NextEra Energy Transmission New York, Inc.

(NEETNY)

Empire State Line

Exhibit 4

Environmental Impacts

August 2018

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LIST OF ACRONYMS AND ABBREVIATIONS

2016 Plan	2016 New York State Open Space Conservation Plan
amsl	above mean sea level
APE	area of potential effects
BMP	best management practice
Commission	Public Service Commission
CRIS	Cultural Resources Information System
dB	decibel
dBA	A-weighted decibel
EM&CP	Environmental Management and Construction Plan
EMF	electric and magnetic fields
ESA	Endangered Species Act
ESL Project	Empire State Line Project
Framework	Framework for Regional Growth
GIS	geographic information system
GP	general permit
IEEE	The Institute of Electrical and Electronics Engineers, Incorporated
IPaC	(USFWS) Information for Planning and Conservation
kV	kilovolt
L_{eq}	continuous equivalent sound level
NEETNY	NextEra Energy Transmission New York, Inc.
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act of 1966, as amended
NNL	National Natural Landmark
NOI	Notice of Intent
NPS	National Park Service

NPS	National Parks Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
NYCRR	New York Code of Rules and Regulations
NYISO	New York Independent System Operator
NYNHP	New York Natural Heritage Program
NYPA	New York Power Authority
NYSDAM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
NYSEG	New York State Electric and Gas
NYSM	New York State Museum
NYSOPRHP	New York State Office of Parks, Recreation, and Historic Preservation
PSL	Public Service Law
ROW	right-of-way
SHPO	State Historic Preservation Office
SPDES	State Pollutant Discharge Elimination System
SPL	sound pressure level
SSURGO	Soil Survey Geographic
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRA	Visual Resources Assessment
W	Watts
WDR	Wetland Delineation Report

WMA	Wildlife Management Area
WNS	white-nose syndrome

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EXHIBIT 4. ENVIRONMENTAL IMPACTS

4.1 Introduction

NextEra Energy Transmission New York, Inc. ("NEETNY" or the "Applicant") is proposing to construct the Empire State Line Project (ESL Project) in the town of Royalton in Niagara County, New York and the towns of Alden, Newstead, Lancaster, and Elma in Erie County, New York.

A combination of field investigations, literature reviews, agency consultations, and geographic information system (GIS) analysis were conducted to identify and assess existing environmental conditions within the ESL Project area. This exhibit summarizes the results of environmental impact studies prepared by NEETNY under the following categories:

- Land use;
- Aesthetic, visual, and recreational resources;
- Cultural resources;
- Terrestrial ecology and wetlands;
- Wildlife and threatened and endangered species;
- Topography and soils;
- Water resources;
- Noise; and
- Electric and magnetic fields (EMF).

The impact studies describe existing conditions, methodologies used in the investigation, the anticipated environmental effects of the transmission facilities and, where appropriate, recommended mitigation measures to avoid or minimize any adverse impacts.

4.2 Project Description

NEETNY proposes to construct and operate the ESL Project, 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, respectively. The required in-service date is June 1, 2022.

The ESL Project includes a new 345 kV switchyard (Dysinger Switchyard) in Niagara County, which will become the new 345 kV hub in Western New York where seven 345 kV lines connect. It also includes a second new switchyard (East Stolle Switchyard) in Erie County to be connected to the existing New York State Electric and Gas (NYSEG) Stolle Road Substation. The approximately 20-mile 345 kV transmission line (Proposed Line) will connect the Dysinger and East Stolle Switchyards. In turn, 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 mile. Likewise, the East Stolle Switchyard will be connected to the NYSEG Stolle Road Substation and NYSEG 345 kV Stolle Road to Homer City transmission line via two sets of transmission lines (East Stolle Tie-Ins), totaling approximately 0.4 mile.

NEETNY anticipates that as part of the New York Independent System Operator (NYISO) interconnection process, certain off-site system upgrades, outside the scope of this Article VII Application, will be required to interconnect the Project to the transmission grid. Those upgrades will be determined through the NYISO Transmission Interconnection Process.

Please refer to Exhibit 2, Section 2.1 for a description of terms related to the ESL Project. For the purpose of this Exhibit, "Proposed ROW" refers to the Proposed ROW depicted on the aerial location figures (see Figure 2-3) in Exhibit 2 associated with the Proposed Line and Dysinger and East Stolle Tie-Ins.

4.2.1 Proposed Overhead Transmission Line Construction

The Proposed Line will be built within the NYSEG Utility Corridor. In general, the NYSEG Utility Corridor is 500 feet wide with some areas widening to approximately 800 feet. NYSEG's

230 kV Line 65 extends along the length of the corridor. The existing NYSEG 115 kV Line 926, 115 kV Line 928, and 34.5 kV Line 525 parallel the NYSEG Line 65 for varying distances. Please refer to Figure 2-3 in Exhibit 2 for the location of existing transmission lines within the NYSEG Utility Corridor.

From the Dysinger Switchyard, the Proposed Line will cross from the west side to the east side of the NYSEG Utility Corridor. The Proposed Line will follow the NYSEG 230 kV Line 65 on the east side of the NYSEG Utility Corridor generally south for approximately 20 miles to the proposed East Stolle Switchyard.

At the Dysinger Switchyard, the Proposed Line will tie-in to the existing NYPA and NYSEG transmission lines. Two double circuit transmission lines, approximately 0.3-miles, will be constructed between the south end of the Dysinger Switchyard and the two NYPA 345 kV lines. Two additional parallel approximately 0.2-mile transmission lines will be constructed between the north end of the Dysinger Switchyard and the NYSEG 345 kV Somerset lines.

At the East Stolle Switchyard, the Proposed Line will tie-in to the existing NYSEG Stolle Road Substation and NYSEG 345 kV Stolle Road to Homer City transmission line. An approximately 0.2-mile transmission line will be constructed between the East Stolle Switchyard and the existing NYSEG Stolle Road Substation, connecting into the existing bay for the NYSEG 345kV Stolle Road to Homer City line. In addition, an approximately 0.2-mile extension of the Stolle Road to Homer City transmission line will be constructed to tie the NYSEG line into the East Stolle Switchyard.

NEETNY is currently seeking to acquire from NYSEG a 105-foot-wide right-of-way (Proposed ROW) within the NYSEG Utility Corridor to construct and operate the ESL Project. The Proposed ROW is depicted in Exhibit 2, Figure 2-3, and on cross-section drawings in Exhibit 5, Figure 5-2. The clearing area depicted on Figure 2-3 in Exhibit 2 does not extend to the edge of the Proposed ROW on the eastern side of the Proposed Line. The purpose of the slightly wider Proposed ROW than the proposed clearing limits is to provide NEETNY flexibility if, during final design, a need is identified to make minor adjustments to structure locations, access roads, or any other Project

components, which necessitate a wider cleared ROW. This approach is consistent with good utility practice and the flexibility required for an Article VII proceeding.

Construction of the Proposed Line and Tie-Ins will entail several distinct activities that will typically progress in a linear manner from one end of the transmission line to the other. These general construction phases consist of:

- Clearing;
- Access road construction;
- Laydown and staging areas;
- Structure erection;
- Stringing of conductors; and
- Cleanup and restoration.

4.2.1.1 Clearing

By locating the Proposed Line as close to the edge of currently cleared portion of the NYSEG Utility Corridor as possible and selecting a monopole design configuration that requires a narrower clearing than an H-frame design, NEETNY has designed the Project to minimize the tree clearing required. Nevertheless, the existing cleared portion of the Utility Corridor, which ranges from approximately 100 to 260 feet wide, will need to be expanded by approximately 90 feet to construct and safely operate the Proposed Line. Clearing will also be required in the portion of the Proposed ROW established around the Dysinger and East Stolle Tie-Ins. Figure 2-3 in Exhibit 2 shows the area of permanent tree clearing required for the Project, and vegetation removal in relation to the existing cleared areas within the NYSEG Utility Corridor is shown on cross-section drawings in Exhibit 5, Figure 5-2.

Trees may be cleared using a combination of hand and mechanized clearing techniques. During tree clearing, all merchantable timber will be stacked and left in place along the edge of the construction corridor in upland areas for landowner use. The remaining vegetation will be mulched and spread on the uncultivated upland portions of the construction corridor.

At ecologically sensitive locations, such as wetlands and stream crossings, NEETNY will employ selective tree cutting methods. Low growing species of trees and shrubs will remain undisturbed, to the extent possible, and grinding shall not occur in wetland areas. All vegetation cut in wetland areas will be removed from wetlands and stacked in upland areas. The vegetation to be preserved will be described in the Environmental Management and Construction Plan (EM&CP).

Particular consideration will be afforded the handling and disposal of ash trees. The entire ESL Project is within the emerald ash borer restricted zone (New York State Department of Environmental Conservation [NYSDEC] 2017a). To comply with the emerald ash borer restricted zone, woody debris associated with ash tree clearing will either be disposed of in the same general vicinity as the tree removal or properly disposed of within the restricted zone.

4.2.1.2 Access Road Construction

NEETNY will utilize the 23 public roads that are crossed by the Proposed Line to access the Proposed ROW. The road crossings are shown on the aerial figures in Exhibit 2. In general, NEETNY will install temporary access roads along the length of the Proposed ROW. The temporary access roads will typically be 16 feet wide. Depending on ground conditions at the time of construction, temporary access roads may be classified as drive and crush, graded, or graveled. Areas where existing ground conditions are level, stable, and excessive rutting does not occur will be considered drive and crush and vehicle traffic will compact the ground surface, but no other improvements are required. Areas where existing ground conditions are uneven but stable and excessive rutting does not occur, will be considered graded. Dozers, motor graders, and rollers will level and re-compact the ground surface for construction traffic. Where existing ground conditions are unstable and excessive rutting has a high likelihood of occurring, gravel roads will be installed with 6 inches of base gravel and underlying geotextile fabric to allow access of construction equipment. All temporary roads will be removed and restored once they are no longer needed for construction of the ESL Project.

Temporary construction entrances will be installed at entry points off public roads along the Proposed ROW. Construction entrances will consist of coarse aggregate and underlying geotextile fabric. In cases where a ditch or stream parallels the existing paved road, an appropriately sized

culvert will be installed under the entrance surface. In other cases, where a sensitive area or wetland exists immediately off the edge of the road, a matted entrance may be used. Construction entrances are roughly 20 feet wide and 40 feet long with appropriate turning radii that allow for the structure type to be hauled to the work location. All temporary construction entrances will be removed and restored once they are no longer needed for construction of the ESL Project.

Wetland matting will be used where construction equipment passes through wetland areas. Wetland matting will be installed prior to the clearing crew moving into a wetland area. The wetland mats will remain in place until project completion to facilitate access across wetland areas for construction and inspection purposes. In some cases, mats may need to be layered in the event the first layer settles below ground or water level. Wetland mats will be the same type and size as the access matting.

The need for permanent roads to maintain the Proposed Line will be determined during development of the EM&CP. NEETNY will coordinate with NYSEG to use existing access roads within the NYSEG Utility Corridor to minimize impacts.

Specific locations and specifications of access and maintenance routes will be provided in the EM&CP.

4.2.1.3 Laydown and Staging Areas

During construction of the ESL Project, off-ROW areas may be needed for use as laydown and staging areas. Typical activities in these areas include field offices, crew parking, sanitation, waste management, fueling, equipment wash, material storage, and equipment storage. These areas will be sited to avoid environmentally sensitive areas such as streams, wetlands, or archaeological sites. Establishment of these areas could require vegetation clearing, removal and stockpiling of topsoil, site grading, spreading of gravel cover, and fencing. Following completion of construction, these areas will be restored. The laydown and staging area locations and details will be identified during final design and presented in the EM&CP.

4.2.1.4 Structure Installation

NEETNY proposes to install expandable single-circuit steel monopoles to support the Proposed Line. Structures will typically be 110 to 120 feet above ground level. The average span length of the Proposed Line is 750 feet.

Transmission line structures will be direct embedded, where possible, requiring excavations approximately 20 feet deep and approximately 3 to 5 feet in diameter. This will constitute approximately 80% of all structures. An approximately 40-foot-by-40-foot temporary work pad will be established at each of these structures. Angle or dead-end structures, comprising the remaining roughly 20% of the structures, will have drilled shaft footings, requiring excavations approximately 35 feet deep and approximately 9 to 10 feet in diameter. An approximately 65-foot-by-65-foot temporary work pad will be established at these structures. Specific foundation requirements will be determined following geotechnical investigations to be conducted during final ESL Project design, and included in the EM&CP.

To the extent practical, transmission line structures have been sited to avoid environmentally sensitive areas such as known archaeological sites, wetlands, streams or sensitive species habitats. When it is necessary to locate structures within the limits of a wetland, special construction methods and environmental procedures will be employed to minimize adverse effects and protect the individual functions of the wetland. Wetlands will be individually reviewed to determine the best method of access to each structure and to prescribe the appropriate mitigation measures, such as the use of equipment mats and/or scheduling for dry or frozen conditions. Typically, for structures in wetlands, temporary equipment mats will be utilized for access and work pads to minimize ruts and soil compaction and the potential for erosion and sedimentation impact, and to provide a level, stable work area to set up and operate the equipment necessary for the installation and erection of the steel structures. After the work area has been prepared to properly situate construction equipment, work will begin with excavating holes for the new pole structure using an auger or an excavator. In wetland areas, topsoil, containing root and seed stock will be segregated from subsoil and stockpiled on construction matting or geo-textile fabric.

Details regarding the size and location of each work area as well as the mitigation measures that will be used to minimize impacts on wetlands will be provided in the EM&CP.

4.2.1.5 Stringing of Conductors

Conductor stringing will be done in accordance with recognized approved tension stringing methods per the Institute of Electrical and Electronics Engineers, Incorporated (IEEE) Guide to Installation of Overhead Transmission Line Conductors, ANSI IEEE Standard 524. For protection of the public during wire installation, guard structures over highways, railroads, power lines, foreign structures, and other barriers will be erected. NEETNY will pull (string) pilot lines from structure to structure by either a helicopter or land-operated equipment and thread them through the stringing blocks at each structure using pulling and tensioning equipment.

4.2.1.6 Cleanup and Restoration

NEETNY will keep construction sites, material storage yards, and access roads in an orderly condition throughout the construction period. Refuse and trash will be removed from the sites and disposed of in a timely and approved manner (*e.g.*, in an approved landfill). NEETNY will restore the Proposed ROW and other work areas when construction is complete according to the EM&CP.

The EM&CP will identify and describe restoration actions for construction- and operation-related disturbance. Restoration actions will be specific to the setting and vegetation communities affected during construction and operation activities, disturbance type, and duration.

4.2.2 Construction of the Proposed Dysinger and East Stolle Switchyards

The new Dysinger Switchyard will occupy an approximately 7-acre site on a 46-acre parcel adjacent to the NYSEG Utility Corridor in the town of Royalton, Niagara County. The site is approximately 600 feet south of Akron Road and 900 feet east of Block Church Road. The new switchyard will be offset approximately 150 feet from the western edge of the NYSEG Utility Corridor, and approximately 1,500 feet north of the NYPA ROW for their 345 kV Niagara line.

The new East Stolle Switchyard will occupy an approximately 6-acre site within the NYSEG Utility Corridor in the town of Elma, Erie County. The site is approximately 1,200 feet south of

Bullis Road and 4,000 feet east of Stolle Road. The new switchyard will be adjacent to the existing NYSEG Stolle Road Substation.

The topography of both sites is nearly flat and will require minimal grading to provide a level development site. Further details regarding construction of the new switchyards are provided in Exhibit E-2: Other Facilities.

4.3 Land Use

This section examines existing land uses crossed by and surrounding the Proposed ROW and switchyards, and evaluates potential land use impacts, if any, resulting from the ESL Project.

4.3.1 Existing Land Use

Existing land uses crossed by and adjacent to the ESL Project were identified from various sources, including reconnaissance surveys performed in spring 2018, aerial photography, U.S. Geological Survey (USGS) 1:24,000 topographic quadrangle maps, National Land Cover Dataset maps, and local land use maps.

Land Use at the Dysinger and East Stolle Road Switchyards

The proposed Dysinger Switchyard is located in the town of Royalton, and will occupy an approximately 7-acre site on a 46-acre parcel that is currently active agricultural land (hayfield). Land use surrounding the site is rural residential and agricultural with residences located on Block Church Road to the east, and Akron Road (SR 93) to the north. The nearest residences to the Dysinger Switchyard site are approximately 800 feet from the site, and are located at 8516 Akron Road and 6575 Block Church Road.

The proposed East Stolle Switchyard is located in the town of Elma, and will occupy an approximately 6-acre site within the NYSEG Utility Corridor that is currently active agricultural land (hayfield). Land use surrounding the site is rural residential, agricultural, industrial (existing NYSEG Stolle Road Substation), and undeveloped forest land. Residences are located along Bullis Road north of the East Stolle Road Switchyard and to the southeast along Stolle Road. The nearest residence to the East Stolle Switchyard is approximately 1,200 feet from the site, and is located at 3780 Bullis Road.

Land Use along Proposed ROW

The Proposed ROW is within the NYSEG Utility Corridor and adjacent to existing NYSEG overhead transmission lines for its entire route. In general, the NYSEG Utility Corridor is 500 feet wide with some areas widening to approximately 800 feet. NYSEG's 230 kV Line 65 extends along 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 two private landowner holdings. In these areas, NYSEG owns 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.

Within the existing NYSEG Utility Corridor, the Proposed ROW crosses primarily forested (40%), open field/scrub-shrub (30%), and agricultural land (28%). The remaining land uses crossed are residential areas and road crossings. Agricultural land is primarily hayfields with some row crops. Crops observed in the ROW include corn and soybeans.

Adjacent land uses are primarily forested and agricultural land. Rural residential areas are scattered throughout the ESL Project vicinity. In the towns of Royalton and Newstead, residences are generally individual residences with driveways connecting directly to county roads. South of the I-90 crossing, the ESL Project ROW is surrounded by a greater number of residential uses, including rural subdivisions. In addition, several commercial and industrial uses are located along State Route 5 in the town of Newstead. Additional low-density commercial and residential uses are located near the Proposed ROW at the Walden Avenue crossing in the town of Alden. Several rural subdivisions are located near the ROW in the towns of Alden, Lancaster, and Elma. A summary of the land uses crossed by the Proposed Line is presented in Table 4.3-1.

Table 4.3-1
Land Use along the Proposed Line

Land Use	Length (miles)	Percentage
Agricultural	5.8	28%
Residential	<0.1	<1%

Forested Land	8.2	40%
Open Field/Scrub-Shrub	6.1	30%
Road Crossings	0.4	2%
Total	**20.5**	**100%**

Zoning in the Proposed Project Area

Table 4.3-2 provides details on the zoning districts at the switchyard sites and those crossed by the Proposed ROW. Figures provided in Exhibit 7 show the zoning districts crossed by the Proposed Line.

