptive management is likely to be employed if and when conditions change. All measures will be taken to avoid and minimize impacts on soils, drainage patterns, and to native tree species.

5.7 Overall Planting Approach and Schedule

The approach for this site is to maximize the successful establishment of the tree plantings and, therefore, the overall success of the mitigation plan. An established approach to maximize the survivability of planted material is to plant trees in sequential phases. Experience on other

restoration-based projects has shown that phased planting across two or more growing seasons increases planting success and reduces the mortality of planted material. Planting over more than a single growing season blunts the effects of weather extremes that could occur in a given year (e.g., drought conditions, extremely wet conditions, and higher than normal temperatures), and provides "real-time" response for evaluating which species are doing particularly well and which species are exhibiting duress of some sort. Monitoring of phased plantings will inform decisions on whether adjustments to the planting plan are necessary. For instance, adjustments would be made to subsequent planting ratios and, therefore, specific species numbers, if a species or suite of species are demonstrating greater survival rates than others. Planted material performance may reflect moderate differences in local hydrology that affect some species more than others. Ongoing monitoring of plant success will contribute, for example, to implementing necessary modifications to subsequent planting layout and selecting species for given locations. Finally, planting across two or more years will lower the incidences of plant mortality attributed to herbivory. Monitoring installed protection systems across multiple years will allow for adaptive management of the types used and to help determine whether alternative installation techniques appear more effective or superior than others.

5.7.1 Planting Schedule

Site preparation activities are forecasted to begin in the winter months of 2021. Planting is expected to begin in spring/early summer 2021. The planting schedule calls for planting to occur across three growing seasons, with final plantings occurring in the fall of the third year (2023). Therefore, the first round of planting would occur in spring/early summer 2021, followed by the second phased planting in spring/early summer 2022, and a third round of planting in the fall of 2023. The spring/early summer 2021 phase will be the equivalent of a 33% (of the total number of trees) planting. The spring/early summer 2022 planting will be a 45% planting, followed by the remaining 22% in fall of 2023 (see Table 5-12). Table 5-13 provides the summary totals of each species planted, as currently envisioned. As indicated above, monitoring planting performance will occur in between active planting phases to inform decision making for subsequent plantings. Consequently, the totals planted for each species may change with time. Changes to the plantings will be presented in the annual monitoring reports.

Table 5-12. Summary Planting Schedule Across Three Phases of Planting - 2021 through 2023, Tonawanda Creek–Fletcher Road Mitigation Site

Unit Name	Spring/Early Summer[1] 2021		Spring/Early Summer 2022		Fall[1] 2023		Total Unit Acreage	Total No. Trees
	Unit Acreage (33% of Total)	No. Trees	Unit Acreage (45% of Total)	No. Trees	Unit Acreage (22% of Total)	No. Trees		
Seguin North	.91	103	1.24	140	.60	69	2.75	312
Seguin South	.75	99	1.01	135	.50	66	2.26	300
Lacey	1.24	235	1.69	320	0.82	157	3.75	712
DeYoung North	4.93	1,144	6.72	1,559	3.29	762	14.94	3,465
DeYoung South	4.54	1,323	6.19	1805	3.03	882	13.76	4,010
Peters 1	2.65	926	3.62	1,263	1.77	617	8.04	2,807
Peters 2	1.43	403	1.94	549	0.95	269	4.32	1,221
Peters 3	3.24	904	4.42	1,232	2.16	602	9.82	2,738
Peters 4	3.37	545	4.59	744	2.24	364	10.2	1,653
Total	**23.06**	**5,682**	**31.42**	**7,747**	**15.36**	**3,789**	**69.84**	**17,218**

Note:

1. The timing of planting will be determined by prevailing weather conditions in a given year. The range in timing for spring/early summer planting is anticipated to be mid-May through mid-June and for fall is to be mid-September through end of October, however that could change in any given year. Ambient temperatures, ground temperatures, surface inundation and soil saturation will be factors monitored to determine the most appropriate planting window.

Spring/Early Summer 2021 Planting

The cluster units described above will be planted, starting from the western edges of the units (Peters 1, Peters 2, Peters 3, and DeYoung South), progressing eastward (see Figure 4-2). The layout will allow subsequent plantings to occur with little-to-no disturbance to previously planted areas. It is estimated that 5,459 trees will be planted across aforementioned units as part of the 33% planting.

Spring/Early Summer 2022 Planting

Planting will continue and information will be provided through monitoring of the first round of planting, from the eastern edge of where the 2021 planting stopped. The tree cluster units will be planted in a grid pattern that mimics natural recruiting forests (not uniform rows). Approximately, 7,442 trees will be planted as part of the 45% planting.

Fall 2023 Planting

Planting will continue to progress across the units in an easterly direction within the full north-south boundaries. Approximately 3,640 trees will be planted during this final 22% planting.

All disturbed areas will be restored post-Project.

Table 5-13. Selected Tree Species and Total Numbers for each Species Proposed for Planting, Tonawanda Creek–Fletcher Road Mitigation Site

Tree Species	Common Name	Seguin N 2.75 ac	Seguin S 2.26 ac	Peters 1 8.04 ac	Peters 2 4.32 ac	Peters 3 9.82 ac	Peters 4 10.2 ac	Lacey 3.75 ac	DeYoung North 14.94 ac	DeYoung South 13.76 ac	Tree Species Quantity
Acer rubrum	Red Maple	34	23	223	98	172	107	39	224	320	1,186
Acer saccharinum	Silver Maple	9	12	75	39	86	43	20	90	128	484
Alnus incana	Speckled Alder	50	34	468	121	270	268	120	558	397	2,173
Amelanchier canadensis	Serviceberry	50	0	463	241	538	267	120	558	793	2,919
Carpinus caroliniana	American hornbeam	7	0	59	31	0	35	15	70	100	303
Morella pensylvanica	Northern bayberry	12	0	114	60	0	66	30	139	198	592
Nyssa sylvatica	Black gum	6	0	58	31	0	33	15	70	99	298
Populus deltoides	Eastern cottonwood	0	0	0	39	0	42	0	90	127	298
Quercus bicolor	Swamp white oak	34	46	298	155	345	170	78	358	510	1,922
Quercus macrocarpa	Bur oak	34	46	298	155	345	170	78	358	510	1,922
Quercus palustris	Pin oak	34	46	298	155	345	170	78	358	510	1,922
Salix sericea	Silky willow	25	35	231	0	268	133	60	279	0	975
Salix nigra	Black willow	0	12	0	0	86	43	20	90	0	251
Ulmus americana	American elm	17	46	222	96	283	106	39	223	318	1,296
Total		312	300	2,807	1,221	2738	1,653	712	3,465	4,010	17,218

5.8 Tree Protection Measures

The threat of herbivory from deer, beaver, and other wildlife is a typical concern for projects involving planting for vegetation replacement or habitat modification. Protecting planted material increases survivability and supports community establishment and persistence to maturity. This can be achieved through a variety of approaches including the construction and installation of exclosures (herbivory protection cages) of variable diameters, the use of tree tubes, and the use of large-scale fencing. Protected trees have increased probabilities of reaching full growth potential, flowering, and producing seeds that will contribute to the seedbank. At some point, it is anticipated that seed production will overwhelm the impact of herbivores, permitting the planted species to spread to other areas of the site. Existing herbaceous and shrub layer vegetation on and adjacent to the Project site provide significant levels of palatable forage for deer. Available browse on this site and adjacent units, combined with hunting pressure, were factors in determining the scale of tree protection measures in relation to unprotected tree plantings.