Table 4.3-2
Zoning Districts Crossed by the ESL Project

Town	Zoning/District	Purpose/Use
Dysinger Switchyard		
Royalton	Agricultural District (A)	Primarily for agricultural and rural-residential uses, including nonfarm residential, commercial and agri-industrial uses
East Stolle Switchyard		
Elma	Residential C and Agricultural Zone	Provide areas for low density residential, agricultural operations, and home occupations
Proposed Line		
Royalton	Agricultural District (A)	Primarily for agricultural and rural-residential uses, including nonfarm residential, commercial and agri-industrial uses
Newstead	R-A Rural-Agricultural District	Preserve and protect agricultural areas and to provide for limited rural residential development, together with other non-intensive compatible activities
	C-2 Commercial District	Provide areas within the Town for commercial use, including various commercial uses conducted out of doors

Table 4.3-2 Zoning Districts Crossed by the ESL Project		
Town	**Zoning/District**	**Purpose/Use**
Alden	R-A Rural Agricultural District	Preserve and protect agriculture and provide limited opportunities for rural residential
	R-2 Residential District	Provide areas for two family residential development
	M-1 Manufacturing District	Provide areas for planned industrial district compatible with surrounding community
	M-2 Manufacturing District	Provide areas for more extensive industrial districts
Lancaster	Agricultural Residential Districts (A-R)	Provide areas for low-density, semi-rural single-family detached residential development, which would also accommodate farm and other farm-related activities
	Residential Commercial Office District (RCO)	Provide areas for the location of commercial and office uses, which are not necessarily related to retail trade
	General Industrial District (GI)	Provide areas within the town for the location of medium manufacturing and processing facilities as well as office, research and service establishments
Elma	Residential C and Agricultural Zone	Provide areas for low density residential, agricultural operations, and home occupations

Existing Utilities Crossed by Proposed Line

Table 4.3-3 lists the existing utilities crossed by the Proposed Line. The Proposed Line crosses six natural gas pipelines, two 345 kV electric transmission lines, one telephone or fiber-optic cable, and 21 electric distribution lines. These existing utilities are shown on the aerial figures provided in Exhibit 2 (Figure 2-3). NEETNY will work with the utilities to understand any crossing requirements and mitigation required, if necessary.

Table 4.3-3 Existing Utilities Crossed by the ESL Project			
Utility Owner	**Utility Type**	**Town**	**Closest Transmission Structures**
NYSEG	Natural Gas Pipeline	Royalton	2 to 3
National Fuel Gas	Natural Gas Pipeline	Royalton	7 to 8
Niagara Mohawk	Distribution Transmission Line	Royalton	12 to 13
Niagara Mohawk	Distribution Transmission Line	Newstead	14 to 15
Niagara Mohawk	Phone or Fiber Optic Cable	Newstead	17 to 18
Niagara Mohawk	Distribution Transmission Line	Newstead	34 to 35
Niagara Mohawk	Distribution Transmission Line	Newstead	40 to 41
Niagara Mohawk	Distribution Transmission Line	Newstead	46 to 47
Niagara Mohawk	Distribution Transmission Line	Newstead	55 to 56
Niagara Mohawk	Distribution Transmission Line	Newstead	67 to 68
Tennessee Gas Pipeline (2 lines)	Natural Gas Pipeline	Alden	90 to 91
Niagara Mohawk	Distribution Transmission Line	Alden	88 to 89
NYSEG	Distribution Transmission Line	Alden	96 to 97
NYSEG (2 lines)	Distribution Transmission Line	Alden	102 to 103
NYSEG	Distribution Transmission Line	Alden/Lancaster	111 to 112
NYSEG (2 lines)	Distribution Transmission Line	Lancaster	117 to 118

Table 4.3-3
Existing Utilities Crossed by the ESL Project

Utility Owner	Utility Type	Town	Closest Transmission Structures
NYSEG	Distribution Transmission Line	Lancaster	122 to 123
NYSEG	Distribution Transmission Line	Lancaster	126 to 127
National Fuel Gas	Natural Gas Pipeline	Lancaster	129 to 130
NYSEG	Distribution Transmission Line	Lancaster	130 to 131
NYSEG	Distribution Transmission Line	Lancaster	135 to 136
National Fuel Gas	Natural Gas Pipeline	Lancaster	137 to 138
NYSEG	Distribution Transmission Line	Elma	145 to 146
National Fuel Gas	Natural Gas Pipeline	Elma	153 to 154
NYSEG	Distribution Transmission Line	Elma	153 to 154

Key:
kV = kilovolt
NYSEG = New York State Electric and Gas Corporation
NYPA = New York Power Authority

4.3.2 State and Local Land Use and Open Space Plans

The Proposed Line and East Stolle Switchyard will be within the existing NYSEG Utility Corridor, and the Dysinger Switchyard will be on private land that NEETNY has an option to purchase. Locating the Proposed Line in an existing Utility Corridor will substantially reduce the impact on land use in comparison to new ROWs within new corridors. This section discusses land use and open space plans relevant to the ESL Project.

New York State Open Space Conservation Plan

The 2016 New York State Open Space Conservation Plan (2016 Plan) contains comprehensive recommendations to help local governments and non-profit organizations undertake open space planning at regional and community levels. General goals of the State's 2016 Plan include (NYSDEC 2016):

- Preserving and enhancing natural and cultural resources for health and well-being of communities and ecosystems;
- Protecting habitats to sustain hunting, fishing, trapping, and wildlife viewing;
- Addressing global climate change through community design and protection and enhancement of natural resources; and
- Using natural features in prevention and mitigation of damage from extreme weather events.

The 2016 Plan divides New York State into nine regions of which the ESL Project is located entirely within the Western New York Region. Several priority conservation projects are located in Erie and Niagara Counties and are described below:

- Buffalo River Watershed: Protect the Buffalo River corridor as well as its three primary tributaries: Cayuga Creek, Cazenovia Creek, and Buffalo Creek;
- Ecological Corridors: Protect ecological corridors to link existing public lands, protect important fish and wildlife habitats, and provide recreational access. Projects include but are not limited to the Niagara River;
- Exceptional Forest Communities: Preserve the region's remaining forest remnants that exhibit old-growth characteristics. Ecologically significant forest tracts in Erie and Niagara Counties include: Reinstein Woods in Cheektowaga, New York; the Niagara Gorge slope in Niagara County; Hunter Creek Forest (Buffalo Creek Watershed); Sardinia Forest (Buffalo River Watershed); and the Fowlerville and Eighteen Mile Creek Gorge forests (Eighteen Mile Creek Watershed);
- Grassland Preservation and Restoration: Protect existing grassland habitat and restore native grassland species. Projects include the towns of Porter, Wilson, Hartland, Newfane, and Somerset in Niagara County; and the Mill Road Scenic Overlook in Erie County;
- Niagara Escarpment: Preserve the escarpment, a large geologic feature formed spanning over 750 miles, including in Niagara County;

- Niagara River Watershed: Protect and expand core forest areas resilient to climate change and acquire and protect critical headwater forest areas in the Niagara River Watershed (Eighteen Mile Creek, Buffalo River, Buffalo Creek, Cayuga Creek and Upper Tonawanda Creek). Restore to the fullest biodiversity and functionality values possible in quarry habitat, including active or reclaimed sand and gravel pits in the towns of Clarence, Newstead and Alden;

- Trails and Trailways: Protect existing lineal corridors and provide for acquisition or easement of existing trails and trailways for additional undeveloped linkage to connect existing trails;

- Significant Wetlands: Protect significant natural wetland communities, which provide ecological diversity for flora and fauna and protection of water quality;

- Urban Wetlands: Protect wildlife habitat associated with urban wetlands through acquisition and establishment of protected upland buffer zones; and

- Lake Ontario and Lake Erie Shorelines, Islands, and Niagara River: Establish a new resource consisting of islands, sand dunes, bluffs, embayments, wetlands, major tributaries, lake plains, significant bat and avian migratory flyways, opportunities for shoreline and island access and other significant natural and cultural resources.

The ESL Project will not conflict with the 2016 Plan. The Proposed Line crosses Cayuga Creek in the Buffalo River Watershed, and Cayuga Creek and Tonawanda Creek in the Niagara River Watershed. The Proposed Line will span Cayuga and Tonawanda Creeks, alongside the existing NYSEG lines such that no direct impacts on or impediments to access to these streams will occur. Proper erosion and sediment controls will also be installed where structures are located in proximity to these stream crossings, as well as at crossings of any of these streams' tributaries. In summary, the ESL Project will not conflict with conservation efforts in the Buffalo River or Niagara River watersheds.

The Proposed Line crosses three trailways. These trails are "rails to trails" projects, and will be spanned by the Proposed Line alongside the existing NYSEG lines. The ESL Project will not conflict with the continued use of these trails, and NEETNY will outline measures in the EM&CP to ensure trails are accessible during construction activities.

Because the ESL Project will be constructed primarily within an existing Utility Corridor, fragmentation of natural resources such as forested lands and wetlands will be minimized and the

visual character of the corridor following construction of the ESL Project will be similar to current conditions.

Erie and Niagara Counties, Framework for Regional Growth (2006)

Erie and Niagara Counties are located on the United States-Canada border and serve as the urban center of the eight counties that make up the Western New York Region. Nevertheless, both counties include large areas of open space and active agricultural land.

The ESL Project does not conflict with the goals of the Framework. Construction of the ESL Project will result in the permanent conversion of approximately 13 acres of active agricultural land to public utilities in both Erie and Niagara Counties at the switchyard sites. This conversion represents a minor fraction of the 142,679 and 142,818 acres of farmland in Erie and Niagara counties, respectively (U.S. Department of Agriculture [USDA] 2012). Farming activities within the Proposed ROW would be temporarily impacted during construction, but will resume following construction. Construction of the Proposed Line within the NYSEG Utility Corridor also minimizes fragmentation of existing rural and environmentally sensitive lands.

Town of Royalton Comprehensive Plan (2007)

The town of Royalton has historically been an agricultural community and remains so today. Goals included in the Town of Royalton Comprehensive Plan include maintaining and enhancing the town's rural character and agricultural economy. The plan calls for new development to avoid sensitive lands such as prime agricultural soils and wetlands.

The ESL Project does not conflict with the goals of the town's comprehensive plan. As discussed above, a minimal amount of agricultural land at the Dysinger Switchyard would be converted to a non-agricultural use, and siting the Proposed Line in an existing Utility Corridor minimizes impacts on the town's rural character.

Town of Newstead and Village of Akron Combined Comprehensive Plan (2001)

The town of Newstead is primarily an agricultural community and the goal of the comprehensive plan is to allow for strategic development that limits the loss of agricultural land. Goals include

maintaining a manageable population level, diverse and attractive housing, protecting scenic and natural resources, and promoting a land use pattern compatible with agricultural operations.

The ESL Project does not conflict with the goals of the Town's comprehensive plan. The ESL Project does not result in the permanent loss of agricultural land in the town of Newstead, and as discussed above, siting the line in an existing Utility Corridor minimizes impacts on the town's rural character.

Town of Alden Comprehensive Plan (2010)

The Town of Alden Comprehensive Plan describes Alden as a rural community. The comprehensive plan was updated in 2010 to manage the town's physical growth and maintain the rural character of the area. The plan includes consideration of tools to preserve rural/agricultural resources to achieve this goal. Other goals include protecting cultural and environmental resources, encouraging a diverse economy and diverse housing stock.

The ESL Project does not conflict with the goals of the Town's comprehensive plan. The ESL Project does not result in the permanent loss of agricultural land in the town of Alden, and as discussed above, siting the line in an existing Utility Corridor minimizes impacts on the town's rural character.

Town of Lancaster, Village of Lancaster, Village of Depew: A Comprehensive Plan. A Common Future (2000)

The Town of Lancaster and the villages of Lancaster and Depew created a joint comprehensive plan to document regional characteristics, provide benchmarks for regional objectives, and encourage future cooperation among the communities. Originally a primarily agricultural community, the plan describes how the town's population grew throughout the 20th century as residents from Buffalo moved to new suburbs. Goals of the plan include accommodating future population growth, developing a regional identity, providing greater housing options, and maintaining higher density land uses within the villages and lower density suburban and rural areas in the town.

The ESL Project does not conflict with the goals of the Town's comprehensive plan. The ESL Project is fully located in the NYSEG Utility Corridor in the town of Lancaster, and will not prevent future population growth or low density suburban development in rural areas of the town.

Town of Elma Regional Comprehensive Plan (2002)

The regional comprehensive plan included the town of Elma in addition to the towns of Aurora, Holland and Wales, and the village of East Aurora. Elma and the other towns are described as rural in nature, with the predominant land use of agriculture having been slowly giving way to open land and rural residential growth. Goals specific to the town of Elma include preserving the community's rural character, and minimizing the loss of prime farmland soils to development.

The ESL Project does not conflict with the goals of the Town's comprehensive plan. As discussed above, construction of the East Stolle Switchyard will result in conversion of a minimal amount of land to a non-agricultural use. Siting the Proposed Line in the NYSEG Utility Corridor minimizes impacts to the town's rural character.

4.3.3 Floodplains

Figure 4.3-1 depicts the 100-year floodplains crossed by the ESL Project, and Table 4.3-4 summarizes the floodplain crossings.

Table 4.3-4
Floodplain Crossings

County	Flood Zone[1]	Associated Stream	Crossing Length (feet)
Niagara	A	Mud Creek	426
Niagara/Erie	A	Tonawanda Creek	6,516
Erie	AE	Ellicott Creek	475
Erie	A/AE	Cayuga Creek	1,107
Erie	AE	Little Buffalo Creek	692

Note:

[1] Zone AE includes areas that have a 1% probability of flooding every year (also known as the "100-year floodplain") and where predicted floodwater elevations above mean sea level have been established. Zone A are areas that have a 1% probability of flooding every year (also known as the "100-year floodplain"), and where predicted floodwater elevations have not been established.

4.3.4 Agricultural Districts

New York State enacted the New York Agricultural Districts Law, Article 25-AA of the Agriculture and Markets Law in 1971 for the conservation, protection, and continued use of agricultural land for food and other agricultural products. Counties have the authority to create, modify, and approve agricultural districts, which are certified by the Commissioner of Agriculture and Markets. Individual landowners may submit a request to the legislative body for the inclusion of a parcel of land in the agricultural district. Agricultural districts provide landowners with incentives and protection from private nuisance lawsuits and restrictive Local Ordinances to help the landowner prevent the conversion of agricultural land to non-agricultural uses.

The agricultural district boundaries within the ESL Project area are shown on Figure 4.3-1. The Dysinger Switchyard would be located in Agricultural District 2. The Proposed Line would also cross Agricultural District 14 and Agricultural District 1 in Newstead before crossing Agricultural District 16 in the towns of Alden and Lancaster. The East Stolle Road Switchyard would be located in Agricultural District 13.

4.3.5 Environmental Effects and Mitigation

Impacts on land use have been minimized by siting the Proposed Line within the NYSEG Utility Corridor. As such, NEETNY does not anticipate any significant adverse impacts to existing land use.

Land Uses

The switchyards will be located on a combined approximately 13 acres of active agricultural land. The proposed Dysinger Switchyard site is allowed in the A - Agricultural zoning district in the town of Royalton as a special permit use. The proposed East Stolle Road Switchyard is allowed in the Residential C and Agricultural-zoning district in the town of Elma as a special permit use. Therefore, the switchyards will not be incompatible with existing land uses.

The Proposed Line is within the existing NYSEG Utility Corridor. NEETNY's Proposed ROW will be immediately adjacent to the maintained ROW within the NYSEG Utility Corridor and, as such, will minimize impacts on land uses.

There will not be any direct impact on surrounding land uses, such as residences or commercial uses. Nearby residences may experience temporary disturbance and inconvenience (*i.e.*, construction noise and traffic) associated with construction activities. These disturbances will occur primarily at locations where the Proposed Line crosses roadways that will be used by construction vehicles to access the Proposed ROW. These impacts will be temporary and short-term as the construction progresses along the ROW. NEETNY will coordinate with NYSDOT, the appropriate local jurisdictions, and local police departments to develop and implement traffic control measures to ensure safe and adequate traffic operations along roadways to be used by construction vehicles.

Impacts on forested land use are discussed in Section 4.6.1.2.

Existing Utilities

NEETNY will coordinate with utility companies prior to construction activities near or across existing natural gas lines and transmission and/or distribution lines to ensure safety of construction workers and nearby residences, and to avoid disruption of service. NEETNY will comply with National Electric Safety Code rules regarding height and clearance requirements for switchyard and transmission line components in relation to existing utilities.

Floodplains

Construction and operation of the Project will only have minor impacts on floodplains due to the minimal footprint of the proposed monopole structures. Following construction, all disturbed areas will be restored to existing contours. Because there will be no permanent change in topography within the 100-year floodplains following construction of the ESL Project, construction and operation of the ESL Project will not have any permanent impacts on the floodplains or other upstream and downstream properties.

Agricultural Districts

The Proposed ROW traverses active agricultural lands and designated New York Agricultural Districts. As discussed above, the conversion of approximately 13 acres of farmland for the Dysinger and East Stolle Switchyards represents a minor fraction of the 142,679 and 142,818 acres

of farmland in Erie and Niagara counties, respectively (USDA 2012). During construction of the ESL Project, agricultural operations may be temporarily disrupted within the Proposed ROW. To the extent any farming operations are compatible with Good Utility Practice, applicable health and safety regulations, and other applicable requirements, they will be able to continue in NEETNY's Proposed ROW around transmission structures after the ESL Project commences operation.

NEETNY met with New York State Department of Agriculture and Markets (NYSDAM) on February 14, 2018, to introduce the ESL Project, and discuss methods to minimize impacts on agricultural land. Among other issues discussed, NYSDAM expressed a preference to line up new poles with existing transmission structures. Accordingly, NEETNY has placed poles in-line with existing structures to the extent possible. The use of timber mats also was discussed. NEETNY is in the process of evaluating the use of timber mats and/or topsoil stripping where access is required through agricultural areas, in accordance with NYSDAM Guidelines for Electric Transmission Right-of-Way Projects. Details on best management practices to be utilized in agricultural areas will be included in the EM&CP. Following construction, the ESL Project area will be graded and restored in accordance with applicable Certificate conditions. The only permanent impact of the Proposed Line on agricultural land will be the minimal loss of land at each structure. NEETNY has minimized this loss of agricultural production by selecting a monopole design for the Proposed Line, rather than an H-frame design, which has a comparatively larger footprint.

4.4 Visual Resources

In accordance with PSL §122(1)(c) and 16 NYCRR §§86.3(a)(1)(iii) and 86.5(b)(2)(i)-(ii) and (8), this section provides a discussion of studies that have been conducted to identify visual resources or visually sensitive areas within 3 miles (6-mile-wide study area) of the ESL Project and assess the impacts of the ESL Project on these visual resources and visually sensitive areas. Figure 2-2 in Exhibit 2 shows the 6-mile-wide study area, centered on the Proposed Line, and the visual resources and visually sensitive areas within it.

As used here, the terms "visual resources" and "visually sensitive area" generally consists of 12 of the 15 categories of aesthetic resources of statewide significance identified in NYSDEC's Program

Policy entitled Assessing and Mitigating Visual Impacts (NYSDEC 2000) as well as other local resources or areas. Sections 4.4.2 and 4.4.3 identify and describe the visual resources and visually sensitive areas within a 6-mile-wide study area for the ESL Project. Section 4.4.4 identifies and describes the aesthetic qualities of the landscape within the same 6-mile-wide study area for the ESL Project. Section 4.4.5 discusses the ESL Project's potential impacts or effects on the identified visual resources and visually sensitive areas and on the aesthetic qualities of the landscape within the ESL Project study area, and presents measures that avoid, minimize, or mitigate potential any adverse visual impacts or effects.

4.4.1 Visual Resources Inventory

A Visual Resources Assessment (VRA) was conducted for the ESL Project to identify visual resources within a 6-mile-wide study area centered on the proposed new transmission line and switchyards (Saratoga Associates, Inc. 2018). The VRA included research to identify visual resources or visually sensitive areas that would be included in 12 of the 15 categories of aesthetic resources in NYSDEC's *Program Policy: Assessing and Mitigating Visual Impacts* (NYSDEC 2000). The VRA also included research to identify any visual resources or visually sensitive areas associated with local scenic or recreational areas. The resources identified as part of the VRA are discussed in greater detail below, and are also listed in Table 4.4-1, with a reference number that corresponds to the labels on Figure 2-2 in Exhibit 2 and Figures 1 through 3 of the VRA. The VRA report is provided in Attachment B of this Application.

4.4.2 NYSDEC Program Policy Visual Resources

NYSDEC's Program Policy entitled *Assessing and Mitigating Visual Impacts* (2000) identified 15 categories of aesthetic resources of statewide significance that have been recognized through either national or state designations. This section identifies all visual resources that fall within 12 of the 15 categories in the NYSDEC Policy, consisting of: properties listed or eligible for listing in the New York State Register of Historic Places (State Register) or the National Register of Historic Places (NRHP); state parks; urban cultural parks; National Wildlife Refuges; National Natural Landmarks; rivers designated as National or State Wild, Scenic, or Recreational; a site, area, lake, reservoir or highway designated or eligible for designation as scenic; Scenic Areas of Statewide Significance; a State or federally designated trail, or one proposed for designation; State Nature

and Historic Preserve Areas; and Bond Act Properties. The remaining three categories of aesthetic resources of statewide significance (State Forest Preserves, Adirondack Park Scenic Vistas, and Palisades Park) are unique to the Adirondack, Catskill, and Palisades parks, and are not discussed because they are not located within 3 miles of the ESL Project.

1) Historic Properties (a property on or eligible for inclusion in the National or State Register of Historic Places) [16 U.S.C. §470a et seq., Parks, Recreation and Historic Preservation Law Section 14.07].

A review of databases maintained by the New York State Historic Preservation Office (NYSOPRHP) in its Cultural Resources Information System (CRIS), and National Park Service (NPS) identified a total of 36 properties on, or eligible for inclusion in, the State Register or the NRHP located within 3 miles of the ESL Project (NYSOPRHP 2017; NPS 2015). None of these 36 historic properties have been designated a National Historic Landmark (NPS 2017).

Table 4.4-1
NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	County/Town/Village	Description	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line
Historic Properties [16 U.S.C. §470a et seq., Parks, Recreation and Historic Preservation Law Section 14.07]					
V56	Clarence Town Park: Automobile Club Of Buffalo Clubhouse 1911 - 10405 Main St	Erie/Town of Clarence	NRHP-listed historic property	No	Yes
V61	Hull-Peterson House - 5976 Genesee St	Erie/Town of Lancaster	NRHP-listed historic property	No	Yes
V65	Lancaster District School No. 6 - 3703 Bowen Rd	Erie/Town of Lancaster	NRHP-listed historic property	No	Yes
V13	Rich-Twinn Octagon House - 145 Main St	Erie/Village of Akron	NRHP-listed historic property	No	Yes
V12	U S Post Office - 118 Main St	Erie/Village of Akron	NRHP-listed historic property	No	Yes
V100	Wende Correctional Facility/Erie County Penitentiary - 3622 Wende Rd	Erie/Town of Alden	NRHP-eligible historic property	No	Yes
V105	Residential c.1910 - 12446 Genesee St	Erie/Town of Alden	NRHP-eligible historic property	No	Yes
V102	Residential c.1954 - 3348 Crittenden Rd	Erie/Town of Alden	NRHP-eligible historic property	No	Yes
V104	Residential c.1850 - 3361 Crittenden Rd	Erie/Town of Alden	NRHP-eligible historic property	No	Yes
V103	Residential c.1910 - 3167 Crittenden Rd	Erie/Town of Alden	NRHP-eligible historic property	No	Yes
V99	Residential c.1920 - 11374 Kieffer Rd	Erie/Town of Alden	NRHP-eligible historic property	No	Yes
V51	Cabinet Shop/Baynes/Dr. Lapp Residence c.1900 - 10684 Main St	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V47	Roth/Stever/Gray Residence (Structure 132) - 10919 Main St	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V55	Danford/Utley Residence 1810 - 10847 Main St	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V59	Residential c.1840 - 4055 Ransom Rd	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V49	Residential c.1890 – 10320 Clarence Center Road	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V48	The Light House 1844 Local Landmark - 10525 Clarence Center Rd	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V44	Residential c.1860 - 10975 Clarence Center Rd	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V43	First Baptist Church 1877 - 10790 Hunts Corners Rd	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V42	First Baptist Church Parsonage 1899 - 10800 Hunts Corners Rd	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V45	Farmstead c.1860 - 10979 Keller Rd	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V52	Asa Ransom House 1853 Clarence Historical Society - 10529 Main St	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V63	Residence - 3030 Bowen Rd	Erie/Town of Elma	NRHP-eligible historic property	No	Yes
V53	Commercial c.1950 Gas Station - 10575 Main St	Erie/Town of Clarence	NRHP-eligible historic property	No	Yes
V64	3011 Bowen Rd	Erie/Town of Elma	NRHP-eligible historic property	No	Yes
V85	Aldrich Farm - 3581 Bullis Rd	Erie/Town of Elma	NRHP-eligible historic property	Yes	Yes

Table 4.4-1
NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	County/Town/Village	Description	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line
V92	3020 Bullis Rd	Erie/Town of Elma	NRHP-eligible historic property	No	Yes
V70	502 Pavement Rd	Erie/Town of Lancaster	NRHP-eligible historic property	No	Yes
V69	503 Pavement Rd	Erie/Town of Lancaster	NRHP-eligible historic property	No	Yes
V38	Dysinger Tavern - 8239 Bunker Hill Rd	Niagara/Town of Royalton	NRHP-eligible historic property	No	Yes
V34	Behe Residence - 8722 Bunker Hill Rd	Niagara/Town of Royalton	NRHP-eligible historic property	No	Yes
V39	Claude Residence - 7800 Akron Rd	Niagara/Town of Royalton	NRHP-eligible historic property	No	Yes
State Parks [Parks, Recreation and Historic Preservation Law Section 3.09]					
None					
Heritage Areas (formerly known as Urban Cultural Parks) [Parks, Recreation and Historic Preservation Law Section 35.15]					
Not numbered	Western Erie Canal Heritage Area	Niagara/ Town of Royalton and Erie/Towns of Elma, Marilla, Lancaster, Alden, Clarence, and Newstead	Heritage Area (Heritage Areas were formerly known as Urban Cultural Parks)	Yes	Yes
National Wildlife Refuges [16 U.S.C. 668dd], State Game Refuges and State Wildlife Management Areas [ECL 11-2105]					
V32	Tonawanda Wildlife Management Area	Niagara/Town of Royalton and Erie/Town of Newstead	State Wildlife Management Area	No	Yes
V58	Tillman Road Wildlife Management Area	Erie/Town of Clarence	State Wildlife Management Area	No	Yes
National Natural Landmarks [36 CFR Part 62]					
None					
The National Park System, Recreation Areas, Seashores, Forests [16 U.S.C. 1c]					
Not numbered	Erie Canal – West portion of the Erie Canalway National Heritage Corridor	Niagara/Town of Royalton	National Heritage Corridor; included in the National Park System	Yes	Yes
Rivers designated as National or State Wild, Scenic or Recreational [16 U.S.C. Chapter 28, ECL 15-2701 et seq.]					
None					
A site, area, lake, reservoir or highway designated or eligible for designation as scenic [ECL Article 49 or DOT equivalent and APA Designated State Highway Roadside]					

Table 4.4-1
NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	County/Town/Village	Description	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line
None					
Scenic Areas of Statewide Significance [of Article 42 of Executive Law]					
None					
A State or federally designated trail, or one proposed for designation [16 U.S.C. Chapter 27 or equivalent]					
None					
State Nature and Historic Preserve Areas; [Section 4 of Article XIV of the State Constitution]					
None					
Bond Act Properties purchased under Exceptional Scenic Beauty or Open Space category					
None					
Local Visually Sensitive Areas					
V35	Wolcottsville Community Park	Niagara/Royalton	Wolcottsville Fire Company recreational facility, with baseball diamond, playground, and picnic shelter	No	Yes
V6	Dande Farms Golf Course	Erie/Newstead	Privately owned 18-hole golf course and clubhouse near Akon, NY	No	Yes
V26	Destroyer Park Golf	Erie/Newstead	Privately owned 18-hole golf course in Akron, NY	Yes	Yes
V50	Beeman Creek County Park	Erie/Newstead	County-owned park	No	Yes
V17	Arrowhead Golf Club	Erie/Newstead	Privately owned 18-hole golf course in Akron, NY	Yes	Yes
V18	Bright Meadows Golf Course	Erie/Newstead	Privately owned 9-hole golf course in Akron, NY	Yes	Yes
V19	Rothland Golf Club	Erie/Newstead	Privately owned 18-hole course in Akron, NY	Yes – adjacent to E side of NYSEG Utility Corridor	Yes
V10	Russel Park	Erie/Newstead	Village of Akron park that serves as the village green and gathering space, with a gazebo, dedicated picnic facilities, a	No	Yes

Table 4.4-1
NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	County/Town/Village	Description	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line
			fountain, a playground and a Civil War memorial and cannon		
V3	Akron Falls Park	Erie/Newstead	284-acre county-owned and operated park near the Village of Akron, NY	No	Yes
V4	Newstead Community Park	Erie/Newstead	34 acre park in the Town of Newstead, near the Village of Akron, with a multi-purpose field (*e.g.* football, soccer), a playground, and a picnic shelter.	No	Yes
V41	Tonawanda Creek Fishing Access	Erie/Newstead	NYSDEC public fishing access along Tonawanda Creek	No	Yes
V25	Clarence Pathway – Peanut Line Trail	Erie/Newstead	Multi-use paved trail along Peanut Line Trail portion of Clarence Pathways/Town of Newstead-Village of Akron Bike Path. Located along a portion of the former Canandaigua-Niagara Falls/New York Central railroad bed.	Yes – intersects project	Yes
V16	Conservation Trail	Erie/Newstead	Branch trail of the Finger Lakes Trail System. Begins at the New York/Pennsylvania border in Allegany State Park and extends northward about 171 miles to meet the Bruce Trail in Niagara Falls, Canada. Portion of trail crossed by the project follows the Clarence Pathway-Peanut Line Trail, located along a portion of the former Canandaigua-Niagara Falls/New York Central railroad bed.	Yes – intersects project	Yes
V16	Clarence Pathway – West Shore Trail	Erie/Newstead	Multi-use paved trail along West Shore Trail portion of Clarence Pathways/Town of Newstead-Village of Akron Bike Path. Located along a portion of the former West Shore & Buffalo railroad bed.	Yes – intersects project	Yes
V1	The Links at Ivy Ridge	Erie/Newstead	Privately owned 18-hole golf course and clubhouse in Akron, NY	Yes	Yes

Table 4.4-1
NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	County/Town/Village	Description	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line
V54	Parker Commons	Erie/Clarence	9-acre town-owned park in Clarence, with tennis, basketball, and volleyball courts, a playground and a baseball diamond	No	Yes
V57	Clarence Main Street Town Park	Erie/Clarence	90-acre town-owned park in Clarence, with pool, clubhouse, concert shell, playing fields, and a playground	No	Yes
V73	Buffalo Tournament Club	Erie/Lancaster	Public 18-hole golf course in Lancaster, NY.	Yes	Yes
V60	Lancaster National Speedway	Erie/Lancaster	5/8 mile oval motor race track and 1/8 mile motor car drag strip	No	Yes
V72	Fox Valley Golf Club	Erie/Lancaster	Privately owned 18-hole golf course in Lancaster, NY	No	Yes
V71	Walden Pond Park	Erie/Lancaster	56-acre town-owned park in Lancaster, NY, with playing fields, shelters, and playgrounds.	No	Yes
V77	Lancaster Heritage Trail	Erie/Lancaster	8.2-mile paved multi-use trail in the Town of Lancaster, NY. It was built on a portion of the former Delaware, Lackawanna, and Western railroad bed.	Yes – intersects project	Yes
V68	Westwood Park/Westwood Memorial Park	Erie/Lancaster	175-acre town-owned park designed for year-round recreational activities, with playing fields, walking/biking path, cross-country skiing, playground, an enclosed pavilion, and shelters. Memorial park is located within the larger park and designed to be an area of solitude, comfort, and reflection	No	Yes
V67	Lancaster Golf and Country Club	Erie/Lancaster	Private country club established in 1925, with 18-hole golf course, clubhouse, and pool	No	Yes

Table 4.4-1
NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	County/Town/Village	Description	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line
V66	Como Park	Erie/Lancaster	80-acre county-owned park established in 1926, with lake, lodge, lighthouse, and playing fields.	No	Yes
V98	Creation Walk Nature Trail	Elma/Marilla	Private park with nature trail and playing fields	No	Yes
V84	Elma Village Green	Erie/Elma	Approximately 20-acre public (town-owned) park in Elma, NY with playground, walking track, picnic shelters and gazebo.	No	Yes
V91	Elma Meadows Golf Course and Park	Erie/Elma	Public (county-owned) park in Elma, NY with 18-hole golf course and facilities for picnicking, cross-country skiing, and sledding.	Yes	Yes
V93	Elma Centennial Park	Erie/Elma	Town-owned park in Elma, NY	Yes	Yes

Source: Saratoga Associates, Inc.'s 2018 Draft *Empire State Line Project Visual Resources Assessment* (VRA).

Notes:

[1] Information for visibility of existing NYSEG Utility Corridor, line or switchyard obtained from Figure 3 of the VRA.

[2] Information for visibility of the Proposed Project (new transmission line or new switchyard) obtained from Table 5 of the VRA and Vegetated Viewshed Mapping in Appendix B of the VRA.

[3] Information for the number of new transmission line structures that modelling suggests may be visible obtained from Vegetated Viewshed Mapping in Appendix B of the VRA.

[4] Vegetated Visibility Scenarios and potential visual impact conclusions developed from Figure 3 of the VRA and Vegetated Viewshed Mapping in Appendix B of the VRA.

[a] Vegetated Visibility Scenario 1: Locations where neither the existing NYSEG Utility Corridor, including existing transmission lines, nor the proposed transmission line would be visible from these resources.

[b] Vegetated Visibility Scenario 2: Locations where both the existing NYSEG Utility Corridor, including existing transmission lines, and the proposed new transmission line would be visible from these resources. At these locations, the proposed new transmission line would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with these resources.

[c] Vegetated Visibility Scenario 3: Locations where the existing NYSEG Utility Corridor, including existing transmission lines, is not visible, but the proposed new transmission line would be visible. At these locations, the proposed new transmission line would be a new landscape feature that is different from, and not consistent with, existing landscape features within the setting, views, or viewsheds associated with these resources.

A total of 32 of these properties are architectural resources that have been previously evaluated and are listed in or determined eligible for listing in the NRHP (NYSOPRHP 2017, NPS 2015) (see Table 4.4-1). The 32 NRHP-listed and -eligible architectural resources are distributed throughout the ESL Project study area and the modelled visibility of the ESL Project from these resources is discussed in greater detail in Section 4.4.5.

One NRHP-eligible architectural resource, Aldrich Farm - 3581 Bullis Road, is located within 1 mile of the Proposed Line. The other 31 NRHP-listed or –eligible architectural resources are located between approximately 1.1 and 3 miles of the Proposed Line.

Three of the 32 NRHP-listed or -eligible architectural resources are located within 3 miles of the proposed Dysinger Switchyard: the Claude residence, the Dysinger Tavern, and the Behe Residence, all NRHP-eligible architectural resources that are located in the town of Royalton, Niagara County. The NYSEG Utility Corridor and existing overhead transmission lines are present in the vicinity of these three resources.

Two of the 32 NRHP-listed or -eligible are located within 3 miles of the proposed East Stolle Switchyard: Aldrich Farm and the property at 3020 Bullis Road. The NYSEG Utility Corridor, existing overhead transmission lines, and an existing substation are present in the vicinity of these two resources.

The remaining four historic properties are archaeological sites that have been previously evaluated and listed in (n=1) or determined eligible for listing in (n=3) the NRHP (NYSOPRHP 2017; NPS 2015). The four NRHP-listed or -eligible archaeological sites within 3 miles of the ESL Project are also distributed throughout the ESL Project study area. However, the significance of archaeological sites is generally considered for whether a site has yielded, or may be likely to yield, information important in prehistory or history. This is related to the integrity of, or lack of disturbance to, its archaeological materials and features. Generally, the setting of archaeological sites and views or viewsheds at the locations of archaeological sites, are typically not character-defining features that contribute to their significance. Therefore, the visibility of the ESL Project within an archaeological site's setting would not, in and of itself, be expected to be an impact and

the visibility of the ESL Project from these four NRHP-listed and-eligible archaeological resources is not discussed further.

2) State Parks [Parks, Recreation and Historic Preservation Law Section 3.09].

There are no state parks located within 3 miles of the Proposed Project (NYSOPRHP 2018a, 2018b).

3) Heritage Areas (formerly known as Urban Cultural Parks) [Parks, Recreation and Historic Preservation Law Section 35.15].

In 1982, the New York State Legislature passed legislation creating the New York State Urban Cultural Park Program under the jurisdiction of the Office of Parks, Recreation and Historic Preservation. By 1994, in recognition that the Urban Cultural Parks System had grown beyond the original concept, the legislation was amended to introduce the term "heritage area" in place of "urban cultural park." This change in terminology reflected the desire to open this designation to non-urban areas and to broaden its scope. The terms "heritage area," "urban cultural park," and "heritage corridor" are all in use within New York State's Heritage Areas System (Western Erie Canal Heritage Corridor Commission 2004).

New York State's Parks, Recreation and Historic Preservation Law, Section 35.01, establishes a system of heritage areas, which consists of "state designated heritage areas including urban cultural parks and heritage corridors that reflect the cultural themes of the state's development." These heritage areas are designated to "provide educational, inspirational, economic, and recreational benefits for present and future generations" (New York State Legislature 2018a). The New York State Heritage System (formerly known as the Urban Cultural Park System) is a state-local partnership established to preserve and develop areas that have special significance to New York State (NYSOPRHP 2018c).

The ESL Project is located entirely within one such designated heritage area, the Western Erie Canal Heritage Corridor, which encompasses all of Niagara and Erie counties, as well as portions of other counties that are not included in the ESL Project area (NYSOPRHP 2011, 2018c). The Western Erie Canal Heritage Corridor was established to acknowledges that part of the Erie Canal that "brought pioneers, the fervor of social reform, and industrial progress to the fertile landscapes

of Western New York, a legacy that survives in the fascinating cities, towns and sprawling farms that line today's canal" (NYSOPRHP 2018c).

This area was created by the New York State Legislature in 1999 (Western Erie Canal Alliance 2018). Parks, Recreation and Historic Preservation Law Section 35.03(q) has specifically defined this heritage corridor as "the cohesive geographical area including all or parts of the counties of Erie, Monroe, Niagara, Orleans and Wayne associated with and revealing the natural features and historic development including Native American settlement, the longest remaining sections of the original alignment of the Erie Canal, Erie Canal lift bridges, and industrialization of the region commonly known as the Western Erie Canal region" (New York State Legislature 2018b).

The Western Erie Canal Alliance serves as the steward for the Western Erie Canal Heritage Corridor and has developed a management plan for this heritage area. This plan serves as a framework for encouraging economic opportunities that integrates the preservation of the area's natural and cultural resources with tourism and recreational development related to the heritage of this area (Western Erie Canal Heritage Corridor Commission 2004).

4) National Wildlife Refuges [16 U.S.C. 668dd], State Game Refuges and State Wildlife Management Areas [ECL 11-2105].

There are no National Wildlife Refuges located within 3 miles of the ESL Project (United States Fish and Wildlife Service [USFWS] 2016, 2018a). The closest one, the Iroquois National Wildlife Refuges is located west and outside of the study area for the ESL Project[1]. There are no State Game Refuges located within 3 miles of the ESL Project (NYSDEC 2018a, 2018b).

There are two State Wildlife Management Areas (WMAs) located within 3 miles of the ESL Project: Tillman Road Swamp WMA in the town of Clarence, Erie County, and Tonawanda WMA in the town of Shelby, Orleans County, the towns of Clarence and Newstead, Erie County, the town of Royalton, Niagara County, and the town of Alabama, Genesee County (NYSDEC 2018a,

[1] A large wildlife refuge complex is located west of the ESL Project study area at the ESL Project's northern end. This complex is comprised of, from west to east, the Tonawanda State WMA, the Iroquois NWR, and the Oak Orchard WMA, and includes Oak Orchard Creek, Oak Orchard Creek Marsh (also a National Natural Landmark), and Tonawanda Creek and associated marshes. However, only the Tonawanda WMA is within 3 miles of the ESL Project study area (USFWS 2016, 2018; NYSDEC 2018b, 2018d).