Given the scale of the planting effort for this mitigation project, large-scale fencing (e.g., the fencing of parcels or units) was deemed infeasible and potentially less effective while requiring more maintenance than exclosures and tree tubes. Some landowners also rejected fencing, suggesting that closing off large areas would affect wildlife movement. Also, should deer, for instance, breach the fencing, they would likely browse on the unprotected trees. They may also have difficulty exiting.

The recommendation for this Project is to use a combination of tree tubes and exclosures. The initial specification will be to protect 35% of all the planted material. Monitoring after the first round of planting and before the second planting will indicate the level of browse pressure. Based upon the extent and intensity of browse, the percentage of protected trees may increase or decrease for subsequent plantings.

Tree tubes will be used to protect single trees. Cylindrical cages/exclosures with open tops will be installed immediately after tree plantings for individual plants and for small groupings/clusters of trees. Proven suitable dimensions for exclosures are approximately 6 feet in diameter by 6 feet high, staked, and secured. Those dimensions will protect one to two trees. Larger cages will be used in more open fields, such as 24-foot by 24-foot squares, which will protect a mixed colony of tree species. Six-foot-high exclosures are above the deer browse line; however, 8-foot- to 10-foot-high wire will be used for larger exclosures and elevated no more than 10 inches from the ground to gain extra height. Exclosures will be monitored for establishment of IS. When protected tree and shrub plantings reach heights greater than 6 feet, exclosures will be removed and used elsewhere.

6.0 MONITORING PLAN

6.1 Schedule

The wetland mitigation is proposed to begin while construction of the Project is in progress. The first round of planting is anticipated to occur by early summer 2021. The first planting will be followed by two other plantings, which are expected to be completed by fall 2023.

6.2 Monitoring

There are four general variables that will be assessed during the monitoring of the condition of planted trees. These include:

- Planting - recording and mapping when, where, the number of trees planted, and how planting was accomplished.
- Establishment – inventory for determining the relative success of planting through observations of survivability, plant growth, and vigor.
- Growth – qualitative observations will be recorded to assess growth of trees in tree tubes and exclosures compared to unprotected plants.
- Mortality – through fixed-unit sampling and meander surveys, numbers of trees under duress will be recorded to obtain an estimate of the overall planting performance. Species and locations will be recorded where mortalities occur to determine if there are patterns or specific reasons for plant mortality that can be detected and rectified.

Following restoration plantings, plant survival will be recorded to inform subsequent planting activities. A monitoring protocol will be established to track efficacy and success of planted material. Inundation, herbivory, wind, and winter weather are some of the anticipated threats to planted tree species' survival. Through periodic monitoring, planted areas will be assessed and the survival and success of planted individuals across units will be recorded. Exclosure/tree tube integrity will also be assessed. Wetland/restoration specialists will conduct all monitoring activities. It is anticipated that there will be three rounds of growing season sampling/monitoring per year, including post-planting, mid-growing season, and end of the growing season. A preliminary proposed timeline for monitoring relative to each planting event is presented in Table 6-1. However, observed conditions from early monitoring efforts may indicate that additional monitoring efforts are warranted in order to detect survival issues and take corrective actions. For instance, it is expected that monitoring tree tubes, exclosures, and the planted material will occur during winter months for the targeted purpose of checking for weather-induced damage.

Table 6-1. Proposed Timeline for Planted Tree Monitoring Relative to Each Planting Event (2021 through 2028)

Monitoring Timing	Spring/Summer 2021 Planting Event	Spring/Summer 2022 Planting Event	Fall 2023 Planting Event
May/June 2021	Post-planting follow-up		
September/October 2021	Late-season		
May/June 2022	Mid-season	Post-planting follow-up	
September/October 2022	Late-season	Late-season	
May/June 2023	Mid-season	Mid-season	
September/October 2023	Late-season	Late-season	Post-planting follow-up
May/June 2024	Mid-season	Mid-season	Mid-season
September/October 2024	Late-season	Late-season	Late-season
May/June 2025	Mid-season	Mid-season	Mid-season
September/October 2025	Late-season	Late-season	Late-season
May/June 2026	Mid-season	Mid-season	Mid-season
September/October 2026		Late-season	Late-season
May/June 2027		Mid-season	Mid-season
September/October 2027			Late-season
May/June 2028			Mid-season
September/October 2028			Late-season

Notes:
Post-planting follow-up monitoring will be performed approximately two weeks after each planting event.
Monitoring timing and frequency to be determined as part of adaptive management, particularly for the years after planting is completed (2024 through 2028).

The purpose of the post-planting and mid-growing season efforts will be to conduct a rapid assessment of planting success, to identify particular issues (e.g., exclosure stake adjustment, tree tube adjustment) and to determine if there are specific areas or species that are not performing as well as others.

6.2.1 Post Planting Monitoring

Post-planting monitoring, performed approximately two weeks after each round of planting, will determine immediate tree conditions and will assess the efficacy of the planting techniques. The frequency of and, therefore, the specific schedule for, post-planting monitoring will be determined by the results of the monitoring. For instance, if monitoring indicates there are higher than expected incidences of herbivory, that is likely to lead to the installation of additional exclosures and more frequent monitoring to keep a close eye subsequent to each round of planting. The planting contractor(s) will be required to replace trees that die within a year of planting.

6.2.2 Mid-growing Season Monitoring

Mid-growing season monitoring will also evaluate planting efficacy and will be accomplished to identify any wide-ranging problems (e.g., blight, heavy browse, and extremely dry conditions) that should be either recorded and/or addressed. This type of sampling will also evaluate the condition of the various planted species to determine if there are species-specific failures. This latter information will determine whether modifications to the planting plan need to be made prior to the subsequent round of planting.

Meander Surveys. Both the post-planting and mid-growing season monitoring efforts will be conducted through meander surveys. This approach allows for inventory across larger areas and will provide a site-wide assessment of the condition of the planted material. Mapping will be prepared to show the planting layout from year to year. During post-planting and mid-growing season meander surveys the surveyor will compare the mapping of what was planted in each area to the current conditions, and assign scores for the overall parcel, planting area, and/or species-specific scores. This will help determine and describe any species-specific and/or unit differences with regard to relative success.