2018b, 2018c, 2018d). However, the ESL Project is not located in, and does not cross, either of these State WMAs.

NYSDEC manages the 239-acre Tillman Road WMA for wildlife management, wildlife habitat management, and wildlife-dependent recreation. The primary objective for the Tillman Road WMA is to provide habitat for a variety of resident and migratory species and to permit compatible wildlife-related recreational use. Primary wildlife species in the Tillman Road WMA include deer, turkeys, black bears, squirrels, and songbirds. Wildlife-related recreational activities include opportunities for hiking, hunting, trapping, fishing, wildlife viewing, and photography (NYSDEC 2018c).

NYSDEC manages the 5,600-acre Tonawanda WMA for wildlife conservation and wildlife-associated recreation. The Tonawanda WMA is located in the Tonawanda Creek floodplain, south of the Oak Orchard Swamp[2]. The primary objective for the Tonawanda WMA is to provide habitat for waterfowl resting/feeding during migration as well as for waterfowl production during the nesting season. Habitats within the Tonawanda WMA are also managed to provide habitat for other game species and for rare/nongame species such as marsh birds, grassland songbirds and raptors. The Tonawanda WMA provides opportunities for hiking, hunting and trapping, fishing, wildlife viewing, and photography. The Tonawanda WMA is also a designated Bird Conservation Area, attracting numerous migrating bird species, particularly waterfowl but also shore birds, marsh and wading birds, and warblers and other songbirds. Early March through mid-May is the best time to view the outstanding waterfowl concentrations that use the Tonawanda WMA (NYSDEC 2018d).

5) National Natural Landmarks [36 CFR Part 62].

There are no National Natural Landmarks (NNLs) located within 3 miles of the ESL Project (NPS 2018a). The closest one, Oak Orchard Creek Marsh NNL[2,] is located within the Iroquois NWR and is west and outside of the ESL Project study area (NPS 2018b; USFWS 2016, 2018a).

6) The National Park System, Recreation Areas, Seashores, Forests [16 U.S.C. 1c];

As a result of revisions to the United States Code (U.S.C.), resources formerly identified in 16 U.S.C. 1c, such as resources included in the National Park System, or designated National

Recreation Areas, Seashores, or Forests, are now identified in 54 U.S.C. § 100501. Under 54 U.S.C. § 100501, resources included in the National Park System are defined as including "any area of land and water administered by the Secretary, acting through the Director, for park, monument, historic, parkway, recreational, or other purposes" (U.S.C. 2018). Thus, these areas may consist of national monuments, scenic trails, historic trails, historic sites, heritage corridors, memorials, seashores, recreation areas, historical parks, heritage areas, and scenic and recreational rivers (NPS 2018c).

A review of National Park System areas in New York State indicates that one resource included in the National Park System, the Erie Canalway National Heritage Corridor,[2] is located within 3 miles of the ESL Project (NPS 2018c). The northern portion of the ESL Project, consisting of the proposed Dysinger Switchyard and approximately 0.25 miles of the northern end of the Proposed Line, will be located within this national heritage corridor.

The Erie Canalway National Heritage Corridor was established by the U.S. Congress in 2000. In its entirety, it consists of the Erie, Cayuga-Seneca, Oswego, and Champlain Canals and their historic alignments. As such, it encompasses 4,834 square miles in 23 counties across New York State (Erie Canalway National Heritage Corridor 2018a).

The portion of the Erie Canalway National Heritage Corridor that is located within 3 miles of the ESL Project is the Erie Canal-West, which overlaps the ESL Project study area in the town of Royalton in Niagara County. This area features the longest section of the canal that still follows its original path and retains its historic relationship to the communities and landscapes along its banks. Features that contribute to the unique qualities of the Erie Canal – West portion of the Erie Canalway National Heritage Corridor are categorized as historic and cultural sites and museums,

[2] National Heritage Corridors are considered National Heritage Areas (Erie Canalway National Heritage Corridor 2018a). National Heritage Areas are places where historic, cultural, and natural resources combine to form cohesive, nationally important landscapes. Unlike national parks, National Heritage Areas are large lived-in landscapes (NPS 2018d). Additionally, they are not owned or managed by the federal government (Erie Canalway National Heritage Corridor 2018a). Consequently, National Heritage Areas, including National Heritage areas, represent community-led conservation and development, led by management entities that collaborate with communities to determine how to make heritage relevant to local interests and needs (NPS 2018d).

canal structures and engineering marvels, recreational facilities, nature preserves and parks, and arts facilities.

No specific features associated with the Erie Canal – West portion of the Erie Canalway National Heritage Corridor are located within the ESL Project study area. The closest feature is categorized as a nature preserve/park and is comprised of the Tonawanda State WMA, the Iroquois NWR, and the Oak Orchard State WMA (Erie Canalway National Heritage Corridor 2018b). As discussed above, a portion of the Tonawanda WMA is located within the ESL Project study area, but the ESL Project is not located in, and will not cross, this WMA, and the Iroquois NWR and the Oak Orchard WMA are located west, and outside of, the ESL Project study area.

7) Rivers designated as National or State Wild, Scenic, or Recreational [16 U.S.C. Chapter 28, ECL 15-2701 et seq.].

There are no rivers designated as National Wild and Scenic Rivers or under study for such designation within 3 miles of the ESL Project (Wild & Scenic Rivers 2018a, 2018b). There are also no State Wild, Scenic and Recreational Rivers located within 3 miles of the ESL Project (NYSDEC 2018e).

8) A site, area, lake, reservoir, or highway designated or eligible for designation as scenic [ECL Article 49 or DOT equivalent and APA-Designated State Highway Roadside].

There are no sites, areas, lakes, reservoirs, or highways designated or eligible for designation as scenic within 3 miles of the ESL Project (New York State Department of Transportation [NYSDOT] 2018a, 2018b, 2018c).

9) Scenic Areas of Statewide Significance [of Article 42 of Executive Law].

There are no Scenic Areas of Statewide Significance within 3 miles of the ESL Project (New York State Department of State 2018).

10) A State or federally designated trail, or one proposed for designation [16 U.S.C. Chapter 27 or equivalent].

There are no state or federally designated trails, or ones proposed for state or federal designation, within 3 miles of the ESL Project (NYSOPRHP 2018d; NPS 2018e, 2018f, 2018g; American

Trails 2018; National Trails System 2010; National Water Trails System 2018; Legal Information Institute 2018).

The ESL Project does cross segments of four local trails that are not state or federally designated, and are not proposed for state or federal designation. These are discussed in Section 4.4.3.

11) State Nature and Historic Preserve Areas; [Section 4 of Article XIV of the State Constitution].

There are no state nature and historic preserve areas within 3 miles of the ESL Project (NYSDEC 2018f, 2018g, 2018h, 2018i).

12) Bond Act Properties purchased under Exceptional Scenic Beauty or Open Space category.

No publicly available information could be found for Bond Act Properties purchased under the Exception Scenic Beauty or Open Space categories of the Environmental Quality Bond Act of 1986. Additionally, NYSDEC indicated that the state does not maintain information for such properties, although information for publicly purchased lands with specific scenic qualities may be found in the state's Open Space Conservation Plans (Sanders 2009). A review of the 2009 and 2016 New York State Open Conservation Plans did not identify any publicly purchased lands within 3 miles of the ESL Project (NYSDEC and NYSOPRHP 2009, 2016). Therefore, NEETNY has concluded that no Bond Act Properties purchased under the Exception Scenic Beauty or Open Space categories are located within 3 miles of the ESL Project.

4.4.3 Local Visually Sensitive Areas

There are at least 29 local visually sensitive areas, all associated with local recreational resources, located within the 6-mile-wide study area for the ESL Project (see Table 4.4-1 and Figure 2-2; also see Tables 1 through 3 in the VRA). These local visually sensitive areas include public (county and town) parks, golf courses, country clubs, and trails. Twelve (12) of these 29 local visually sensitive areas are located within 1 mile of the ESL Project. Four, the Clarence Pathway – Peanut Line Trail, the Conservation Trail, the Clarence Pathway – West Shore Trail, and the Lancaster Heritage Trail, are crossed by the NYSEG Utility Corridor and will also be crossed by the Proposed Line. A fifth, the Rothland Golf Club, is located to adjacent to the east side of the NYSEG Utility

Corridor, but will not be crossed by the Proposed Line. The remaining 17 visually sensitive areas are located between approximately 1.1 and 3.0 miles from the ESL Project.

Two local visually sensitive areas are located within 3 miles of the proposed Dysinger Switchyard: Wolcottsville Community Park and the NYSDEC's Tonawanda Creek Fishing Access, both located in the town of Royalton, Niagara County. The NYSEG Utility Corridor and existing overhead transmission lines are present in the vicinity of these three resources.

Four local visually sensitive areas are located within 3 miles of the proposed East Stolle Switchyard: Elma Village Green, Elma Meadows Golf Course/Elma Meadows Country Club, and Elma Centennial Park in the town of Elma, Erie County, and the Creation Nature Walk, located in the town of Marilla, Erie County. The NYSEG Utility Corridor, existing overhead transmission lines, and an existing substation are present in the vicinity of these four resources.

4.4.4 Visual Character and Scenic Integrity

The visual character of a landscape is defined by the patterns, forms, and scale relationships created by lines, colors, and textures. Some patterns dominate while others are subordinate. The visual character of the existing landscape within the 6-mile-wide study area is defined by the pattern of landform (topography), vegetation, water features, land use, and existing development (*e.g.*, transportation features, population centers, and existing electric transmission infrastructure). The various components that comprise the character of the existing landscape are discussed below.

The scenic integrity of the existing landscape is considered in reference to its visual character. As discussed below, the visual character of the existing landscape within the 6-mile-wide study area is defined by patterns of landform (topography), vegetation, water features, land use, and existing development (*e.g.*, transportation features, population centers, and existing electric transmission infrastructure). The manner in which these patterns fit together results in distinct homogenous landscape units that collectively comprise an existing landscape.

1) Visual Character of the Existing Landscape

The ESL Project study area is relatively flat, with the northern portion of the study area generally consisting of gentle rolling terrain with a very subtle slope and the southern portion of the study

area becoming noticeably hillier. Elevations within the ESL Project study area range from approximately 570 to 1,073 feet above sea level, with a gradual rise in elevation from the north to the south.

The majority of the ESL Project study area is generally rural and land use is predominantly agricultural in nature. Vegetation in the ESL Project study area consists of open or cultivated agricultural fields interspersed with wooded areas comprised of mature forest or reverting agricultural fields covered with emerging bushes and other low woody vegetation. Wetlands and waterbodies are located within, or cross, the study area for the ESL Project, including major creeks (Tonawanda Creek, Murder Creek, Ellicott Creek, Cayuga Creek, and Buffalo Creek) set in ravines that bisect the study area in a generally east to west direction, along with numerous perennial and intermittent tributaries, and numerous wetlands.

Development in the ESL Project study area is predominantly residential or recreational. Buildings and structures in more rural areas tend to be located along, and immediately adjacent to existing roads. However, a number of subdivisions and recreational properties (such as golf courses) are present in interior areas, particularly in Erie County, where the ESL Project takes on a more suburban feel.

The local road system within the ESL Project study area along the proposed transmission line tends to be in a grid pattern, with local roads typically oriented in north-south or east-west directions. Additionally, several state and federal roads cross the study area in a generally east-west orientation, including Main Street (NYS Route 5), I-90 (the New York Thruway), Genesee Street (NYS Route 33), Broadway (US Route 20), and Clinton Street (NYS Route 354).

Population centers in the ESL Project study area range from the incorporated village of Akron to smaller unincorporated hamlets, such as Wolcottsville, Clarence, and Marilla. While the majority of the study area is can be characterized as dispersed rural residential, parts of the towns of Clarence and Lancaster in Erie County can be characterized as suburban in nature, with a number of residential housing developments.

Finally, the NYSEG Utility Corridor, within which the Proposed Line will be located, forms the spine of the ESL Project study area. Within this corridor, multiple existing overhead electric transmission lines are present, including up to four NYSEG lines with structures of varying heights and, at the southern terminus of the ESL Project study area, an existing NYSEG substation along East Stolle Road.

Considering the above components of the visual character of the existing landscape in the ESL Project study area, the visible patterns (form, line, color, and texture) found within the study area can best be described as representative of an agricultural landscape. Given the rural nature of the study area, visible colors are natural, muted shades of green, brown, gray, and other earth tones. The form of the regional landscape generally consists of gently rolling terrain with sinuous naturalistic hills. The woodland edge of agricultural fields, roadways, waterways, and the cleared portion of the NYSEG Utility Corridor commonly create brief vertical offsets within the landscapes. The existing transmission structures within the NYSEG Utility Corridor and those found throughout the study area are commonly visible. The existing landscape maintains a horizontal line formed by extended vistas.

2) Scenic Integrity of the Existing Landscape

The VRA for the ESL Project identified five landscape units within the ESL Project study area: agricultural areas, rural residential areas, community centers, forests, and highways. The scenic integrity of the existing landscape in the ESL Project study area depends on the degree that these landscape units are distinct and recognizable throughout the ESL Project study area. Potential visual impacts on the scenic integrity of the existing landscape, as discussed below, depend on compatibility of views of the ESL Project with the features present within existing views associated with these units.

The agricultural landscape unit consists of a patchwork of tracts of open land, including working cropland/pastures and fallow fields with successional growth, and comprises a significant amount of the ESL Project study area, particularly the northern part. For the purposes of this discussion, golf courses are included in this landscape unit, as many of their characteristics (*e.g.*, ornamental vegetation and open space) are similar to the patterns of agricultural land. Often these tracts of

open lands are bounded by hedgerows and interspersed with woodlots. Population densities are low and buildings are typically farmsteads or individual residences along with accessory structures (*e.g.*, barns, garages, and sheds). Uses that are found along the roadside are predominantly agricultural, residential, and commercial. Views within this unit are often short distance, contained by foreground vegetation and surrounding landforms.

The forest landscape unit consists of wooded and undeveloped areas. Vegetation is predominantly mature second growth deciduous woodland with occasional stands of evergreen cover, and comprises a significant amount of the ESL Project study area, particularly the southern part. Often these wooded areas are located on rolling hills and contain intermixed areas of fallow fields covered with mature vegetation, and some agricultural lands. While this unit is primarily undeveloped, it does include bisecting roadways, and, in some locations, low-density housing (within or adjacent to forested land). Within this landscape unit, mature wooded vegetation typically prevents distant views. However, views beyond the immediate foreground may occur in locations where openings in the forest cover permit. Filtered views through woodland vegetation may also be available, particularly during leaf-off seasons.

The rural residential landscape unit consists of areas with a higher density of residential structures that are not within an agricultural, forest, or community center landscape unit. Residential subdivisions may also be included in this unit. Buildings are typically single-family homes located on individual lots of varying sizes along roadways, with adjacent landscape being open land, mature vegetation, or smaller agricultural/fallow fields. In some instances, these areas can be quite vegetated with ornamental trees and landscaping that is typically present in the yards; tree size, species, and age are highly variable. With few exceptions, population densities tend to be moderate within this unit. Residential uses are dominant, but include industrial and commercial. Views within this unit are often short distance, contained by foreground vegetation, and structures.

The community center landscape unit consists of areas with a high density of buildings, structures, and streets that dominate the visual landscape. Buildings and structures are primarily residential and commercial. Population densities tend to be high in comparison to agricultural or rural residential landscape units. Uses within this unit tend to be clustered, with residential and commercial areas accessible to, but distinct from, each other. Views within this unit are generally

short distance and focused along streets due to the screening effect of existing structures and vegetation. Filtered or framed views may be possible through foreground vegetation and buildings, particularly from the perimeter of the communities. The largest community center within the study area is the incorporated village of Akron; smaller community centers consist of the unincorporated hamlets of Wolcottsville, Clarence, and Marilla.

The highway landscape unit consist of roadways that are major thoroughfares through the study area (*e.g.*, the New York State Thruway [I-90]). They may offer a variety of views to a higher number of transient individuals. As these roadways tend to be high speed, heavily used roadways, it is anticipated that the focus of the driver will be on navigating the roadway. In this situation, the view of the corridor may be dominated by pavement and vehicles (including large trucks). Views to the surrounding landscape will be fleeting, but will have views of the surrounding landscape, existing transmission structures, as well as built structures such as commercial buildings and residential dwellings.

4.4.5 Results of Visual Impact Analysis

The VRA considered the potential for visual impacts of the ESL Project, using the results of visibility modelling and the results of representative visual simulations suggesting how the ESL Project would look within the existing landscape of the 6-mile-wide study area and within existing settings, views, and viewsheds from various visual resources and visually sensitive areas (Saratoga Associates, Inc. 2018). Collectively considering the results of this assessment, potential visual impacts on specific visual resources or local visually sensitive areas, as well as the overall aesthetic setting of the existing landscape and typical viewer groups identified for the ESL Project study area, have been identified and are described below.

1) Visibility Modeling for the ESL Project

The VRA evaluated the visibility of the proposed transmission line structures, using both "bare earth" (topographic) and vegetated modelling. Bare earth (topographic) modeling is baseline modelling where the visibility of a project is based exclusively on topography, and the screening effects of vegetation are not considered. Vegetated modelling is modelling where the screening effects of vegetation are included when considering the potential visibility of a project.

Given the relatively level topography and low relief of the ESL Project study area and the absence of vegetation in the bare earth model, the proposed transmission line structures and proposed switchyards would be visible from almost all parts of the ESL Project study area. However, this is not considered a useful or realistic visibility model for the ESL Project, given the amount of mature wooded vegetation present throughout the ESL Project study area. Therefore, the modelled visibility of the ESL Project from NYSDEC Program Policy Resources and from local visually sensitive resources is based on the results of the vegetated visibility model, as discussed below and summarized in Table 4.4-2. Information from the vegetated visibility modeling of the Proposed Line was extrapolated to the proposed Dysinger and East Stolle Switchyards, where applicable.

2) Results of Vegetated Visibility Modelling

Vegetated visibility modelling suggests three different visibility scenarios for the proposed new transmission line:

- **Vegetated Visibility Scenario 1**: Locations where neither the existing NYSEG Utility Corridor, including existing transmission lines, nor the proposed transmission line would be visible from these resources. Vegetated visibility modelling suggests that the ESL Project would have no visual impacts on resources in locations that match the characteristics of Vegetated Visibility Scenario 1.

- **Vegetated Visibility Scenario 2**: Locations where both the existing NYSEG Utility Corridor, including existing transmission lines, and the proposed new transmission line would be visible from these resources. At these locations, the proposed new transmission line would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with these resources. Vegetated visibility modelling suggests that the ESL Project could result in relatively minor cumulative or incremental visual impacts on resources in locations that match the characteristics of Vegetated Visibility Scenario 2, but, in general, there would be no new visual impacts.

Table 4.4-2
Visibility and Potential Impacts on NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line	Existing NYSEG Utility Corridor, line, or switchyard visible? [1]	Proposed project visible? [2]	Number of new transmission structures visible[3]	Vegetated Visibility Scenario; Potential Visual Impact Conclusions[4]
Historic Properties [16 U.S.C. §470a et seq., Parks, Recreation and Historic Preservation Law Section 14.07]							
V56	Clarence Town Park: Automobile Club Of Buffalo Clubhouse 1911 - 10405 Main St	No	Yes	Yes	Yes	1-5	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V61	Hull-Peterson House - 5976 Genesee St	No	Yes	Yes	Yes	1-5	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V65	Lancaster District School No. 6 - 3703 Bowen Rd	No	Yes	Yes	Yes	6-10	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V13	Rich-Twinn Octagon House - 145 Main St	No	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V12	U S Post Office - 118 Main St	No	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V100	Wende Correctional Facility/Erie County Penitentiary - 3622 Wende Rd	No	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V105	Residential c.1910 - 12446 Genesee St	No	Yes	Yes	Yes	1-5	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V102	Residential c.1954 - 3348 Crittenden Rd	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact

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Visibility and Potential Impacts on NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line	Existing NYSEG Utility Corridor, line, or switchyard visible? [1]	Proposed project visible? [2]	Number of new transmission structures visible[3]	Vegetated Visibility Scenario; Potential Visual Impact Conclusions[4]
V104	Residential c.1850 - 3361 Crittenden Rd	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V103	Residential c.1910 - 3167 Crittenden Rd	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V99	Residential c.1920 - 11374 Kieffer Rd	No	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V51	Cabinet Shop/Baynes/Dr. Lapp Residence c.1900 - 10684 Main St	No	Yes	Yes	Yes	1-5	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V47	Roth/Stever/Gray Residence (Structure 132) - 10919 Main St	No	Yes	Yes	Yes	6-10	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V55	Danford/Utley Residence 1810 - 10847 Main St	No	Yes	Yes	Yes	6-10	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V59	Residential c.1840 - 4055 Ransom Rd	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V49	Residential c.1890 – 10320 Clarence Center Road	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V48	The Light House 1844 Local Landmark - 10525 Clarence Center Rd	No	Yes	Yes	Yes	6-10	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V44	Residential c.1860 - 10975 Clarence Center Rd	No	Yes	Yes	Yes	11-15	Vegetated Visibility Scenario 2; relatively minor cumulative or

Table 4.4-2
Visibility and Potential Impacts on NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line	Existing NYSEG Utility Corridor, line, or switchyard visible? [1]	Proposed project visible? [2]	Number of new transmission structures visible[3]	Vegetated Visibility Scenario; Potential Visual Impact Conclusions[4]
							incremental impact, but no new visual impact
V43	First Baptist Church 1877 - 10790 Hunts Corners Rd	No	Yes	Yes	Yes	11-15	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V42	First Baptist Church Parsonage 1899 - 10800 Hunts Corners Rd	No	Yes	Yes	Yes	11-15	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V45	Farmstead c.1860 - 10979 Keller Rd	No	Yes	Yes	Yes	16-20	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V52	Asa Ransom House 1853 Clarence Historical Society - 10529 Main St	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V63	Residence - 3030 Bowen Rd	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V53	Commercial c.1950 Gas Station - 10575 Main St	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V64	3011 Bowen Rd	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V85	Aldrich Farm - 3581 Bullis Rd	Yes	Yes	Yes	Yes	1-5	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V92	3020 Bullis Rd	No	Yes	Yes	Yes	6-10	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact

Table 4.4-2
Visibility and Potential Impacts on NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line	Existing NYSEG Utility Corridor, line, or switchyard visible? [1]	Proposed project visible? [2]	Number of new transmission structures visible[3]	Vegetated Visibility Scenario; Potential Visual Impact Conclusions[4]
V70	502 Pavement Rd	No	Yes	Yes	Yes	16-20	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V69	503 Pavement Rd	No	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V38	Dysinger Tavern - 8239 Bunker Hill Rd	No	Yes	No	No	0	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V34	Behe Residence - 8722 Bunker Hill Rd	No	Yes	Yes	Yes	11-15	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V39	Claude Residence - 7800 Akron Rd	No	Yes	No	Yes	1-5	Vegetated Visibility Scenario 3; new visual impact
State Parks [Parks, Recreation and Historic Preservation Law Section 3.09]							
None							
Heritage Areas (formerly known as Urban Cultural Parks) [Parks, Recreation and Historic Preservation Law Section 35.15]							
Not numbered	Western Erie Canal Heritage Area	Yes	Yes	Yes	Yes	Variable due to topography and vegetation, ranging from 0 to 48 depending on location within the study area.	Variable Vegetated Visibility Scenarios and visual impacts, depending on visibility of existing and/or new transmission facilities
National Wildlife Refuges [16 U.S.C. 668dd], State Game Refuges and State Wildlife Management Areas [ECL 11-2105]							

Table 4.4-2
Visibility and Potential Impacts on NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line	Existing NYSEG Utility Corridor, line, or switchyard visible? [1]	Proposed project visible? [2]	Number of new transmission structures visible[3]	Vegetated Visibility Scenario; Potential Visual Impact Conclusions[4]
V32	Tonawanda Wildlife Management Area	No	Yes	No	Yes	1-5	Vegetated Visibility Scenario 3; new visual impact
V58	Tillman Road Wildlife Management Area	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
National Natural Landmarks [36 CFR Part 62]							
None							
The National Park System, Recreation Areas, Seashores, Forests [16 U.S.C. 1c]							
Not numbered	Erie Canal – West portion of the Erie Canalway National Heritage Corridor	Yes	Yes	Yes	Yes	Variable due to topography and vegetation, ranging from 0 to 40 depending on location within the study area.	Variable Vegetated Visibility Scenarios and visual impacts, depending on visibility of existing and/or new transmission facilities
Rivers designated as National or State Wild, Scenic or Recreational [16 U.S.C. Chapter 28, ECL 15-2701 et seq.]							
None							
A site, area, lake, reservoir or highway designated or eligible for designation as scenic [ECL Article 49 or DOT equivalent and APA Designated State Highway Roadside]							
None							
Scenic Areas of Statewide Significance [of Article 42 of Executive Law]							
None							
A State or federally designated trail, or one proposed for designation [16 U.S.C. Chapter 27 or equivalent]							
None							
State Nature and Historic Preserve Areas; [Section 4 of Article XIV of the State Constitution]							
None							
Bond Act Properties purchased under Exceptional Scenic Beauty or Open Space category							
None							
Local Visually Sensitive Areas							

Table 4.4-2
Visibility and Potential Impacts on NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line	Existing NYSEG Utility Corridor, line, or switchyard visible? [1]	Proposed project visible? [2]	Number of new transmission structures visible[3]	Vegetated Visibility Scenario; Potential Visual Impact Conclusions[4]
V35	Wolcottsville Community Park	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V6	Dande Farms Golf Course	No	Yes	Yes	Yes	1-5	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V26	Destroyer Park Golf	Yes	Yes	Yes	Yes	6-10	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V50	Beeman Creek County Park	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V17	Arrowhead Golf Club	Yes	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V18	Bright Meadows Golf Course	Yes	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V19	Rothland Golf Club	Yes – adjacent to E side of NYSEG Utility Corridor	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V10	Russel Park	No	Yes	Yes	Yes	21-30	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V3	Akron Falls Park	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V4	Newstead Community Park	No	Yes	Yes	Yes	6-10	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact

Table 4.4-2
Visibility and Potential Impacts on NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line	Existing NYSEG Utility Corridor, line, or switchyard visible? [1]	Proposed project visible? [2]	Number of new transmission structures visible[3]	Vegetated Visibility Scenario; Potential Visual Impact Conclusions[4]
V41	Tonawanda Creek Fishing Access	No	Yes	Yes	Yes	31-40	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V25	Clarence Pathway – Peanut Line Trail	Yes – intersects project	Yes	Yes	Yes	31-40	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V16	Conservation Trail	Yes – intersects project	Yes	Yes	Yes	31-40	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V16	Clarence Pathway – West Shore Trail	Yes – intersects project	Yes	Yes	Yes	31-40	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V1	The Links at Ivy Ridge	Yes	Yes	Yes	Yes	41-48	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V54	Parker Commons	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V57	Clarence Main Street Town Park	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V73	Buffalo Tournament Club	Yes	Yes	Yes	Yes	31-40	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V60	Lancaster National Speedway	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V72	Fox Valley Golf Club	No	Yes	Yes	Yes	11-15	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V71	Walden Pond Park	No	Yes	Yes	Yes	11-15	Vegetated Visibility Scenario 2; relatively minor cumulative or

Table 4.4-2
Visibility and Potential Impacts on NYSDEC-defined Visual Resources and Local Visually Sensitive Areas Within 3 Miles of the ESL Project

Figure 2-2 Reference	Name (and/or Address) of Resource	Within 1 mile of Proposed Line	Within 3 miles of Proposed Line	Existing NYSEG Utility Corridor, line, or switchyard visible? [1]	Proposed project visible? [2]	Number of new transmission structures visible[3]	Vegetated Visibility Scenario; Potential Visual Impact Conclusions[4]
							incremental impact, but no new visual impact
V77	Lancaster Heritage Trail	Yes – intersects project	Yes	Yes	Yes	31-40	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V68	Westwood Park/Westwood Memorial Park	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V67	Lancaster Golf and Country Club	No	Yes	No	Yes	1-5	Vegetated Visibility Scenario 3; new visual impact
V66	Como Park	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V98	Creation Walk Nature Trail	No	Yes	Yes	Yes	11-15	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V84	Elma Village Green	No	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact
V91	Elma Meadows Golf Course and Park	Yes	Yes	Yes	Yes	11-15	Vegetated Visibility Scenario 2; relatively minor cumulative or incremental impact, but no new visual impact
V93	Elma Centennial Park	Yes	Yes	No	No	0	Vegetated Visibility Scenario 1; no visual impact

Source: Saratoga Associates, Inc.'s 2018 Draft *Empire State Line Project Visual Resources Assessment* (VRA).

Notes:

[1] Information for visibility of existing NYSEG Utility Corridor, line or switchyard obtained from Figure 3 of the VRA.

[2] Information for visibility of the Proposed Project (new transmission line or new switchyard) obtained from Table 5 of the VRA and Vegetated Viewshed Mapping in Appendix B of the VRA.

[3] Information for the number of new transmission line structures that modelling suggests may be visible obtained from Vegetated Viewshed Mapping in Appendix B of the VRA.

[4] Vegetated Visibility Scenarios and potential visual impact conclusions developed from Figure 3 of the VRA and Vegetated Viewshed Mapping in Appendix B of the VRA.

[a] Vegetated Visibility Scenario 1: Locations where neither the existing NYSEG Utility Corridor, including existing transmission lines, nor the proposed transmission line would be visible from these resources.

[b] Vegetated Visibility Scenario 2: Locations where both the existing NYSEG Utility Corridor, including existing transmission lines, and the proposed new transmission line would be visible from these resources. At these locations, the proposed new transmission line would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with these resources.

[c] Vegetated Visibility Scenario 3: Locations where the existing NYSEG Utility Corridor, including existing transmission lines, is not visible, but the proposed new transmission line would be visible. At these locations, the proposed new transmission line would be a new landscape feature that is different from, and not consistent with, existing landscape features within the setting, views, or viewsheds associated with these resources.

- **Vegetated Visibility Scenario 3**: Locations where the existing NYSEG Utility Corridor, including existing transmission lines, is not visible, but the proposed new transmission line would be visible. At these locations, the proposed new transmission line would be a new landscape feature that is different from, and not consistent with, existing landscape features within the setting, views, or viewsheds associated with these resources. Vegetated visibility modelling suggests that the Project could result in new, relatively minor visual impacts on resources in locations that match the characteristics of Vegetated Visibility Scenario 3.

These three different visibility scenarios highlight the screening effect that vegetation has on the visibility of both the existing NYSEG Utility Corridor, including existing transmission lines, and the proposed new transmission line and/or switchyards within the ESL Project study area, and the potential visual impacts of the Project, as discussed below for NYSDEC Program Policy resources and local visually sensitive Areas.

Historic Properties

The results of the vegetated visibility modelling for the Proposed Line were evaluated for the locations of the 32 NRHP-listed or -eligible historic properties (see Table 4.4-2), with the following conclusions:

- Ten (10) NRHP-listed or -eligible architectural resources within 3 miles of the Proposed Line are in locations that match the characteristics of Vegetated Visibility Scenario 1. Thus, vegetated visibility modelling suggests that these 10 NRHP-listed or -eligible architectural resources are in locations where neither the existing NYSEG Utility Corridor, including existing transmission lines, nor the Proposed Line would be visible and the ESL Project would have no visual impacts on these resources.

- Twenty-one (21) NRHP-eligible architectural resource within 3 miles of the proposed transmission line are in locations that match the characteristics of Vegetated Visibility Scenario 2. Thus, vegetated visibility modelling suggests that these 21 NRHP- eligible architectural resources are in locations where both the existing NYSEG Utility Corridor, including existing transmission lines, and the Proposed Line would be visible. At these locations, the Proposed Line would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with these 20 NRHP-eligible architectural resources and the ESL Project may result in cumulative or incremental visual impacts on these resources.

- One (1) NRHP-eligible architectural resource within 3 miles of the Proposed Line, the Claude Residence at 7800 Akron Road in the town of Royalton, Niagara County (Map Reference # V39), is in a location that matches the characteristics of Vegetated Visibility Scenario 3. Thus, vegetated visibility modelling suggests that this NRHP-eligible

architectural resource is in a location where the existing NYSEG Utility Corridor, including existing transmission lines, is not visible, but the Proposed Line would be visible. At this location, the Proposed Line may be a new landscape feature that is different from, and not consistent with, existing landscape features within the setting, views, or viewsheds associated with this NRHP-eligible architectural resource and the ESL Project may result in new, relatively minor visual impacts on this resource.

Vegetated visibility modelling was not conducted specifically for the Dysinger Switchyard. However, given its location at the northern end of the Proposed Line, it was assumed that the results of the vegetated visibility modelling for the transmission line would be applicable to the switchyard. Three NRHP-eligible architectural resources are located within 3 miles of the proposed Dysinger Switchyard: the Dysinger Tavern at 8239 Bunker Hill Road in the town of Royalton, Niagara County (Map Reference # V38); the Behe Residence at 8722 Bunker Hill Road in the town of Royalton, Niagara County (Map Reference # V34); and the Claude Residence at 7800 Akron Road in the town of Royalton, Niagara County (Map Reference # V39). The results of the vegetated visibility modelling were evaluated for the locations of these three NRHP-eligible historic properties, with the following conclusions:

- One NRHP-eligible architectural resource within 3 miles of the proposed switchyard, the Dysinger Tavern at 8239 Bunker Hill Road in the town of Royalton, Niagara County (Map Reference # V38), is in a location that match the characteristics of Vegetated Visibility Scenario 1. Thus, vegetated visibility modelling suggests that this NRHP-eligible architectural resource is in a location where the existing NYSEG Utility Corridor, including existing transmission lines and the proposed Dysinger Switchyard would not be visible and the ESL Project would have no visual impacts on this resource.

- One NRHP-eligible architectural resource within 3 miles of the proposed switchyard, the Behe Residence at 8722 Bunker Hill Road in the town of Royalton, Niagara County (Map Reference # V34), is in a location that matches the characteristics of Vegetated Visibility Scenario 2. Thus, vegetated visibility modelling suggests that this NRHP-eligible architectural resource is in a location where both the existing NYSEG Utility Corridor, including existing transmission lines, and the proposed new Dysinger Switchyard would be visible. At this location, the proposed new Dysinger Switchyard would be a new landscape feature that is different from existing landscape features within the setting, views, or viewsheds associated with this NRHP-eligible architectural resource and the ESL Project may result in relatively minor cumulative or incremental visual impacts on this resource.

- One NRHP-eligible architectural resource within 3 miles of the ESL Project, the Claude Residence at 7800 Akron Road in the town of Royalton, Niagara County (Map Reference # V39), is in a location that matches the characteristics of Vegetated Visibility Scenario 3.

Thus, vegetated visibility modelling suggests that this NRHP-eligible architectural resource is in a location where the existing NYSEG Utility Corridor, including existing transmission lines, is not visible, but the proposed new Dysinger Switchyard would be visible. At this location, the proposed Dysinger Switchyard would also be a new landscape feature that is different from existing landscape features within the setting, views, or viewsheds associated with this NRHP-eligible architectural resource and the ESL Project may result in new, relatively minor visual impacts on this resource.

Vegetated visibility modelling was also not conducted specifically for the East Stolle Switchyard. However, given its location at the southern end of the Proposed Line, it is also assumed that the results of the vegetated visibility modelling for the transmission line would be applicable to the switchyard. Two NRHP-eligible architectural resources are located within 3 miles of the proposed East Stolle Switchyard: Aldrich Farm in the town of Elma, Erie County (Map Reference # V85) and the property at 3020 Bullis Road in the town of Elma, Erie County (Map Reference # V92). The results of the vegetated visibility modelling were evaluated for the locations of the two NRHP-eligible historic properties, with the following conclusions:

- The two NRHP-eligible architectural resource within 3 miles of the ESL Project are in locations that match the characteristics of Vegetated Visibility Scenario 2. Thus vegetated visibility modelling suggests that both of these NRHP-eligible architectural resources are in locations where the existing NYSEG Utility Corridor, including existing transmission lines, and the proposed East Stolle Switchyard would be visible. At these locations, the proposed East Stolle Switchyard would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with these two NRHP-eligible architectural resources and the ESL Project may result in relatively minor cumulative or incremental visual impacts on these resources.

Heritage Areas

The results of the vegetated visibility modelling indicate that locations that match the characteristics of Vegetated Visibility Scenarios 1, 2, and 3 are all present within the portion of the Western Erie Canal Heritage Corridor that overlaps the study area. Therefore, the visibility of the existing NYSEG Utility Corridor, including existing transmission lines and switchyard, and/or the ESL Project, including the Proposed Line and/or the two proposed new switchyards, would vary at any given location within the Western Erie Canal Heritage Corridor:

- In general, Vegetated Visibility Scenario 1 applies to the majority of the portion of the Western Erie Canal Heritage Corridor that overlaps the study area, such that neither the existing NYSEG Utility Corridor, including existing transmission lines, nor the ESL

Project, including the Proposed Line and switchyards would be visible and the ESL Project would have no visual impacts on this resource.

- Vegetated Visibility Scenario 2 applies to most of the remainder of the portion of the Western Erie Canal Heritage Corridor that overlaps the study area, where both the existing NYSEG Utility Corridor, including existing transmission lines, and the ESL Project, including the new transmission line and/or the new switchyards, would be visible. At these locations, modelling indicates that between one and 48 new transmission line structures may be visible, the Proposed Line would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with this resource and the ESL Project may result in relatively minor cumulative or incremental visual impacts on this resource.

- Vegetated Visibility Scenario 3 applies to the remaining few portions of the Western Erie Canal Heritage Corridor that overlap the study area, typically at the edges of Scenario 2 locations, where the existing NYSEG Utility Corridor, including existing transmission lines, is not visible, but the Proposed Line would be visible. At these locations, modelling indicates that between 1 and 16 new transmission line structures typically may be visible, although in some locations as many as 30 new transmission line structures may be visible. The Proposed Line would be a new landscape feature that is different from, and not consistent with existing landscape features within the setting, views, or viewsheds associated with this resource and the ESL Project may result in new visual impacts on this resource.

State Wildlife Management Areas

The results of the vegetated visibility modelling indicate the Tillman Road WMA is in a location that matches the characteristics of Vegetated Visibility Scenario 1, such that neither the existing NYSEG Utility Corridor, including existing transmission lines, nor the ESL Project, including the Proposed Line and switchyards, would be visible.

The results of the vegetated visibility modelling indicate that locations that match the characteristics of Vegetated Visibility Scenario 1 and 3 are present within the portion of the Tonawanda WMA that overlaps the study area. However, no locations that match the characteristics of Vegetated Visibility Scenario 2 are present within the portion of the Tonawanda WMA that overlaps the study area.

- Vegetated Visibility Scenario 1 applies to almost the entire portion of the Tonawanda WMA that overlaps the study area, such that the existing NYSEG Utility Corridor, including existing transmission lines, and the ESL Project, including the Proposed Line and switchyards, would not be visible and the ESL Project would have no visual impacts

on this resource.

- Vegetated Visibility Scenario 3 applies to a very small portion of the western edge of the Tonawanda WMA that overlaps the study area, along Ditch Road in the town of Royalton, Niagara County. At this location, the existing NYSEG Utility Corridor, including existing transmission lines, is not visible, but the ESL Project, including the Proposed Line, would be visible. At this location, the proposed new transmission line would be a new landscape feature that is different from, and not consistent with, existing landscape features within the setting, views, or viewsheds associated with this very small portion of the Tonawanda WMA and the ESL Project may result in new visual impacts on this resource.