Photo/Aerial Monitoring. Georeferenced photos will be taken of several planting locations within each unit during surveys, as these locations can be potentially used as fixed photo stations over the course of the monitoring effort. The fixed photo stations will include photos taken on the ground as well as aerial photos taken by a quadcopter drone, which will add another layer of documenting the progress of native recruitment and monitoring performance of plantings. The photo-monitoring will provide a series of images and high resolution video, from varying vantage points, of site conditions before, during, and after restoration planting efforts.

6.2.3 End of Growing Season Monitoring

The third type of monitoring effort will be conducted toward the end of the growing season, in late summer/early fall, before leaf senescence. This monitoring activity will be the most detailed, involving both meander surveys and established fixed sampling subunits. The original mapping and previous meander surveys will help identify suitable locations to set the fixed sampling subunits within each mitigation unit. Fixed photo stations will also be established at the fixed sampling units (ground-based and aerial photographs in same locations as the mid-season monitoring). Comparisons of photos from the monitoring stations will provide supporting documentation of landscape view changes from year to year regarding that status of planted material.

Approximately 15% of the planted area within each unit will be designated as a fixed sampling subunit and mapped to support return visits. Subsets of tracked plants (e.g., trees, shrubs) will be selected to efficiently assess a sizable number of both protected and unprotected plants of various forms. A subset could include a collection of designated tree exclosures and the unprotected plants in the close vicinity of each exclosure. As feasible, at least a subset of unprotected trees will be flagged to facilitate relocation later.

Data recorded within each fixed sampling unit will include (but may not be limited to):

- Each tree species observed;
- Numbers of each species (clarifying counts of protected versus unprotected);
- An estimate of the level of herbivory for each planted species; and
- An assessment of other damage or potential stressors, such as inundation or wind effects.

Fixed sampling units established in the late-season of each planting event will be revisited and reassessed during the late-season monitoring efforts in subsequent years (see Table 6-1). The fixed sampling units will provide more quantitative data and finer year-to-year comparisons regarding planting success by species and unit.

6.3 Reporting

Brief reports will be prepared at the end of each construction (planting) phase. The first report will summarize site preparation activities and provide maps/figures detailing planting locations, layout, and numbers for each mitigation unit. Descriptions will also detail the locations and types of installed tree protection devices and provide a list of native trees encountered and flagged for protection. Photographs from fixed photo stations and drone imagery will be included in the report. The first report will act as “as-built” documentation. Follow-on construction reports will

be provided after the second and third phases of plantings to summarize phased planting activities and the results of monitoring activities.

A monitoring report will be submitted to NYSDEC and the USACE – Regulatory Branch no later than December 31 of each monitored year. Each report will include a restatement of the goals and objectives of the mitigation plan, a qualitative and quantitative analysis of the success criteria, photographic documentation, and necessary remedial actions. Monitoring and associated reporting will be completed for five years following the final round of planting (i.e., 2023 through 2027).

6.4 Success Criteria

NEETNY is committed to the successful establishment of wetland tree species within the mitigation area. As part of this commitment, NEETNY will implement a wetland mitigation and monitoring plan that will evaluate the success of the wetland mitigation area. Success criteria will be qualitatively and quantitatively evaluated during each growing season for five years following the final planting effort in 2022. The following success criteria will be evaluated in the field and reported to NYSDEC in the annual monitoring report:

- Maintenance of a least 80% survival of planted trees after five years;
- Tree tube/exclosure integrity and performance, with a threshold of 90% or better for those functioning as protection. Damaged tree tubes will be replaced and damaged exclosures will be fixed or replaced.
- Absence of IS infestation or the need for implementing IS control and management efforts; and
- The observed recruitment of native tree and shrub species.

As noted above, a component of the planted tree monitoring effort will also involve inspecting the tree tubes and exclosures to ensure their prolonged integrity and function. Tree tubes and exclosures will be removed once the trees are tall enough to have branches and canopies that are above the deer browse line. Continued monitoring over time will determine the timing of the removal of the tree tubes and the exclosures.

6.5 Corrective Measures

Should the mitigation site not meet the established performance standards after any of the monitored years, NEETNY will take remedial action within six months in the form of supplemental tree plantings and/or IS control measures. If, after five years, monitoring demonstrates that the wetland mitigation still does not meet the established performance standards,

NEETNY will prepare and submit a Wetland Mitigation Remedial Plan to NYSDEC for review. The Plan will include an evaluation of the likely reasons that performance standards were not achieved, a description of corrective actions to ensure a successful mitigation, and a schedule for conducting the remedial work. Once accepted, a schedule for implementing the remedial plan will be developed and approved.

7.0 LONG-TERM PROTECTION: MITIGATION SITE LAND CONTROLS

NEETNY will preserve the selected wetland mitigation site through deed restrictions that will prohibit future impacts and degradation to existing wetland functions. A sample deed restriction that will be utilized is provided in Attachment B. Under the deed restriction there shall be:

- No future fillings, flooding, excavating, mining, or drilling; no removal of natural materials (e.g., soil, sand, gravel, rock, and minerals); no dumping of materials; and no alteration of the topography that would materially affect the protected property in any manner, except as authorized by the mitigation plan.
- No draining, dredging, damming, or impounding; no changing the grade or elevation, impairing the flow or circulation of waters, or reducing the reach of waters; and no other discharges or activity requiring a permit under applicable water pollution control laws and regulations, except as authorized by the mitigation plan.
- No clearing, burning, cutting, or destroying trees or vegetation; there shall be no planting or introduction of non-native or exotic species of trees or vegetation.
- No agricultural, animal husbandry, industrial, residential development, mining, logging, or commercial activity.
- No construction, erection, or placement of buildings, billboards, or any other structures, including fences, parking lots, trailers, mobile homes, camping accommodations, or recreational vehicles, or additions to existing structures.
- No construction of new roads, trails, or walkways on the protected property, except those established for the purpose of monitoring compliance.
- No construction or placement of utilities or related facilities (including telecommunications towers and antennas).
- No application of pesticides and limited use of biological controls, such as release of beetles for purple loosestrife control.

8.0 MAINTENANCE PLAN

A maintenance plan will be developed after the initial construction phase of the mitigation project. Generally, maintenance activities may be triggered by, and/or involve, the following:

- Management concerns and appropriate adaptive management strategies will be reviewed and implemented as necessary as part of the monitoring process.
- Unforeseen environmental conditions may affect the short-term trajectory of the Project but can generally be managed through early detection. Drought, IS recruitment, and loss of trees, for example, may be issues that would need to be addressed.
- Routine maintenance checks will be part of the monitoring activities and will trigger maintenance efforts.
- Deer herbivory will be monitored, as well as the status of tree protection devices, to determine if browse pressure reaches unacceptable levels.
- Supplemental plantings may be required through contractor warranties and/or to address adverse weather conditions or poor planting techniques.
- Corrective measures may be to remove failed plants and possibly to modify drainage patterns across the mitigation units. The mitigation design does not involve blocking or otherwise plugging drainage ways or drainage furrows to decrease sheet flow and furrow flow of water to off-unit areas. The soil conditions and existing vegetation communities suggest appropriate wetland hydrology exists to support forested wetland conditions. However, should subject units become drier than expected, a relatively simple and immediate fix would be to modify the drainage furrows to maintain water for longer periods of time and to allow for nearby "overbank" flooding/ponding/soil saturation.

9.0 REFERENCES

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ATTACHMENT A PHOTOGRAPHIC LOG – WETLAND MITIGATION SITE

Photo A-1 Western edge of Wetland Mitigation Unit Seguin South; facing south. This unit is characterized as densely populated successional shrubland with scattered tree cover.

Photo A-2 Northeastern corner of Wetland Mitigation Unit Seguin South. Although a small viewshed is shown, it represents well the scattered and low abundance tree cover, of which is predominantly comprised of ash trees.

Photo A-3 Panoramic view of Wetland Mitigation Unit Peters 1, view is to the south. The field is predominantly herbaceous with scattered clusters of recruiting shrubs.

Photo A-4 Early successional old field across Wetland Mitigation Unit Peters 1, facing south.

Photo A-5 Eastern portion of Wetland Mitigation Unit Peters 1, facing south. Shrub species – Bebb willow – are recruiting in, and along, drainage furrows. Silky dogwood occurs in low abundance, early recruitment. Swamp milkweed shown near foreground, along left portion of photo.

Photo A-6 Recruiting silky dogwood in drainage furrow, with background view of Wetland Mitigation Unit Peters 1 and Peters 2; view is to the north.

Photo A-7 View of early successional old field and inundated area in Wetland Mitigation Unit Peters 2; view is to the south.

Photo A-8 Wetland Mitigation Unit Peters 3, from northern edge of unit boundary/southern boundary of Peters 2.

Photo A-9 Reverting old field to successional shrub community in Wetland Mitigation Unit Peters 3. The predominant shrub species is silky dogwood. View is to the east.

Photo A-10 Expanded hedgerow along eastern portion of Wetland Mitigation Unit Peters 3. The hedgerow is comprised of series of wooded rows with relict paths in between. The tree cover is estimated to be 90 (+)% of dead and dying ash trees.

Photo A-11 Narrow rows of trees and retreating paths in expanded hedgerow along eastern portion of Wetland Mitigation Unit Peters 3, facing north. Dead ash trees comprise 90%+ of the tree canopy across this area.

Photo A-12 Successional shrub/early forested community within Wetland Mitigation Unit Peters 4. Dead ash trees are the predominant canopy tree species.

ATTACHMENT B DEED RESTRICTION AGREEMENT

OPTION AGREEMENT
(Declaration of Covenants and Restrictions)

THIS OPTION AGREEMENT ("**Agreement**"), made and entered into as of the _____ day of _____, 2020 ("**Effective Date**"), by and between Insert Owner Name, whose address is Insert Owner Address ("**Owner**") and NextEra Energy Transmission New York, Inc., a New York corporation, whose address is 700 Universe Boulevard, Juno Beach, Florida 33408 ("**NEETNY**"), provides as follows:

THAT, FOR AND IN CONSIDERATION of the mutual covenants, promises, conditions, and undertakings set forth herein, the payment of the Option Fee (as defined below in Section 2), and other good and valuable consideration, the receipt and sufficiency of which the parties hereby acknowledge, Owner and NEETNY covenant and agree as follows:

1. **Grant of Option**. Within thirty (30) days after the Effective Date of this Agreement, NEETNY shall pay the sum of Five Hundred and No/100 Dollars ($500.00) ("**Initial Option Fee**") to Owner. In consideration of the Option Fee, and upon the terms and conditions hereafter set forth, Owner hereby grants to NEETNY the exclusive right and option ("**Option**") to have Owner record a Declaration of Covenants and Restrictions in form substantially similar to the form attached hereto as Exhibit A ("**Declaration**"), to encumber that certain piece, parcel, or lot of land containing approximately _____+/- acres located in the Town of Insert Town Name, County of Insert County Name, State of New York, which is more particularly depicted on Exhibit B attached hereto and incorporated herein by reference ("**Property**"), as an exchange parcel to minimize wetland impacts due on NEETNY's electricity transmission project. The Property is approximately [_____]+/- acres; however, the actual final acreage of the Property shall be determined by the Survey (as defined below in Section 7.A) in accordance with Section 7.A below.

2. **Duration of Option**. The initial term of the Option shall be for one (1) year, commencing on the Effective Date ("**Initial Option Period**"). NEETNY shall have the right to extend the Initial Option Period for an additional one (1) year ("**Extended Option Period**") upon delivering written notice to Owner prior to the expiration of the Initial Option Period. The Initial Option Period and Extended Option Period, to the extent exercised, shall collectively be referred to as the "**Option Period**." In consideration for extending the Initial Option Period, NEETNY shall pay to Owner an Option Fee of Five Hundred and No/100 Dollars ($500.00) on or before the first (1st) anniversary of the Effective Date ("**Additional Option Fee**", and together with the Initial Option Fee, collectively the "**Option Fee**").

3. **Effect of Fees on Purchase Price**. The Option Fee shall be shall be non-refundable and shall not be applied as a credit to the Purchase Price (as defined in Section 5 below).

4. **Exercise of Option, Non-Exercise of Option**. NEETNY may elect to exercise the Option, if at all, at any time during the Option Period by giving written notice of exercise to Owner in accordance with Section 16(G) below. If the Option is exercised as provided herein, this Agreement shall become and constitute a binding contract of purchase and sale for the Declaration on the terms and conditions hereafter set forth. Upon exercise of the Option by the NEETNY, settlement on the purchase and sale of the Declaration hereunder ("**Settlement**") will occur no later than thirty (30) days after the date of such exercise ("**Settlement Date**"), in the offices of the NEETNY's counsel, or at such other place as the parties may agree in writing. If all conditions of this Agreement have been satisfied, but NEETNY shall nonetheless determine not to exercise

the Option granted hereunder, then and in that event Owner shall have the right to retain any Option Fee paid by NEETNY. NEETNY shall have the right to terminate the Option for any reason or no reason at all at any time during the Option Period after giving Owner written notice and in such event Owner shall have the right to retain any Option Fee paid by NEETNY as of the termination date.

5. **Purchase Price**. In the event NEETNY elects to exercise the Option during the Option Period, it shall pay to Owner _____ Thousand and No/100 Dollars ($_____.00) for the Declaration ("**Purchase Price**").

6. **Title**.

A. State of Title. Title to the Property is, as of the Effective Date, and shall be, at the time of Settlement, good of record and in fact, fee simple in the name of Owner, and subject to no exceptions not acceptable to NEETNY, in its discretion.

B. Title Examination. NEETNY, at its expense, may cause an examination of title to the Property to be made to confirm Owner is the fee simple owner of the Property, and shall advise Owner of those exceptions to title to the Property that are unacceptable to NEETNY. Owner shall cure such exceptions promptly and at Owner's expense prior to the Settlement Date. The Settlement Date shall be extended at the option of NEETNY for such time as may be necessary to permit such cure.