National Park System Resources

The results of the vegetated visibility modelling indicate that locations that match the characteristics of Vegetated Visibility Scenarios 1, 2, and 3 are all present within the part of the Erie Canal – West portion of Erie Canalway National Heritage Corridor that overlaps the study area. Therefore, the visibility of the existing NYSEG Utility Corridor, including existing transmission lines, and/or the ESL Project, including the Proposed Line and/or the proposed Dysinger Switchyard, would vary at any given location within this part of the Erie Canal – West portion of Erie Canalway National Heritage Corridor:

- In general, Vegetated Visibility Scenario 1 applies to the majority of the part of the Erie Canal – West portion of Erie Canalway National Heritage Corridor that overlaps the study area, such that neither the existing NYSEG Utility Corridor, including existing transmission lines, nor the ESL Project, including the Proposed Line and switchyards would be visible and the ESL Project would have no visual impacts on this resource.

- Vegetated Visibility Scenario 2 applies to most of the remainder of the part of the Erie Canal – West portion of Erie Canalway National Heritage Corridor that overlaps the study area, where both the existing NYSEG Utility Corridor, including existing transmission lines, and the ESL Project, including the Proposed Line and/or the new switchyards, would be visible. At these locations, modelling indicates that between 1 and 30 new transmission line structures may be visible, the Proposed Line would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with this resource and the ESL Project may result in relatively minor cumulative or incremental visual impacts on this resource.

- Vegetated Visibility Scenario 3 applies to the remaining few parts of the Erie Canal – West portion of Erie Canalway National Heritage Corridor that overlap the study area, typically at the edges of Scenario 2 locations, where the existing NYSEG Utility Corridor, including existing transmission lines and switchyard, is not visible, but the ESL Project, including the Proposed Line and/or the new switchyards, would be visible. At these

locations, modelling indicates that between one and 10 new transmission line structures may be visible, and the Proposed Line would be a new landscape feature that is different from, and not consistent with, existing landscape features within the setting, views, or viewsheds associated with this resource and the ESL Project may result in new visual impacts on this resource.

Local Visually Sensitive Areas

The results of the vegetated visibility modelling were evaluated for the locations of the 29 local visually sensitive areas (see Table 4.4-2), with the following conclusions:

- Eleven (11) local visually sensitive areas within 3 miles of the ESL Project are in locations that match the characteristics of Vegetated Visibility Scenario 1. Thus, vegetated visibility modelling suggests that these 11 local visually sensitive areas are in locations where the existing NYSEG Utility Corridor, including existing transmission lines, and the Proposed Line would not be visible and the ESL Project would have no visual impacts on these resources.

- Seventeen (17) local visually sensitive areas within 3 miles of the ESL Project are in locations that match the characteristics of Vegetated Visibility Scenario 2. Thus, vegetated visibility modelling suggests that these 17 local visually sensitive areas are in locations where both the existing NYSEG Utility Corridor, including existing transmission lines, and the Proposed Line would be visible. At these locations, the proposed new transmission line would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with these 17 local visually sensitive areas and the ESL Project may result in relatively minor cumulative or incremental visual impacts on these areas.

- One (1) local visually sensitive area within 3 miles of the ESL Project, the Lancaster Golf and Country Club in the town of Lancaster, Erie County (Map Reference # V67), is in a location that matches the characteristics of Vegetated Visibility Scenario 3. Thus, vegetated visibility modelling suggests that this local visually sensitive area is in a location where the existing NYSEG Utility Corridor, including existing transmission lines, is not visible, but the Proposed Line would be visible. At this location, the Proposed Line would be a new landscape feature that is different from, and not consistent with, existing landscape features within the setting, views, or viewsheds associated with this local visually sensitive area and the ESL Project may result in new visual impacts on this area.

The results of the vegetated visibility modeling were also evaluated for the locations of two local visually sensitive areas in proximity to the proposed Dysinger Switchyard, with the following conclusions:

- One local visually sensitive area within 3 miles of the proposed switchyard, the Wolcottsville Community Park in the town of Royalton, Niagara County (Map Reference # V35), is in a location that matches the characteristics of Vegetated Visibility Scenario 1. Thus, vegetated visibility modelling suggests that this local visually sensitive area is in a location where the existing NYSEG Utility Corridor, including existing transmission lines, and the proposed Dysinger Switchyard would not be visible and the ESL Project would have no visual impacts on this area.

- One local visually sensitive area within 3 miles of the proposed switchyard, the NYSDEC's Tonawanda Creek Fishing Access Park in the town of Newstead, Erie County (Map Reference # V41), is in a location that matches the characteristics of Vegetated Visibility Scenario 2. Thus, vegetated visibility modelling suggests that this local visually sensitive area is in a location where both the existing NYSEG Utility Corridor, including existing transmission lines, and the proposed Dysinger switchyard would be visible. At this location, the proposed Dysinger switchyard would be a new landscape feature that is different from existing landscape features within the setting, views, or viewsheds associated with this local visually sensitive area and the ESL Project may result in relatively minor cumulative or incremental visual impacts on this area.

The results of the vegetated visibility modeling were also evaluated for the locations of four local visually sensitive areas in proximity to the proposed East Stolle Switchyard, with the following conclusions:

- Two local visually sensitive areas within 3 miles of the proposed switchyard, Elma Village Green in the town of Elma, Erie County (Map Reference # V84) and Elma Centennial Park in the town of Elma, Erie County (Map Reference # V93), are in locations that match the characteristics of Vegetated Visibility Scenario 1. Thus, vegetated visibility modelling suggests that these two local visually sensitive areas are in locations where the existing NYSEG Utility Corridor, including existing transmission lines and switchyard, and the proposed East Stolle switchyard would not be visible and the ESL Project would have no visual impacts on these areas.

- Two local visually sensitive areas within 3 miles of the proposed switchyard, Elma Meadows Golf Course/Elma Meadows Country Club in the town of Elma, Erie County (Map Reference # V91) and the Creation Nature Walk in the town of Marilla, Erie County (Map Reference # V98), are in locations that match the characteristics of Vegetated Visibility Scenario 2. Thus, vegetated visibility modelling suggests that these two local visually sensitive areas are in locations where both the existing NYSEG Utility Corridor, including existing transmission lines and switchyard, and the proposed new East Stolle Road Switchyard would be visible. At these locations, the proposed new East Stolle Road Switchyard would be a new landscape feature that is consistent with existing landscape features within the setting, views, or viewsheds associated with these two local visually sensitive areas and the ESL Project may result in relatively minor cumulative or incremental visual impacts on these areas.

3) Potential Aesthetic Impacts on the Existing Landscape

The potential visual impacts of the ESL Project within the existing landscape requires consideration of the compatibility of the ESL Project with the visual character of the existing landscape in the ESL Project study area, distances from which the ESL Project would be viewed within the ESL Project study area, and the duration, frequency, and circumstances associated with viewing the ESL Project. The various components that comprise the context for viewing the ESL Project within the existing landscape, and considering any potential visual impacts on the existing landscape, are discussed below.

Considering the components of the visual character of the existing landscape in the ESL Project study area, the visible patterns (form, line, color, and texture) found within the study area can best be described as representative of an agricultural landscape. The form of the regional landscape generally consists of gently rolling terrain with sinuous naturalistic hills. The existing landscape maintains a horizontal line formed by extended vistas. However, in instances where the existing cleared portion of the NYSEG Utility Corridor is seen traversing a hilltop or forested land, there is a clear interruption of other, often natural, landscape forms along the horizon. Given the rural nature of the study area, visible colors are natural, muted shades of green, brown, gray, and other earth tones. The woodland edge of agricultural fields, roadways, waterways, and the existing cleared NYSEG Utility Corridor commonly creates brief vertical offsets within the landscapes.

The existing transmission structures within the NYSEG Utility Corridor are commonly visible and many locations within the study area will have views of the existing lattice transmission structures located within the NYSEG Utility Corridor. However, the addition of approximately 155 slender, simplistic appearing vertical structures will create somewhat noticeable visual additions to the form of the visual character of the existing landscape, particularly where ESL Project structures will be more evident at close-in views (*e.g.*, road crossings). Given the difference in height of 30 feet from the existing transmission lines, the ESL Project will represent a higher vertical form in the existing landscape. Additionally, in those instances where existing transmission line structures are not visible, the new vertical form of the proposed transmission structures may introduce a contrasting and distinct perpendicular element into the generally horizontal line of the existing landscape.

The gray color of the proposed structures will be viewed against natural, muted shades of green, brown, gray, and other earth tones adjacent landforms and vegetation, and the grays and blues of the background sky. Under bright conditions, when the structures are front lit (sun behind viewer), they would be highly compatible with the hue, saturation, and brightness of the background sky and distant elements of the natural landscape. When the structures are backlit (sun in front of viewer), the shaded side will be darker, causing increased contrast with the background sky. The opposite is possible when viewing the structures against a vegetated landform as the structures may be less compatible when front lit and more compatible when backlit.

The proposed transmission structures will be highly compatible with the uses within the existing NYSEG Utility Corridor. They will consist of a tubular style monopole tower with horizontal arms, which results in a simple form but is different in materials and form from the existing wooden transmission structures. Thus, the proposed transmission structures will have an engineered texture that may contrast with the organic textures of the existing transmission lines and surrounding landscape. In the case of the proposed switchyards, the smooth metallic structures used at the proposed Dysinger Switchyard will slightly contrast the natural landscape. The same smooth metallic structures used at the proposed East Stolle Switchyard will be different from the surrounding natural landscape, but will be consistent with the similar features of the adjacent existing switchyard to the south.

Distance from the project will also affect the apparent size and degree of contrast between the project and its surroundings. In particular, differences in the visibility of a project depend on whether the project appears in the foreground, middleground, or background of views and viewsheds with in the project study area for from a specific visual resource or visually sensitive area.

Per the Article VII requirements, the visual analysis for the ESL Project is limited to the 6-mile-wide study area, centered on the Proposed Line and switchyards, such that all views of the ESL Project would be considered foreground or middleground views. Therefore, foreground and middleground distance zones referenced in the NYSDEC's Program Policy have been used to assess visual impacts of the ESL Project, as discussed below.

The foreground of a view or viewshed has been defined as the area within 0 to 0.5 mile from a specific vantage point. At a foreground distance, viewers typically have a very high recognition of detail. Cognitively, in the foreground zone, human scale is an important factor in judging spatial relationships and the relative size of objects. From this distance, the sense of form, line, color and textural contrast with the surrounding landscape is highest and the visual impact of a Project is likely to be considered the greatest at a foreground distance (NYSDEC 2000).

The middleground of a view or viewshed has been defined as the area within 0.5 to 3 miles from a specific vantage point. At a middleground distance, elements of a project begin to visually merge or join with the existing landscape and setting. Colors and textures become somewhat muted by distance, but are still identifiable. Visual detail is reduced, although distinct patterns may still be evident. Viewers from middleground distances characteristically recognize surface features such as tree stands, building clusters and small landforms. Scale is perceived in terms of identifiable features of development patterns. From this distance, the contrast of color and texture are identified more in terms of the regional context than by the immediate surroundings (NYSDEC 2000).

Visual simulations presented in Appendix B of the VRA suggest how the ESL Project will appear in the surrounding landscape, considering the visual character of the existing landscape in the ESL Project study area and the distance from the ESL Project. At some locations, the proposed transmission structures will appear to be of similar scale to those transmission structures that are currently within the study area. The proposed structures may appear to be a different scale with other elements within views, regardless of whether views are in the foreground or middleground (see photosimulations for locations 4, 6, 7, 8, 9, 12, 17, 18, and 19 in Appendix B of the VRA). In other views, the proposed structures may appear to be the same scale as other elements within views, regardless of whether views are in the foreground or middleground (see photosimulations for locations 2, 3, 11, 13, 14, 15, 16, 19, and 20 in Appendix B of the VRA). Typically, the proposed structures, as well as the existing transmission structures will be noticeable from foreground vantage points, (see photosimulations for locations 2, 4, 6, 7, 8, 9, 16, 17, 18, and 19 in Appendix B of the VRA). From other vantage points, the perceived differences in the scale and spatial dominance of the ESL Project may be barely noticeable regardless of whether vantage

points are in the foreground (see photosimulations for locations 3, 12, 13, 14, 15, and 20 in Appendix B of the VRA) or the middleground (see photosimulations for locations 9 and 11 in Appendix B of the VRA). Additionally, from some vantage points in both the foreground and middleground, the ESL Project is not visible at all due to distance and intervening vegetation (see photosimulations for locations 1, 5, and 21 in Appendix B of the VRA).

The length of time and the circumstances under which a view is encountered is also influential in characterizing the importance of a particular view. Thus, the analysis of a viewer's experience must include the distinction between stationary and moving observers.

Stationary views are experienced from fixed viewpoints such as residential dwellings, recreational facilities, and other places of outdoor activity. Characteristically, stationary views offer sufficient time for the viewer to interpret and understand the physical surroundings and therefore have a higher potential for understanding the elements of a view than do moving viewers.

Moving views are those experienced in passing, such as from moving vehicles, where the time available for a viewer to cognitively experience a particular view is limited. As the tendency of automobile occupants is to focus down the road, the actual time a viewer is able to focus on individual elements of the surrounding landscape is a fraction of the total available view time.

5) Potential Impacts on Typical Viewer Groups

Viewers engaged in different activities, even when in the same location within the project study area, are likely to perceive their surroundings differently. The following description of typical viewer groups for the ESL Project study area, consisting of local residents, local workers, through travelers, and recreational users or tourists, is provided to assist in understanding the sensitivity and probable reaction of potential observers to visual changes that may result from the ESL Project.

Local residents are individuals who regularly view the ESL Project study area, including the existing transmission structures located within the existing NYSEG Utility Corridor, from homes, businesses, and local roads. Except when involved in local travel, such viewers are likely to be stationary and would have frequent and/or prolonged views of the ESL Project study area. They know the local landscape and may be sensitive to changes in particular views that are important to

them. Conversely, the sensitivity of an individual observer to a specific view within the ESL Project study area may be diminished due to failure to notice the visibility of the existing transmission structures as a result of repeated exposure over time.

Local workers are individuals who work within the ESL Project study area. It is expected that the workers would generally be indoors and would not experience the surrounding landscape and will therefore not be affected by a change in the surroundings. For the time any workers may be outdoors, sensitivity may vary, however, most workers will primarily be focused on their job responsibilities, view existing transmission structures, and give minimal consideration to the surrounding landscape.

Through travelers are individuals, such as commuters or transient travelers, who would view the ESL Project from highways. These viewers are typically moving at higher speeds and focusing on the road in front of them. Consequently, their views of the ESL Project will be mostly peripheral, intermittent, and/or of relatively brief duration. Given a general unfamiliarity or infrequent exposure, or lack of attention, to the local landscape, travelers are likely to have a lower degree of sensitivity to visual change than would local residents and workers and also give minimal consideration to the surrounding landscape (Saratoga Associates, Inc. 2018).

Recreational users and tourists are individuals who would view the ESL Project from specific locations, such as the locations of visual resources or visually sensitive areas. These viewers include local residents involved in outdoor recreational activities within the ESL Project study area and visitors who come to the area specifically to enjoy the cultural, recreational, and open spaces of the ESL Project study area. Such viewers are likely to be relatively stationary and would have short-duration but intensive views of the ESL Project study area. They may know a specific resource area well and/or may be sensitive to changes in particular views that are important or of interest to them. While the sensitivity of recreational users and tourists to visual quality is variable, the presence of existing transmission structures within specific views may diminish their perception of the ESL Project.

4.4.6 Mitigation

The above discussion of the results of visual impact analysis indicate that while there may be potential relatively, minor visual impacts on specific NYSDEC Policy Program resources or local visually sensitive areas, in almost all cases, these resources or areas already contain views of the existing NYSEG Utility Corridor, including the existing transmission lines, and, in some cases, the existing substation at the southern end of the ESL Project. Thus, the ESL Project will be a landscape feature that is generally consistent with the existing landscape features that are already present in the setting, views, or viewsheds associated with these resources or areas.

Additionally, consideration of the potential visual impacts of the ESL Project on the visual character or scenic integrity of the existing landscape of the overall ESL Project study area suggests that the ESL Project will not be a noticeable or prominent features in views from most locations. While there may be views of the ESL Project from various vantage points, topography, vegetation, and localized structures will assist in screening views of proposed structures from most locations within the ESL Project study area.

Visibility modelling indicates that views from many locations would be generally limited to a few proposed structures in a particular view. Where visibility of the ESL Project is found throughout the study area, it is important to note that there are often views of the existing transmission structures within the ROW and views of other electric distribution poles scattered along roadways within the landscape. Generally, if there is visibility of the ESL Project, there is also visibility of at least one of the existing transmission lines within the existing NYSEG Utility Corridor. Additionally, due to the proposed structures' slender profile, it is generally assumed that visibility of the ESL Project will decrease as distance from the ESL Project increases.

Where views of the ESL Project structures occur, their visibility is often further minimized by distance, reducing the perceived scale and visual contrast of the proposed new structures. ESL Project views will generally be a mixture of foreground views and in some cases middleground views, and, such views would be fleeting as viewers pass in vehicles along transportation routes, or of relatively small portions of the ESL Project where viewers are stationary.

Potential visual impacts from the ESL Project have already been minimized by siting the entire ESL Project within the existing NYSEG Utility Corridor and by the use of monopoles, with their slender, uniform profiles that generally do not appear as a prominent landscape feature, even in foreground and middleground views, as documented in the photosimulations for the ESL Project (see Appendix B of the VRA).

Accordingly, no additional mitigation is necessary for the transmission line.

4.5 Cultural Resources

In accordance with Public Service Law (PSL) §122(1)(c) and 16 New York Code of Rules and Regulations (NYCRR) §§86.3(a)(1)(iii) and 86.5(b)(2)(i), this section provides a discussion of potential impacts on cultural resources due to the construction and operation of the ESL Project. As used herein, the term "cultural resources" generally consists of archaeological resources (prehistoric and historic archaeological sites) and architectural or other built resources (buildings, structures, etc.) that are listed, or eligible for listing in New York's State Register of Historic Places (State Register) and/or the National Register of Historic Places (NRHP). This section identifies and describes known and previously recorded cultural resources within the study areas defined for the ESL Project, and discusses the ESL Project's potential direct or indirect (visual) impacts or effects on cultural resources.

4.5.1 Area of Potential Effects (APE)

The cultural resources investigation conducted for this assessment consisted of a desktop review of information for known and previously recorded cultural resources and historic properties that is included in databases maintained by the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) and the National Parks Service (NPS). This information consists of known and previously recorded archaeological sites and architectural or other built resources, and includes those archaeological sites and architectural resources that are historic properties (*i.e.*, listed, or previously determined eligible for listing, in the State Register and/or the NRHP). Information for known and previously recorded archaeological sites and architectural resources were identified within 2- and 6-mile-wide archaeological and architectural study areas,

respectively, centered on the Proposed Line. The results of this desktop review are described in Section 4.5.3.

In addition, as a result of initiation of consultation for the ESL Project with the NYSOPRHP in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), the New York State Historic Preservation Office (SHPO) recommended archeological and architectural investigations for the ESL Project. A Phase IA archaeological investigation was recommended to assess the archaeological sensitivity of the Proposed ROW and to make recommendations regarding the need for Phase IB archaeological investigations (Ferguson 2018). An architectural survey of known and previously recorded architectural resources in areas where the ESL Project would be visible was recommended to assess the potential visual impacts of the Proposed Project on these resources (Finelli 2018a, 2018b). Copies of correspondence with the NYSOPRHP are provided in Attachment C of this Application.