C. Future Title Matters. Owner shall not, after the Effective Date, subject the Property, or consent, to any liens, encumbrances, covenants, conditions, restrictions, easements, or rights-of-way, or seek any zoning changes or take any other action that might affect or modify the status of title to the Property (other than curing or removing title exceptions as contemplated by Section 6(B) above) without NEETNY's prior written consent. If Owner violates the provisions of the preceding sentence, Owner shall, prior to Settlement, and at its expense, effect the release of any such liens, encumbrances, covenants, conditions, restrictions, easements and rights-of-way, and take such steps as are necessary to return the zoning and title of the Property to the condition that existed as of the Effective Date.

7. **Due Diligence**.

A. NEETNY's Tests and Inspections. NEETNY and/or its agents shall have the right during the Option Period to enter upon the Property and to perform, at its expense, boring tests, topographic, environmental, survey and tests or any other studies, tests and due diligence as NEETNY elects. NEETNY shall not interfere with Owner's current operations on the Property while conducting any studies, tests and due diligence on the Property but in the event that NEETNY does interfere with Owner's current operations, NEETNY shall minimize any impact on Owner's operations. During the Option Period Owner agrees to make available to NEETNY for inspection, any and all studies, surveys, and other related materials or information relating to the Property that are in, or come into, Owner's possession or control as more particularly set forth herein, including, without limitation, owner's policy of title insurance, permits, environmental and property condition reports relating to the Property. Prior to the expiration of the Option Period NEETNY shall, at its expense, obtain and examine a survey of the Property ("**Survey**") to be prepared by a reputable surveyor, certifying the exact location and legal description and acreage of the Property and containing such other information as the NEETNY may direct and notify

Owner of any survey objections within the said same time period and in the same manner as NEETNY has to make its title exceptions as set forth above. Survey objections, if any, shall be treated in the same manner as title exceptions are treated herein. NEETNY agrees to indemnify against and hold Owner harmless from any claims, damages, costs, or expenses arising from entry upon the Property by NEETNY, or any agents, contractors, or employees of NEETNY. If Settlement does not occur, NEETNY, at its own expense, shall repair any damage to the Property caused by NEETNY's tests and studies.

B. Delivery of Due Diligence Information. The following instruments and items of information shall be delivered by Owner to NEETNY within ten (10) business days after the Effective Date:

1. All reports covering underground soil and water conditions at the Property and in the possession of Owner or its agent.

2. Copies of all licenses, and other permits and inspection reports with respect to the Property issued by appropriate governmental authorities.

8. **Settlement Deliveries**.

A. Owner's Deliveries. At Settlement, Owner shall deliver to NEETNY all of the following documents and instruments, which shall have been executed by Owner:

1. The Declaration to be delivered in hand on the Settlement Date, which shall be recorded at the expense of NEETNY;

2. The New York State Department of Taxation and Finance Combined Real Estate Transfer Tax Return, Credit Line Mortgage Certificate, and Certification of Exemption from the Payment of Estimated Personal Income Tax (TP-584) (the "**NYS Tax Affidavit**");

3. A settlement statement executed by Owner; and

4. All other documents and instruments referred to herein that are to be provided to NEETNY by Owner.

B. NEETNY's Deliveries. At Settlement, NEETNY shall deliver to Owner all of the following:

1. The Purchase Price in cash or by wire transfer of immediately available funds;

2. The NYS Tax Affidavit;

3. A settlement statement executed by NEETNY; and

4. All other documents and instruments referred to herein that are to be provided to Owner by NEETNY.

9. **Settlement Costs**.

A. Settlement Costs Each party shall pay its own legal fees. NEETNY shall pay (1) the costs of recording the Declaration, (2) the costs of any survey obtained by NEETNY, and (3) all fees, costs or expenses in connection with Buyer's due diligence reviews hereunder.

B. FIRPTA. Unless (i) Owner is not a "foreign person" as contemplated in Section 1445 and (ii) Owner executes at Settlement an affidavit in the form required by the Internal Revenue Service to exempt NEETNY from the withholding requirements under Section 1445, the delivery of the Purchase Price to Owner shall be subject to the satisfaction of the withholding requirements under Section 1445.

10. **Owner's Representations & Warranties**. To induce NEETNY to enter into this Agreement and to purchase the Declaration, Owner hereby makes the following representations, warranties and covenants as to the Property as of the date hereof (upon each of which Owner acknowledges and agrees that NEETNY is entitled to rely and has relied) each and all of which shall be true, correct and complete as of the Settlement Date:

A. Authority. Owner has the power and authority to enter into this Agreement and to consummate the transactions contemplated hereby. Owner, and any specific individual parties signing this Agreement on behalf of Owner, represent and warrant that the parties signing this Agreement on behalf of the Owner have the full legal power, authority and right to execute and deliver this Agreement. Neither the entering into this Agreement nor the performance of any of Owner's obligations under this Agreement will violate the terms of any contract, agreement or instrument to which Owner is a party. Owner has good, insurable and marketable title to the Property.

B. Accuracy of Documents. To the best of Owner's knowledge, all documents and papers delivered by Owner to NEETNY pursuant to this Agreement are true, correct and complete as of the dates thereof, and there have been no material changes from the information set forth in any of them.

C. Litigation. Owner has not been served (by means of formal, legal service of process as required by law) with any litigation, and no arbitration proceedings have been commenced, which do or will affect any aspect of the Property or Owner's ability to perform its obligations under this Agreement. In addition, within the last two (2) years, Owner has not been threatened in writing with any litigation (or arbitration) by a third party which would affect any aspect of the Property or Owner's ability to perform its obligations under this Agreement.

D. Compliance. Owner has not actually received any formal written notice of any presently uncured violation of any law, ordinance, rule or regulation (including, but not limited to, those relating to zoning, building, fire, environment, health and safety) of any governmental, quasi-governmental authority bearing on the construction, operation, ownership or use of the Property.

E. Condemnation Proceedings. Neither all nor any portion of the Property has been condemned or conveyed by deed in lieu of condemnation, nor is there now pending or, to the best of Owner's knowledge, threatened any condemnation or similar proceeding affecting the Property or any portion thereof. Owner has no knowledge that any such proceeding is

contemplated. Owner has no knowledge of any change or proposed change in the route, grade or width of, or otherwise affecting, any street or road abutting the Property, which change might have a material adverse impact on the Property.

F. Condition of Property. To the best of Owner's knowledge and with the exception of "wetlands", there are no other areas within the Property which are subject to any statutes, rules, regulations, conservation easements (or like encumbrances) or ordinances that would adversely affect the Property or the Declaration.

G. No Commitments. Owner has not made any commitment to any governmental or quasi-governmental authority having jurisdiction, or to any third party, to dedicate or grant any portion of the Property for roads, easements, rights of way, park lands or for any restrictions or to incur any other expense or obligation relating to the Property.

H. Property Use. Owner has no knowledge of any actual, pending or threatened designation of any portion of the Property, or the area in which the Property is located, as a historic landmark or archeological district site or structure. Owner has no knowledge of any landfill or graveyard lying within the Property. Owner has not actually received any formal written notice that any of the easements, covenants, conditions, restrictions or agreements to which the Property is subject interferes with or is breached by the use or operation of the Property as presently used.

I. Environmental Laws; Hazardous Materials.

1. The Property is not now, has not been during the period of Owner's ownership, and, to the best of Owner's knowledge, was not during any period prior to Owner's ownership:

(a) in violation of any past or present federal, state, or local statute, regulation, ordinance, administrative order, judicial order or any similar requirement having the force and effect of law, relating to the protection of human health or the environment (an "**Environmental Law**") including, but not limited to, any federal, state or local regulation relating to industrial hygiene or soil or ground water conditions; or

(b) used to generate, manufacture, store, refine, or in any manner deal with, any flammable, explosive or radioactive material, hazardous waste, toxic substance or related material, any other substance or material defined or designated as a hazardous or toxic substance, material or waste by any federal, state or local law or environmental statute, regulation or ordinance presently in effect or as amended or promulgated in the future (a "**Hazardous Material**");

2. Neither Owner nor, to Owner's knowledge, any prior owners or occupants of the Property have received any written notice or advice from a governmental agency with regard to Hazardous Materials on, from or affecting the Property that would give rise to any liability under any Environmental Law, and, to Owner's knowledge, there has been no investigation, notice of violation, request for information or claim of any kind asserted or threatened by any person, including any federal, state or local governmental agency, relating to the storage, disposal, discharge or release of any Hazardous Material in a manner that would give rise to any liability under any Environmental Law.

J. Use and Occupancy. As of the Effective Date, there are no leases or other agreements for occupancy in effect with respect to the Property. There is no right of first refusal or offer held by any third party with respect to the Property.

11. **Conditions Precedent**.

A. Conditions for the Protection of NEETNY. It shall be a condition precedent to NEETNY's obligation to purchase the Declaration and to perform its other obligations hereunder that each and every one of the conditions set forth under this Section 11(A) shall have been satisfied at or before Settlement, as hereafter provided, except for any such condition waived in writing by NEETNY, in whole or in part.

1. Prior to Settlement, the condition of the Property shall not have changed from the condition thereof as of the date of this Agreement, normal wear and tear excepted.

2. Owner shall have delivered to NEETNY, on or before the Settlement Date, all of the documents and other information required of it pursuant to the provisions of Sections 7(B) and 8(A) hereof.

3. All of the covenants, representations, warranties, and agreements of Owner set forth in this Agreement shall be true, correct and complete as of the Effective Date and as of the Settlement Date. Notwithstanding that certain of Owner's representations and warranties may be limited to the extent of Owner's knowledge, the conditions precedent to NEETNY's obligation to consummate Settlement set forth in this Section 3 shall not be so limited, and the satisfaction of such conditions shall depend upon the actual correctness on the Settlement Date of the matters stated in all such representations and warranties.

4. On or prior to the Settlement Date, Owner shall have performed, satisfied, or complied with all of the terms, provisions, covenants, conditions, and agreements of this Agreement.

B. NEETNY's Right to Terminate. Except as otherwise set forth above, in the event that any condition of Settlement set forth in this Agreement is not satisfied as of the Settlement Date, NEETNY shall have the option to (i) terminate its obligation to purchase the Declaration, in which event neither party shall have any further liability or obligation hereunder; or (ii) extend the time for Settlement by a period not in excess of thirty (30) days to permit Owner to fully satisfy any unsatisfied condition; or (iii) waive the unsatisfied condition and proceed to Settlement. In the event NEETNY elects not to exercise its Option, NEETNY shall pay to Owner up to $1,500 to reimburse Owner for its actual and reasonable fees it expended in hiring an attorney to review this Agreement; whereupon payment shall be made within sixty (60) days after the date NEETNY terminates this Agreement.

12. **Condemnation**. In the event of condemnation or receipt of notice of condemnation of all of the Property, or any portion thereof, prior to the Settlement Date, Owner shall give written notice to NEETNY promptly after Owner receives such notice or otherwise learn of such condemnation or conveyance in lieu thereof. If all of the Property is, or is to be, condemned, this Agreement shall terminate immediately. If a material portion of the Property is,

or is to be, condemned or taken, NEETNY, at its option, may elect either (a) to terminate this Agreement effective upon written notice to Owner not later than thirty (30) days after receipt of notice from Owner, or (b) not to terminate this Agreement and proceed to Settlement.

13. **Covenants**.

A. Condition of the Property. Subject to the provisions of Section 12 above concerning condemnation, Owner, at Owner's expense, shall maintain the Property in at least as good condition as on the date hereof. Owner shall not diminish the quality or quantity of maintenance and upkeep services heretofore provided to the Property.

B. Operation Until Settlement. Between the Effective Date and the Settlement Date, Owner shall:

1. Not transfer, convey, hypothecate, create a security interest in or lien upon, or otherwise dispose of any of the Property;

2. Comply with all federal, state and municipal laws, ordinances, and regulations relating to the Property;

3. Comply with all the terms, conditions and provisions of all agreements and other contractual arrangements referred to herein, make all payments required to be paid thereunder and suffer no default therein;

4. Promptly give written notice to NEETNY of the occurrence of any event materially affecting the substance of the representations and warranties made hereunder; and

5. Operate and maintain the Property only in the ordinary course of business as currently conducted by Owner on the Property, if any.

C. Other Acts or Omissions. Except as otherwise permitted herein, from the Effective Date until the Settlement Date, Owner shall not take any action or fail to take any action that would have a material adverse effect on the Property, or that would cause any of the representations and warranties contained in Section 10 above to be untrue as of Settlement.

14. **Default**.

A. Termination by NEETNY. If any condition for the protection of NEETNY set forth in any provision of this Agreement cannot or will not be satisfied prior to Settlement, or upon the occurrence of any other event that would entitle NEETNY to terminate its obligations under this Agreement, NEETNY, at its option, may either (a) terminate this Agreement, in which event the parties shall have no further obligations or liabilities to one another hereunder, and the Option Fee shall be returned promptly to NEETNY, or (b) proceed to purchase the Declaration as provided herein. Notwithstanding the foregoing, however, if NEETNY exercises either of the foregoing options set forth in this Section 14 as a consequence of a misrepresentation or breach of warranty by Owner, or a failure by Owner to perform their obligations hereunder, NEETNY shall retain all remedies at law and in equity with respect thereto, including, but not limited to, the right to specific performance of this Agreement and the right to recover NEETNY's attorneys' fees

incurred in connection therewith.

B. Termination by Owner. If, prior to Settlement, NEETNY fails to perform any obligation of NEETNY under this Agreement for any reason other than the failure to occur of a condition to NEETNY's obligations hereunder, Owner may, at the option of Owner, give NEETNY prompt written notice of such default or failure, and, after twenty (20) days written notice thereof (if NEETNY fails to cure such breach within such time), Owner shall be entitled to terminate this Agreement and retain the Option Fee paid as full and complete liquidated damages hereunder and to the exclusion of any other remedy.