SHPO also defined an area of potential effects (APE) for the identification and evaluation of cultural resources and historic properties for the ESL Project. This APE consists of a direct APE and an indirect APE. The direct APE consists of the construction footprint within which physical impacts or effects on archaeological sites or architectural resources could occur. The indirect APE consists of those portions of a 6-mile-wide architectural study area, centered on the Proposed Line, within which new visual impacts or effects on architectural resources could occur (Ferguson 2018; Finelli 2018a, 2018b).

4.5.2 Existing Conditions

The ESL Project study area is generally rural in character, with open or cultivated agricultural fields interspersed with wooded areas comprised of mature forest or reverting agricultural fields covered with emerging bushes and other low woody vegetation. Wetlands and waterbodies are located within, or cross, the Proposed ROW.

Development in the ESL Project study area is predominantly residential or commercial. Buildings and structures are generally located along, and immediately adjacent to existing roads, with little interior development. However, subdivisions and privately-owned recreational properties (such as golf courses) are present in interior areas, particularly in Erie County.

The local road system within the ESL Project study area tends to be in a grid pattern, with local roads typically oriented in north-south or east-west directions. Additionally, several state and federal roads cross the study area in a generally east-west orientation, including Main Street (NYS Route 5), I-90 (the New York Thruway), Genesee Street (NYS Route 33), Broadway (US Route 20), and Clinton Street (NYS Route 354).

4.5.3 Archaeological Sites

A desktop review was conducted to obtain information for known and previously recorded archaeological sites within a 2-mile-wide archaeological study area centered on the proposed new transmission line from databases maintained by the NYSOPRHP and the NPS. A total of 62 known and previously recorded archaeological sites were identified within the archaeological study area (see Table 4.5-1), including 16 generously defined New York State Museum (NYSM) archaeological sites or areas that were recorded by early 20th century avocational archaeologists and given overly large boundaries to protect the sites or areas from looters. Ten of these sites were previously evaluated for NRHP-eligibility: one was previously determined NRHP-eligible, and nine were previously determined not NRHP-eligible. The remaining 52 have not been evaluated for NRHP-eligibility. As such their NRHP-eligibility status is undetermined.

With regard to cultural affiliation, 52 of the archaeological sites are pre-historic or historic Native American sites, eight of the archaeological sites are historic Euro-American sites, one of these sites has both prehistoric and historic components, and one is of unidentified cultural affiliation. Pre-historic and historic Native American sites include pre-historic isolated finds, lithic scatters, camps, and village sites. Historic Euro-American sites include refuse deposits associated with standing structures and the remains of historic domestic sites.

Table 4.5-1 Previously Recorded Archaeological Sites Within 1 Mile of the Project					
NYSOPRHP Unique Site Number (USN)	**Name**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
NRHP-Eligible Archaeological Sites					
02919.000011	Johnson Pottery Site (SUBI-1258)	Erie	Town of Newstead	Historic Archaeological Site; Pottery fragments found at site	Eligible
Archaeological Sites previously determined Not NRHP-Eligible					
02912.000051	Elma-Bullis 1 Archeological Site	Erie	Town of Elma	Prehistoric Archaeological Site	Not Eligible
02912.000052	Elma-Bullis 2 Archeological Site	Erie	Town of Elma	Prehistoric Archaeological Site	Not Eligible
02912.000053	Elma-Bullis 3 Archeological Site	Erie	Town of Elma	Prehistoric Archaeological Site	Not Eligible
02912.000054	Elma-Bullis 4 Archeological Site	Erie	Town of Elma	Prehistoric Archaeological Site	Not Eligible
02912.000055	Elma-Bullis 6 Archeological Site	Erie	Town of Elma	Prehistoric Archaeological Site	Not Eligible
02912.000056	Elma-Bullis 7 Archeological Site	Erie	Town of Elma	Prehistoric Archaeological Site	Not Eligible
02912.000058	Janusz Archeological Site (UB2729)	Erie	Town of Elma	Prehistoric Archaeological Site	Not Eligible
02919.000024	Tatara Site	Erie	Town of Newstead	Prehistoric Archaeological Site	Not Eligible
02919.000031	PCI/Newstead Prehistoric Findspots	Erie	Town of Newstead	Prehistoric Archaeological Site	Not Eligible
Archaeological Sites whose NRHP-Eligibility is Undetermined					

Table 4.5-1
Previously Recorded Archaeological Sites Within 1 Mile of the Project

NYSOPRHP Unique Site Number (USN)	Name	County	Town	Description	NRHP-Eligibility Status
02901.000034	John Sheffler House	Erie	Town of Alden	Historic Archaeological Site	Undetermined
02912.000017	French I UB 2290 Prehistoric	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
02912.000020	Howard OH 1 UB 2288 Prehistoric	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
02912.000021	Howard OH 2 UB 2289 Prehistoric[1]	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
02912.000026	Deercrest 1 Site	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
02912.000027	Howard OTT 3 UB – 2309	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
02912.000057	Elma-Bullis 8 Archeological Site	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
02918.000036	French 2 UB 2291 Prehistoric	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined
02918.000037	French 3 UB 2292 Prehistoric	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined
02918.000038	French 4 UB 2293 Prehistoric	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined
02918.000039	French 5 UB Prehistoric	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined
02918.000041	French 7 UB – 2308	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined
02918.000042	French 6, UB-2307	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined
02918.000062	Berner II (Locus 3)	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined
02918.000063	Berner III (Loci 4-8)	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined

Table 4.5-1 Previously Recorded Archaeological Sites Within 1 Mile of the Project					
NYSOPRHP Unique Site Number (USN)	**Name**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
02918.000068	TL 487 T4-1	Erie	Town of Marilla	Historic Archaeological Site	Undetermined
02918.000069	TL 487 T4-2	Erie	Town of Marilla	Historic Archaeological Site	Undetermined
02918.000070	TL 487 T6-1	Erie	Town of Marilla	Historic Archaeological Site	Undetermined
02918.000071	TL 487 T6-2	Erie	Town of Marilla	Prehistoric Archaeological Site	Undetermined
02919.000006	Not identified	Erie	Town of Newstead	Historic Archaeological Site	Undetermined
02919.000010	A. McLane House Site	Erie	Town of Newstead	Historic Archaeological Site	Undetermined
02919.000017	Area I, SUBI-1259, SUGG II	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000018	Area II, SUBI-1260, Berghorn Site	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000019	Area III, SUBI-1261, Ball Site	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000028	PCI/Newstead-1 Prehistoric Site	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000029	PCI/Newstead-2 Prehistoric Site	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000030	PCI/Newstead-3 Prehistoric Site[1]	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000034	PCI/Hiller Road-1 Prehistoric Site	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000035	PCI/Hiller Road-2	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000036	PCI/Greenbush Road-1	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
02919.000038	Havenwood Pre-contact Site	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined

Table 4.5-1 Previously Recorded Archaeological Sites Within 1 Mile of the Project					
NYSOPRHP Unique Site Number (USN)	**Name**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
02919.000041	TL 487 T10-1	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
06309.000111	ANR-27 Albert No. 1	Niagara	Town of Royalton	Prehistoric Archaeological Site	Undetermined
06309.000112	ANR-28 Albert No. 2	Niagara	Town of Royalton	Prehistoric Archaeological Site	Undetermined
06309.000116	Criswell	Niagara	Town of Royalton	Historic Archaeological Site	Undetermined
06309.000117	Albert No. 3	Niagara	Town of Royalton	Prehistoric Archaeological Site	Undetermined
New York State Museum (NYSM) Sites					
Not applicable	NYSM 4109; ACP Ngra no #[2]	Niagara	Town of Royalton	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 4101; ACP Ngra 32	Niagara	Town of Royalton	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 3259; ACP Erie No #[2]	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 2151 Hiller Road Ossuary; DEP 2-2	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 2205 Lorenzo Johnson Pottery; DEP 13-2RMSC	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 3196; ACP Erie #27	Erie	Town of Newstead	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 3195; ACP Erie #26	Erie	Town of Lancaster	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 2206 Case-Suess-Johnson Pottery; DEP 14-2RMSC	Erie	Town of Alden	Prehistoric and Historic Archaeological Site	Undetermined

Table 4.5-1
Previously Recorded Archaeological Sites Within 1 Mile of the Project

NYSOPRHP Unique Site Number (USN)	Name	County	Town	Description	NRHP-Eligibility Status
Not applicable	NYSM 3263; ACP Erie no #[2]	Erie	Towns of Alden and Clarence	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 3210; ACP Erie 41	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 3211; ACP Erie 42[2]	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 3212; ACP Erie 43[2]	Erie	Towns of Elma and Marilla	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 8213; ACP Erie no #[2]	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 3267; ACP Erie no #	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 6811; ACP Erie no #[2]	Erie	Towns of Elma and Marilla	Prehistoric Archaeological Site	Undetermined
Not applicable	NYSM 3205; ACP Erie 36[2]	Erie	Town of Elma	Prehistoric Archaeological Site	Undetermined

Notes:

[1] Site located outside of, but immediately adjacent to the archaeological APE for the transmission line.

[2] Generously defined NYSM archaeological site or area located within the archaeological APE for the transmission line.

Source:

Site file searches of NYSOPRHP's Cultural Resources Information System (CRIS) on October 30, 2017, and December 6, 2017.

The majority of the known and previously recorded pre-historic and historic Native American sites are located in upland areas in proximity to perennial streams in the archaeological study area, including upland areas associated with Little Buffalo Creek in the towns of Marilla and Elma (Erie County), Ellicott Creek in the towns of Clarence and Lancaster (Erie County), or Tonawanda Creek in the towns of Newstead (Erie County) and Royalton (Niagara County), including wetlands and smaller perennial and intermittent tributaries to these creeks or in the vicinity of swamps such as Cedar Swamp in the town of Newstead. Conversely, the majority of the known and previously recorded historic Euro-American archaeological sites are located along existing roads in the archaeological study area.

As noted above, a Phase IA archaeological investigation was recommended by SHPO to assess the archaeological sensitivity of the Proposed ROW and to make recommendations regarding the need for Phase IB archaeological investigations (Ferguson 2018). NEETNY completed the requested Phase 1A investigation, a copy of which is provided in Attachment D of this Application. The results of the Phase IA archaeological investigation indicated that the majority of the direct APE, with the exception of wetlands waterbodies and areas of steep slope or prior subsurface ground disturbance, is archaeologically sensitive and Phase IB field investigations were recommended for these areas to confirm the presence or absence of any unidentified archaeological sites (Hanley et al. 2018).

The Phase IA archaeological investigation report was submitted to SHPO on July 13, 2018, for review pursuant to Section 106 of the NHPA. SHPO comments and concurrence on the results of the Phase IA archaeological investigation will be provided to the New York State Public Service Commission (Commission) as a supplemental filing when the SHPO's review of the Phase IA archaeological investigation report is completed.

NEETNY plans to complete Phase 1B archaeological investigations in those portions of the direct APE considered archaeologically sensitive in the summer of 2018, in accordance with any further recommendations provided by the SHPO. The Phase 1B report will include an assessment of the potential for direct impacts on any identified archaeological sites and will recommend measures to avoid or minimize any direct impacts. The Phase IB report will be submitted as a supplemental filing to this Application, anticipated in the fall of 2018.

4.5.4 Architectural Resources

A desktop review was conducted to obtain information for known and previously recorded architectural resources within a 6-mile-wide architectural study area centered on the Proposed Line from databases maintained by the NYSOPRHP and the NPS. A total of 235 known and previously recorded architectural resources were identified within the architectural resources study area (see Table 4.5-2). One hundred twenty-nine (129) of these were previously evaluated for NRHP-eligibility. Thirty-two (32) are considered historic properties because they are either NRHP-listed or they were previously determined NRHP-eligible. The remaining 203 are not considered historic properties because they were previously determined not NRHP-eligible (n=97) or have not been evaluated for NRHP-eligibility, so their NRHP-eligibility status is undetermined (n=106). Architectural resources are predominantly residences, but also include an automobile clubhouse, a post office, a prison complex, farms, churches and parsonages, commercial properties (gas stations, stores, taverns), schoolhouses and schools, religious facilities, industrial facilities (a natural gas compressor station and a wastewater treatment plant), culverts, bridges, libraries, a cemetery, a fire station, a garage. Architectural resources are all located along existing roads in the ESL Project study area, and may be dispersed along these roads or clustered in hamlets or incorporated villages, such as Marilla, Town Line, Lancaster, Clarence Hollow, and Akron in Erie County, and Wolcottsville in Niagara County.

Because of their historic significance, the locations of the 32 NRHP-listed or -eligible architectural resources, also known as historical resources, are shown on Figure 2-2 in Exhibit 2. These 32 NRHP-listed or -eligible architectural or historical resources are also listed in Table 4.5-2, and the identification number corresponds to the labels on Figure 2-2 in Exhibit 2. However, the remaining 203 architectural resources are not shown on Figure 2-2, because they are not considered historically significant or because their historic significance has not been formally evaluated.

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
NRHP-Listed Historic Properties						
V56	02907.000409	Clarence Town Park: Automobile Club Of Buffalo Clubhouse 1911 - 10405 Main St	Erie	Town of Clarence	Remaining wall at 10405 Main Street is a rare surviving example of a 19th century rural stone wall and entranceway. Property previously used as an auto-club.	Listed (NR # 11NR06289)
V61	02917.000006	Hull-Peterson House - 5976 Genesee St	Erie	Town of Lancaster	Two-story stone federal style building, built c. 1810. The house was also used as part of the underground railroad.	Listed (NR # 92NR00344)
V65	02917.000109	Lancaster District School No. 6 - 3703 Bowen Rd	Erie	Town of Lancaster	Historic schoolhouse built in 1868, in the Italianate style	Listed (NR # 08NR05898)
V13	02961.000001	Rich-Twinn Octagon House - 145 Main St	Erie	Town of Akron	Historic residence built in 1848, octagonal in structure with pie shaped rooms; only octagon house in Erie County.	Listed (NR # 95NR00784)

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
V12	02961.000017	U S Post Office - 118 Main St	Erie	Town of Akron	Historic brick post office	Listed (NR # 90NR01256)
NRHP-Eligible Historic Properties						
V100	02901.000046	Wende Correctional Facility/Erie County Penitentiary - 3622 Wende Rd	Erie	Town of Alden	Correctional facility	Eligible
V105	02901.000047	Residential c.1910 - 12446 Genesee St	Erie	Town of Alden	Historic residence built c. 1910 including farm and agricultural land.	Eligible
V102	02901.000051	Residential c.1954 - 3348 Crittenden Rd	Erie	Town of Alden	Historic residence, A-Frame structure, constructed c. 1954	Eligible
V104	02901.000052	Residential c.1850 - 3361 Crittenden Rd	Erie	Town of Alden	Historic residence/cabin, constructed c. 1850	Eligible
V103	02901.000053	Residential c.1910 - 3167 Crittenden Rd	Erie	Town of Alden	Historic residence, constructed c. 1910	Eligible
V99	02901.000066	Residential c.1920 - 11374 Kieffer Rd	Erie	Town of Alden	Historic residence constructed c. 1920	Eligible

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
V51	02907.000108	Cabinet Shop/Baynes/Dr. Lapp Residence c.1900 - 10684 Main St	Erie	Town of Clarence	Rare early twentieth century Queen Anne building, built c. 1900	Eligible
V47	02907.000204	Roth/Stever/Gray Residence (Structure 132) - 10919 Main St	Erie	Town of Clarence	Historic residential structure	Eligible
V55	02907.000206	Danford/Utley Residence 1810 - 10847 Main St	Erie	Town of Clarence	Historic residential structure, A-frame style built c. 1810	Eligible
V59	02907.000264	Residential c.1840 - 4055 Ransom Rd	Erie	Town of Clarence	Historic residential structure built c. 1840	Eligible
V49	02907.000301	Residential c.1890 – 10320 Clarence Center Road	Erie	Town of Clarence	Historic residential structure built c. 1890	Eligible
V48	02907.000304	The Light House 1844 Local Landmark - 10525 Clarence Center Rd	Erie	Town of Clarence	Historic residential structure/landmark, built c. 1844	Eligible
V44	02907.000305	Residential c.1860 - 10975 Clarence Center Rd	Erie	Town of Clarence	Historic residential structure, built c. 1860	Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
V43	02907.000382	First Baptist Church 1877 - 10790 Hunts Corners Rd	Erie	Town of Clarence	Historic church, significant as a late nineteenth century brick church, with modest Romanesque styling	Eligible
V42	02907.000383	First Baptist Church Parsonage 1899 - 10800 Hunts Corners Rd	Erie	Town of Clarence	Historic church, significant as a late nineteenth century brick church, with modest Romanesque styling	Eligible
V45	02907.000385	Farmstead c.1860 - 10979 Keller Rd	Erie	Town of Clarence	Historic farmstead built c. 1860, of mid-nineteenth century Greek Revival influence.	Eligible
V52	02907.000413	Asa Ransom House 1853 Clarence Historical Society - 10529 Main St	Erie	Town of Clarence	Rare surviving nineteenth century brick farmhouse; remnants of old mill also on property	Eligible
V63	02912.000013	Residence - 3030 Bowen Rd	Erie	Town of Elma	Historic residence built in 1848 as part of Elma Village	Eligible
V53	02907.000420	Commercial c.1950 Gas Station - 10575 Main St	Erie	Town of Clarence	Historic gas station built c. 1950	Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
V64	02912.000048	3011 Bowen Rd	Erie	Town of Elma	Historic residence built as part of Elma Village	Eligible
V85	02912.000105	Aldrich Farm - 3581 Bullis Rd	Erie	Town of Elma	Historic farmstead built c. 1861 – 1881	Eligible
V92	02912.000125	3020 Bullis Rd	Erie	Town of Elma	Historic residence built as part of Elma Village	Eligible
V70	02917.000099	502 Pavement Rd	Erie	Town of Lancaster	Historic brick farmhouse built c. 1840 – 1860	Eligible
V69	02917.000100	503 Pavement Rd	Erie	Town of Lancaster	Historic Greek-Revival style residence, built c. mid-nineteenth century	Eligible
V38	06309.000013	Dysinger Tavern - 8239 Bunker Hill Rd	Niagara	Town of Royalton	Historic tavern built in 1830, early cobblestone construction	Eligible
V34	06309.000014	Behe Residence - 8722 Bunker Hill Rd	Niagara	Town of Royalton	Historic brick residence, Federal/Greek-Revival style	Eligible
V39	06309.000032	Claude Residence - 7800 Akron Rd	Niagara	Town of Royalton	Historic residence, Greek-Revival architectural style	Eligible
Architectural Resources previously determined not NRHP-Eligible						

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02901.000010	Rautenstrauch Residence Cobblestone - 979 Four Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000011	11593 Broadway	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000012	11044 Westwood Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000013	Structure 1 (Private Residence) - 12250 Genesee St	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000014	Structure 2 (Private Residence) - 12286 Genesee St	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000017	Structure 5 (Private Residence) - 12338 Genesee St	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000018	Structure 6 (Private Residence) - 12350 Genesee St	Erie	Town of Alden	Built Resource	Not Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02901.000021	Karkin Residence (Structure 8) - 671 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000022	C. Parker (Structure 9) - 637 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000023	R.F. Gilmore (Structure 202) - 860 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000024	C. Larkin; J. Mac; S.W. Lopa; S. Bauder (Structure 208) - 684 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000017	Structure 5 (Private Residence) - 12338 Genesee St	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000018	Structure 6 (Private Residence) - 12350 Genesee St	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000021	Karkin Residence (Structure 8) - 671 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000022	C. Parker (Structure 9) - 637 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	02901.000023	R.F. Gilmore (Structure 202) - 860 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000024	C. Larkin; J. Mac; S.W. Lopa; S. Bauder (Structure 208) - 684 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000026	482 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000027	487 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000028	503 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000029	517 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000030	531 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000031	540 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000032	541 Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	02901.000033	Bin 3-36801-0 - Two Rod Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000036	2035 Sandridge Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000041	11197 Broadway	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000042	Home Road Bridge Bin332760 - Home Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000043	Townline Primary School - 11197 Broadway 14004	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000078	11145 Alaura, Alden - 11145 Alaura 14004	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000079	13138 Genesee St, Akron - 13138 Genesee St	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02901.000080	12367 Westwood Rd, Alden - 12367 Westwood Rd	Erie	Town of Alden	Built Resource	Not Eligible
Not applicable[1]	02907.000054	5445 Salt Rd	Erie	Town of Clarence	Built Resource	Not Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02907.000055	5270 Salt Rd	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000056	5225 Salt Rd	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000083	The Light House/Religious Facility - 10320 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000085	Ceramic's Commercial/Residence - 10370 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000088	Bungalow Residence - 10504 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000090	2 Story Residence - 10530 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000092	2 Story Commercial - 10578 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000095	Gray Residence - 10580 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000096	Gray Residence - 10594 Main St	Erie	Town of Clarence	Built Resource	Not Eligible