15. **Brokers**. Each party hereto represents to the other that there are no real estate brokers involved in this transaction. Each party does hereby agree to indemnify and hold harmless the other from and against any and all costs, debts, damages, and claims, including, costs and reasonable attorneys' fees for pre-trial, trial or appellate matters in defending against any claims for brokerage commission or finder's fees arising through it relative to this transaction. The representations, warranties and agreements contained in this Section 15 shall survive the Settlement of this transaction.

16. **General Provisions**.

A. Completeness and Modification. This Agreement constitutes the entire agreement between the parties as to the transactions contemplated herein and supersedes all prior and contemporaneous discussions, understandings and agreements between the parties.

B. Assignments. NEETNY may not assign its rights hereunder without the prior written consent of Owner, which consent shall not unreasonably be withheld, delayed or conditioned; provided, however, that NEETNY, without the consent of Owner, may assign, in whole or in part, its rights hereunder to any entity controlling, controlled by, or under common control with NEETNY.

C. Survival. All of Owner's representations, warranties, covenants, agreements and indemnifications made in, or pursuant to, this Agreement shall survive Settlement and delivery and recordation of the Declaration.

D. Governing Law. This Agreement shall be governed by and interpreted in accordance with the laws of the State of New York. If the parties are unable to resolve amicably any dispute arising out of or in connection with this Agreement, they agree that such dispute shall be resolved in the state courts located in the county in which the Property is situated. The parties agree that any rule of construction to the effect that ambiguities are to be resolved in favor of either party shall not be employed in the interpretation of this Agreement and is hereby waived. Notwithstanding anything to the contrary in this Agreement, neither party shall be entitled to, and each of Owner and NEETNY hereby waives any and all rights to recover, consequential, incidental, and punitive or exemplary damages, however arising, whether in contract, in tort, or otherwise, under or with respect to any action taken in connection with this Agreement.

E. Severability. If any term, covenant or condition of this Agreement, or the application thereof to any person or circumstance, shall to any extent be invalid or unenforceable, the remainder of this Agreement, or the application of such term, covenant or condition to other persons or circumstances, shall not be affected thereby, and each term, covenant or condition of

this Agreement shall be valid and enforceable to the fullest extent permitted by law.

F. Costs. Regardless of whether Settlement occurs, each party shall be responsible for its own costs in connection with this Agreement and the transactions contemplated hereby, including, without limitation, fees of attorneys, engineers and accountants, except as otherwise expressly provided herein.

G. Notices. Any notice expressly provided for or permitted under this Agreement shall be in writing, shall be given either manually or by mail, overnight delivery service, such as UPS, FedEx, or Purolator, and shall be deemed sufficiently given when received by the party to be notified at its address set forth below, or three (3) business days after being mailed by registered or certified mail, postage prepaid, return receipt requested, or one (1) business day after being sent by such overnight delivery service, addressed to such party at such address, whichever shall first occur. Any party and any representative designated below, by notice to the other party, may change its address for receiving such notices.

If to NEETNY: NextEra Energy Transmission New York, Inc.
700 Universe Blvd.
Juno Beach, FL 33408
Attention: Development-NY

If to Owner: Insert Owner Name
Insert Owner Address
Insert Owner Address

H. Incorporation by Reference. All of the Exhibits attached or referred to herein and all documents in the nature of such Exhibits are by this reference incorporated herein and made a part of this Agreement.

I. Interpretation. The section and paragraph headings used herein are for reference and convenience only and shall not enter into the interpretation hereof. Wherever used herein, the singular number shall include the plural and vice versa, and the use of any gender shall include all other genders, all as the context may require.

J. Business Days. If any action is required under the provisions of this Agreement to occur by a date that is a Saturday, Sunday or legal holiday, such date shall be extended to the first day thereafter that is not a Saturday, Sunday or legal holiday.

K. Waiver. No waiver or purported waiver by NEETNY of any contingency contained herein shall be valid against NEETNY unless it is in writing and signed by NEETNY.

L. Construction. The parties acknowledge that they and their counsel have reviewed this Agreement and that any rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of this Agreement or any exhibits or amendments hereto.

M. Memorandum of Option. This Agreement is intended to create a valid and present interest in the Property in favor of NEETNY. The burden of NEETNY's rights hereunder shall run with and against the Property and be a charge and burden thereon, binding upon Owner

and its permittees, licensees, lessees, employees, agents, successors and permitted assigns. Simultaneously upon execution of this Agreement, Owner shall execute and acknowledge a memorandum of this Agreement substantially in the form attached hereto as Exhibit C, which memorandum may be recorded by NEETNY in the applicable County Clerk's Office, at the expense of NEETNY.

N. Confidentiality. Owner shall not disclose the fact or substance of this Agreement to any other persons or entities, other than Owner's counsel, tax advisor, or other consultants regarding this matter, unless and until Owner shall exercise its rights hereunder. Recordation of the Memorandum of Option contemplated under Section 16(M) above shall not constitute a waiver of NEETNY's right to confidentiality.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first written above.

Owner:

Insert Owner Name

By: _____
Name: _____
Title: _____

Date: _____

NEETNY:

NextEra Energy Transmission New York, Inc.,
a New York corporation

By: _____
Name: _____
Title: _____

Date: _____

EXHIBIT A
(To Option Agreement)

Form of Declaration

DECLARATION OF COVENANTS AND RESTRICTIONS

THIS DECLARATION OF COVENANTS AND RESTRICTIONS (this "**Declaration**") is made the ___ day of _____ 20__, by Insert Owner Name ("**Owner**"), having an address Insert Owner Address.

WHEREAS, on Insert Date, the New York State Public Service Commission issued an Order Granting Certificate of Environmental Compatibility and Public Need ("**Certificate**") to NextEra Energy Transmission New York, Inc., a New York corporation ("**Certificate Holder**") in Case No. Insert Case # to construct an electricity transmission project ("**Project**") under Article VII of the Public Service Law; and

WHEREAS, a condition of the Certificate provides that no disturbance to wetlands or regulated adjacent areas is allowed until a Wetland Mitigation Plan ("**Plan**") has been submitted and approved in writing by the New York State Department of Environmental Conservation ("**Department**"). All measures and requirements included in the approved Plan are enforceable conditions of the Certificate; and

WHEREAS, the Certificate Holder has submitted a Wetlands Mitigation Plan that was approved by the Department on Insert Date of Approved Plan; and said Plan has identified a parcel of real property owned by the Owner, which is acceptable as an exchange parcel to minimize wetland impacts due the Project being constructed pursuant to the Certificate; and

WHEREAS, Owner owns a parcel of real property located at Insert Street Address of Property in the Insert Municipality Name of Insert Town Name, County of Insert County Name, State of New York (the "**Entire Property**"), a section of which has been identified as an acceptable exchange parcel to minimize wetland impacts due to the Project being constructed pursuant to the Certificate (hereinafter referred to as the "**Protected Property**"), said Entire Property being the same as that property conveyed by Insert Previous Owner's Name to Insert Owner Name by deed dated Insert Owner's Deed Date and recorded in the Insert County Name County Clerk's Office in Liber Insert Book Number and Page Insert Page Number, and said Entire Property being more particularly described in Appendix "A," attached to this declaration and made a part hereof;

WHEREAS, the Department approved Plan requires that any property accepted as an exchange parcel be subject to restrictive covenants contained herein.

NOW, THEREFORE, Insert Owner Name, for [himself, herself, themselves, or itself] and [his, her, their, or its] successors and/or assigns, covenants that:

First, the Protected Property subject to this Declaration is as shown on a map attached to this Declaration as Appendix "B" and made a part hereof.

Second, unless prior written approval by the Department or, if the Department shall no

longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as the "**Relevant Agency**," is first obtained, the Protected Property shall be subject to the following use restrictions:

1. **General**. There shall be no future fillings, flooding, excavating, mining, or drilling; no removal of natural materials (soil, sand, gravel, rock, minerals, etc.); no dumping of materials; and no alteration of the topography which would materially affect the Protected Property in any manner, except as authorized by the Plan.

2. **Waters and Wetlands**. In addition to the general restrictions above, within the Protected Property there shall be no draining, dredging, damming, or impounding; no changing the grade or elevation, impairing the flow or circulation of waters, or reducing the reach of waters; and no other discharges or activity requiring a permit under applicable water pollution control laws and regulations, except as authorized by the Plan.

3. **Trees/Vegetation**. On the Protected Property there shall be no clearing, burning, cutting, or destroying of trees or vegetation, except as authorized by the Plan; there shall be no planting or introduction of non-native or exotic species of trees or vegetation.

4. **Uses**. No agricultural, animal husbandry, industrial, residential development, mining, logging, or commercial activity shall be undertaken or allowed on the Protected Property.

5. **Structures**. There shall be no construction, erection, or placement of buildings, billboards, or any other structures, to include fences, parking lots, trailers, mobile homes, camping accommodations, or recreational vehicles, or additions to existing structures, on the Protected Property.

6. **New Roads**. There shall be no construction of new roads, trails, or walkways on the Protected Property, except those established for the purpose of monitoring compliance with the purposes of this instrument.

7. **Utilities**. There shall be no construction or placement of utilities or related facilities (including telecommunications towers and antennas) on the Protected Property.

8. **Pest Control**. There shall be no application of pesticides or biological controls, including controls of problem vegetation, on the Protected Property.

9. **Vehicular Use**. There shall be no use of any motorized vehicle or motorized equipment, and no use of any non-motorized bicycle anywhere on the Protected Property, except: (a) in the case of emergency; (b) for the purpose of enforcement of applicable laws and regulations; or (c) for the purpose of monitoring compliance with the purposes of this instrument. Notwithstanding the foregoing, Owner may continue to use the existing trails on the Protected Property for recreational all-terrain vehicle (ATV) or similar vehicle use for purposes of ingress and egress to and from Owner's adjacent real property, but for no other use.

Third, the Owner of the Protected Property shall prohibit the Protected Property from ever

being used for purposes other than vacant land without the express written waiver of such prohibition by the Department or Relevant Agency.

Fourth, the Owner of the Protected Property or the Certificate Holder shall provide a periodic certification, prepared and submitted by an environmental professional acceptable to the Department or Relevant Agency, which will certify that the condition of the Protected Property is unchanged from the previous certification and the Owner of the Protected Property hereby grants the Certificate Holder the right to access the Entire Property, including the Protected Property, for the purpose of accessing the Protected Property.

Fifth, the Owner of the Protected Property shall continue in full force and effect any of the restrictions listed herein, unless the Owner first obtains permission to discontinue such controls from the Department or Relevant Agency, in compliance with the approved Plan, which is incorporated and made enforceable hereto, subject to modifications as approved by the Department or Relevant Agency.

Sixth, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Protected Property, and the Owner and its successors and assigns consent to enforcement by the Department or Relevant Agency of the prohibitions and restrictions herein, and hereby agree not to contest the authority of the Department or Relevant Agency to seek enforcement.

Seventh, any deed of conveyance of the Protected Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

Eighth, Owner shall record this instrument, within thirty (30) days of the execution of this instrument, in the office of the recording officer for the county or counties where the Protected Property is situated in the manner prescribed by Article 9 of the Real Property Law.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

Enter Owner's Name

By: _____

Print Name: _____

Title:_____ Date:_____

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the _____ day of _____, in the year 20 __, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

Appendix "A"
(To Declaration)

Entire Property

Appendix "B"
(To Declaration)

Map of Protected Property

EXHIBIT B
(To Option Agreement)

The Property

EXHIBIT C
(To Option Agreement)

Form of Memorandum

Prepared by:

Seth S. Sheitelman, Esq.
NextEra Energy Transmission New York, Inc.
700 Universe Boulevard
Juno Beach, Florida 33408

MEMORANDUM OF OPTION AGREEMENT

In consideration of $10.00 and other valuable consideration, the receipt and sufficiently of which is hereby acknowledged, Insert Owner Name ("Owner"), whose address is Insert Owner Address, does hereby grant to NextEra Energy Transmission New York, Inc., a New York corporation ("NNETNY") whose address is 700 Universe Boulevard, Juno Beach, Florida 33408, the right and option to purchase a Declaration of Covenants and Restrictions to be recorded against the property described on **Exhibit A** and shown on **Exhibit A-1** attached hereto and incorporated by reference herein, as an exchange parcel to minimize wetland impacts due on NEETNY's electricity transmission project.

This option shall expire one (1) year after the Effective Date ("**Initial Option Period**"). NEETNY shall have the right to extend the Initial Option Period for one (1) additional year ("**Extended Option Period**") after written notice to Owner prior to the expiration date of the Initial Option Period. The Initial Option Period and Extended Option Period are collectively referred to as the "**Option Period**".

The provisions set forth in a written option agreement between the parties dated the Insert Effective Date of Option, are hereby incorporated in this memorandum.

[Signatures and Acknowledgements appear on following pages.]

WITNESS our hand(s) and seal(s) on the dates set forth below.

Owner:

Insert Owner Name

By: _____

Print Name: _____

Title:_____

Date:_____

STATE OF NEW YORK)
) ss:
COUNTY OF)

On the _____ day of _____, in the year 20 __, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

NEETNY:

NextEra Energy Transmission New York, Inc.,
a New York corporation

By: _____
Name: _____
Title: _____

STATE OF FLORIDA)
) ACKNOWLEDGMENT
COUNTY OF PALM BEACH)

On _____, before me, _____, Notary Public in and for said County and State, personally appeared _____ personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

_____
Notary Public for:_____
My commission expires:_____

EXHIBIT A
(To Memorandum)

Legal Description of the Property

EXHIBIT A-1
(To Memorandum)

Sketch of the Property