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	02907.000097	Johnson/Stusel/Sinsel Residence - 10602 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000098	Gray Commercial - 10622 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000099	Hershey Commercial - 10626 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000101	2 Story Commercial Structure - 10646 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000104	Aldred Residence - 10664 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000105	1 1/2 Story Residence - 10668 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000115	Haffner Residential - 10782 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000118	Roth/Hershey/Davis Residence/Commercial - 10836 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000120	1 1/2 Story Residence - 10840 Main St	Erie	Town of Clarence	Built Resource	Not Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02907.000121	Seventh Day Baptist Church/German Reform Church/Ingalsbe's - 10844 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000123	Billington/Baynes/Litz Residence - 10856 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000124	Choate/Kelso/Lang Residence - 10864 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000126	Adam's Cabin - 10882 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000127	Ballow/Weinauge/Residence - 10888 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000128	Weinauge Residence - 10900 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000131	Graves/Yankee Peddler Commercial - 10928 Main St	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000132	2 Story Hipped Roof Residence - 10940 Main St	Erie	Town of Clarence	Built Resource	Not Eligible

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	02907.000249	4355 Ransom Rd	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000250	4384 Billo Rd	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02907.000314	Residential c.1890 - 10469 Croop Rd	Erie	Town of Clarence	Built Resource	Not Eligible
Not applicable[1]	02912.000002	Former Lee Estate (Demolished) - 2280 Bullis Rd	Erie	Town of Elma	Built Resource	Not Eligible
Not applicable[1]	02912.000119	Iroquois High School (Central School): SED PCN 14-13-01-06-0-007-021 - 2111 Girdle Road 14059	Erie	Town of Elma	Built Resource	Not Eligible
Not applicable[1]	02912.000133	Intermediate School: SED PCN 14-13-01-06-0-004-013; SED PCN 14-13-01-06-0-002-020 - 2111 Girdle Road 14059	Erie	Town of Elma	Built Resource	Not Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02912.000140	National Fuel Hemstreet Porterville Compressor Station	Erie	Town of Elma	Built Resource	Not Eligible
Not applicable[1]	02917.000081	6432 Genesee St	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02917.000087	Bin 3327050 - Ransom Rd	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02917.000088	321 Ransom Rd	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02917.000089	324 Ransom Rd	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02917.000090	325 Ransom Rd	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02917.000091	343 Ransom Rd	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02917.000092	Bridge 139-Rr2 (Bin 3-36254-0) - Pavement Rd	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02917.000093	Bridge 139-Rr1 (Bin 3-36253-0) - Pavement Rd	Erie	Town of Lancaster	Built Resource	Not Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02917.000120	5994 Genesee St - 5994 Genesee Street 14086	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02917.000122	Culvert #06-Erie Street (East Culvert Structure) West Of Town Line Road - Erie Street At Town Line Road 14086	Erie	Town of Lancaster	Built Resource	Not Eligible
Not applicable[1]	02918.000033	Residence - 11215 Clinton St	Erie	Town of Marilla	Built Resource	Not Eligible
Not applicable[1]	02918.000055	Culvert 1 - Clinton St	Erie	Town of Marilla	Built Resource	Not Eligible
Not applicable[1]	02918.000056	Culvert 2 - Clinton St	Erie	Town of Marilla	Built Resource	Not Eligible
Not applicable[1]	02918.000057	Marilla Free Library - 11637 Bullis Rd	Erie	Town of Marilla	Built Resource	Not Eligible
Not applicable[1]	02918.000058	11726 Bullis Rd	Erie	Town of Marilla	Built Resource	Not Eligible
Not applicable[1]	02918.000059	11754 Bullis Rd	Erie	Town of Marilla	Built Resource	Not Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02918.000064	Marilla Primary School: Sed Pcn 14-13-01-06-0-005-014 - 11683 Bullis Road 14052	Erie	Town of Marilla	Built Resource	Not Eligible
Not applicable[1]	02918.000074	2011 Two Rod Road 14102	Erie	Town of Marilla	Built Resource	Not Eligible
Not applicable[1]	02919.000020	Shimer/Lapp Residence/Commercial - 11066 Main St	Erie	Town of Newstead	Built Resource	Not Eligible
Not applicable[1]	02919.000040	Burdick Rd Bridge (Bin 3326540, Br# 258-2) - Burdick Rd	Erie	Town of Newstead	Built Resource	Not Eligible
Not applicable[1]	02919.000043	Akron Wastewater Treatment Facility - Lewis Road At Kibler Road	Erie	Town of Akron, Town of Newstead	Built Resource	Not Eligible
Not applicable[1]	02961.000022	27-29 Main St	Erie	Town of Akron	Built Resource	Not Eligible
Not applicable[1]	02961.000028	Newstead Public Library - 31-33 Main St	Erie	Town of Akron	Built Resource	Not Eligible
Not applicable[1]	02961.000031	Akron High School - 47 Bloomingdale Ave	Erie	Town of Akron	Built Resource	Not Eligible

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	02961.000032	171 Main St	Erie	Town of Akron	Built Resource	Not Eligible
Not applicable[1]	02961.000034	41 Marshall, Akron - 41 Marshall 14001	Erie	Town of Akron	Built Resource	Not Eligible
Not applicable[1]	06309.000119	6660 Riddle Rd	Niagara	Town of Royalton	Built Resource	Not Eligible
Not applicable[1]	06309.000120	6650 Riddle Rd	Niagara	Town of Royalton	Built Resource	Not Eligible
Not applicable[1]	06309.000121	6580 Riddle Rd	Niagara	Town of Royalton	Built Resource	Not Eligible
Not applicable[1]	06309.000122	Quiet Nook Farm - 6589 Mayer Rd	Niagara	Town of Royalton	Built Resource	Not Eligible
Not applicable[1]	06309.000123	8811 NY 93	Niagara	Town of Royalton	Built Resource	Not Eligible
Not applicable[1]	06309.000124	8935 N 93	Niagara	Town of Royalton	Built Resource	Not Eligible
Not applicable[1]	06309.000149	Chester Covel Farm - 7719 Simms Rd	Niagara	Town of Royalton	Built Resource	Not Eligible

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	06309.000153	8100 Tonawanda Creek Rd	Niagara	Town of Royalton	Built Resource	Not Eligible
Not applicable[1]	06309.000154	6158 Miller Rd	Niagara	Town of Royalton	Built Resource	Not Eligible
Architectural Resources whose NRHP-Eligibility is Undetermined						
Not applicable[1]	02901.000006	St Johns Roman Catholic Church - 1999 Sandridge Rd	Erie	Town of Alden	Built Resource	Undetermined
Not applicable[1]	02901.000015	Structure 3 (Ranch Style Residence) - 12304 Genesee St	Erie	Town of Alden	Built Resource	Undetermined
Not applicable[1]	02901.000016	Structure 4 (Ranch Style Residence) - 12318 Genesee St	Erie	Town of Alden	Built Resource	Undetermined
Not applicable[1]	02901.000037	3634 Town Line Rd	Erie	Town of Alden	Built Resource	Undetermined
Not applicable[1]	02901.000038	11070 Genesee St	Erie	Town of Alden	Built Resource	Undetermined
Not applicable[1]	02901.000040	Zoeller Rd Bridge, Br348-2/Bin3-32870-0 - Zoeller Rd	Erie	Town of Alden	Built Resource	Undetermined

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	02901.000074	2099 Sandridge Rd	Erie	Town of Alden	Built Resource	Undetermined
Not applicable[1]	02907.000302	Barn c.1880 - 10420 Clarence Center Rd	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000303	Residential 1925 - 10448 Clarence Center Rd	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000306	Residential c.1900 - 11000 Clarence Center Rd	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000315	Residential c.1920 - 4850 East Ave	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000381	Hunts Corner Cemetery Est.1860 Adjac. To First Baptist Church - 10790 Hunts Corners Rd	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000405	Stone Wall - 10320-30 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000406	Residential c.1890 - 10324 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000407	Residential c.1890 - 10375 Main St	Erie	Town of Clarence	Built Resource	Undetermined

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02907.000408	Clarence Town Park c.1900 - 10405 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000410	Clarence Historical Museum 1844 W/ c.1920 Moved La - 10465 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000411	Residential 1808 - 10478 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000412	Residential c.1910 - 10522 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000414	Residential c.1890 - 10536 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000415	Commercial 1821 - 10545 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000416	Residential c.1900 - 10548 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000417	Residential c.1885 - 10553 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000418	Residential c.1915 - 10554 Main St	Erie	Town of Clarence	Built Resource	Undetermined

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	02907.000419	Commercial 1916 - 10560 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000421	Commercial c.1900 - 10632 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000422	Residential c.1900 - 10654 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000423	Residential c.1900 - 10660 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000424	Commercial c.1915 - 10686 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000425	Commercial Former Clarence Church Of Christ - 10678 Main St	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02907.000611	10860 Bodine Rd	Erie	Town of Clarence	Built Resource	Undetermined
Not applicable[1]	02912.000008	Residence - 2565 Bowen Rd	Erie	Town of Elma	Built Resource	Undetermined
Not applicable[1]	02912.000012	United Methodist Church - 2981 Bowen Rd	Erie	Town of Elma	Built Resource	Undetermined

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02912.000014	Residence - 3000 Bowen Rd	Erie	Town of Elma	Built Resource	Undetermined
Not applicable[1]	02912.000016	2991 Bowen Rd	Erie	Town of Elma	Built Resource	Undetermined
Not applicable[1]	02912.000113	2630 Hall Rd	Erie	Town of Elma	Built Resource	Undetermined
Not applicable[1]	02912.000114	2720 Hall Rd	Erie	Town of Elma	Built Resource	Undetermined
Not applicable[1]	02917.000075	North Branch Plum Bottom Creek Bridge - Cemetery Rd	Erie	Town of Lancaster	Built Resource	Undetermined
Not applicable[1]	02917.000076	Cemetery Rd Bridge - Cemetery Rd	Erie	Town of Lancaster	Built Resource	Undetermined
Not applicable[1]	02917.000078	Erie County Highway Garage - 127 Cemetery Rd	Erie	Town of Lancaster	Built Resource	Undetermined
Not applicable[1]	02917.000079	House And Barns - 128 Cemetery Rd	Erie	Town of Lancaster	Built Resource	Undetermined
Not applicable[1]	02917.000080	Garage/Barn - 120 Cemetery Rd	Erie	Town of Lancaster	Built Resource	Undetermined

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02917.000084	704 Hall Rd	Erie	Town of Lancaster	Built Resource	Undetermined
Not applicable[1]	02917.000085	752 Hall Rd	Erie	Town of Lancaster	Built Resource	Undetermined
Not applicable[1]	02917.000086	Hall Rd Bridge - Hall Rd	Erie	Town of Lancaster	Built Resource	Undetermined
Not applicable[1]	02917.000126	73 Stony Rd, Lancaster - 73 Stony Rd	Erie	Town of Lancaster	Built Resource	Undetermined
Not applicable[1]	02918.000002	Duplex Residence - 1487 Two Rod Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000003	Blacksmith Shop & Apt - 1852 Two Rod Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000005	Residence - 2033 Two Rod Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000007	Residence - 2159 Two Rod Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000008	Residence - 2372 Two Rod Rd	Erie	Town of Marilla	Built Resource	Undetermined

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02918.000009	Residence - 2711 Two Rod Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000010	Residence - 3238 Two Rod Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000016	Residence - 11072 Jamison Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000018	Residence - 11228 Porterville Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000019	Residence - 11031 Bullis Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000020	Apts - 11617 Bullis Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000021	Residence - 11882 Bullis Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000027	Residence - 2390 Eldridge Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000028	Eldridge Homestead - 2529 Eldridge Rd	Erie	Town of Marilla	Built Resource	Undetermined

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	02918.000029	Residence - 11234 Stolle Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000030	Residence - 11549 Stolle Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000031	Residence - 11057 Lyndale Ln	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000032	Residence - 257 Town Line Rd	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02918.000035	Residence - 1902 West Ave	Erie	Town of Marilla	Built Resource	Undetermined
Not applicable[1]	02919.000001	Larkin Homestead - 11869 Nice Rd	Erie	Town of Newstead	Built Resource	Undetermined
Not applicable[1]	02919.000002	Byers Farm House - 11621 Hunts Corners Rd	Erie	Town of Newstead	Built Resource	Undetermined
Not applicable[1]	02961.000003	Howe Homestead - 11622 Howe Rd	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000004	Res - 34 John St	Erie	Town of Akron	Built Resource	Undetermined

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02961.000005	Res - 44 John St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000006	Res - 69 John St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000007	Res - 143 East Ave	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000010	Res - 5 Exchange St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000011	Akron Hotel - 15 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000012	Comm/Apts - 38 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000013	Comm/Apts - 63 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000014	Comm/Apts - 65 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000015	Krener Res - 13212 Main St	Erie	Town of Akron	Built Resource	Undetermined

Table 4.5-2 Previously Recorded Architectural Resources Within 3 Miles of the ESL Project						
Figure 2-2 Map Reference Number	**NYSOPRHP Unique Site Number (USN)**	**Name (and/or Address) of Resource**	**County**	**Town**	**Description**	**NRHP-Eligibility Status**
Not applicable[1]	02961.000016	Res - 8 Bloomingdale Ave	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000020	Peters - 45 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000021	Marconi - 67-71 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000023	40 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000024	41 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000025	70-74 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000026	93-95 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02961.000027	101 Main St	Erie	Town of Akron	Built Resource	Undetermined
Not applicable[1]	02966.000001	The Meeting House - 10465 Main St	Erie	Town of Clarence	Built Resource	Undetermined

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	06309.000003	Rapids Rd Bridge - Rapids Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000011	Burdick House - 8002 Tonawanda Creek Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000012	Baker Residence - 8206 Tonawanda Creek Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000029	Bruning Residence - 8983 Ernest Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000031	Guillen Residence - 7622 Akron Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000033	Socha Residence - 7949 Akron Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000034	Rybacki Residence - 7981 Akron Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000050	South Royalton Block Methodist Church - 6536 Block Church Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000080	Wolcottsville Garage - 6331 Wolcottsville Rd	Niagara	Town of Royalton	Built Resource	Undetermined

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status
Not applicable[1]	06309.000081	Fire Co. 2 - 6337 Wolcottsville Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000082	Tryloff Residence - 6341 Wolcottsville Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000083	Trinity Lutheran Parsonage - 6365 Wolcottsville Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000084	Trinity Lutheran Church - 6369 Wolcottsville Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000086	Gillmeister Residence - 6375 Wolcottsville Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000087	Landow Residence - 6350 Wolcottsville Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000088	Webster Residence - 6358 Wolcottsville Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000093	O. Stebbing House - 8642 Dewhirst Rd	Niagara	Town of Royalton	Built Resource	Undetermined
Not applicable[1]	06309.000145	Farmstead - 9328 Foote Rd	Niagara	Town of Royalton	Built Resource	Undetermined

Table 4.5-2
Previously Recorded Architectural Resources Within 3 Miles of the ESL Project

Figure 2-2 Map Reference Number	NYSOPRHP Unique Site Number (USN)	Name (and/or Address) of Resource	County	Town	Description	NRHP-Eligibility Status

Sources:
Site file searches of NYSOPRHP's Cultural Resources Information System (CRIS) on October 30, 2017 and December 6, 2017.
Information for NRHP-listed and -eligible architectural resources provided by NYSOPRHP on March 13, 2018.

Note:
1 Not shown on Figure 2-2 because architectural resource is not considered historically significant or because its historic significance has not been formally evaluated.

As noted above, an architectural survey of known and previously recorded architectural resources in those parts of the architectural APE where only the ESL Project would be visible was requested by SHPO to assess the potential visual impacts of the ESL Project on these resources (Finelli 2018a, 2018b). As the first step in the architectural survey, SHPO requested a proposed Architectural Survey Methodology for review and comment prior to implementing the architectural survey (Finelli 2018a). NEETNY completed the requested proposed Architectural Survey Methodology, which was based on SHPO's comments for architectural resources (Panamerican Consultants, Inc. 2018), and submitted it to SHPO on June 28, 2018. SHPO reviewed and approved the Architectural Survey Methodology on July 3, 2018 (Finelli 2018c). A copy of the Architectural Survey Methodology, and SHPO's approval of this methodology, is provided in Attachment C of this Application.

In the summer of 2018, NEETNY plans to conduct the architectural survey of known and previously recorded architectural resources in those portions of the architectural APE where only the ESL Project is visible. The architectural survey for the ESL Project will include NRHP-eligibility confirmations or recommendations and an assessment of the potential for indirect visual impacts on any NRHP-listed or eligible architectural resource and will recommend measures to avoid or minimize any indirect visual impacts. The Architectural Survey Report will be submitted as a supplemental filing to this Application and is anticipated in the fall of 2018.

4.5.5 Impact Assessment and Mitigation

4.5.5.1 Direct Impacts

Construction activities have the potential to directly impact or affect archaeological resources and architectural resources that may be within the construction footprint. These direct impacts or effects may result from ground disturbance associated with construction activities such as clearing, grubbing, trenching, excavating, erection of new transmission line structures and new switchyard facilities, creation of new access roads, improvements to existing access roads, or use of laydown areas, temporary workspaces, staging areas.

Based on the results of the desktop review for archaeological sites presented in Section 4.5.4, eight of the 62 known and previously recorded archaeological sites in the archaeological study area,

consisting of generally defined NYSM archaeological areas, are located within the direct APE. Any archaeological site discovered during NEETNY's planned Phase 1B survey could likely be avoided during the detailed design and final engineering. Consequently, construction activities are not expected to result in the direct impacts or effects on archaeological sites.

Based on the results of the desktop review for architectural resources presented in Section 4.5.4, none of the 235 known and previously recorded architectural resources are located within the direct APE. Therefore, construction activities are not expected to result in direct impacts or effects on known and previously recorded architectural resources.

NEETNY will reevaluate potential direct impacts on archaeological sites following the completion of the Phase IB archaeological field investigation described above. The results of the Phase IB archaeological field investigation will also be used to assist in future coordination with SHPO when assessing the potential impacts of the project on NRHP-eligible archaeological resources.

4.5.5.2 Indirect Impacts

Once constructed, the aboveground components of the ESL Project separately have the potential to indirectly (visually) impact or affect known and previously recorded architectural resources that may be located in areas within which the aboveground components of the ESL Project would be visible. The potential for visual impacts on those known and previously recorded architectural resources that are NRHP-listed or -eligible are discussed in greater detail above in the visual resources section.

The majority of the architectural study area consists of areas that currently have views of the existing NYSEG Utility Corridor, including the existing overhead transmission lines (see Figure 1 in the VRA Report provided in Attachment B of this Application for the existing viewshed map). In these areas, the Proposed Line would be a new aboveground feature that is generally consistent with other visible existing aboveground overhead electric transmission line features (*i.e.*, the one to three existing overhead electric transmission lines). Similarly, the proposed East Stolle Switchyard would be a new aboveground feature that is generally consistent with other visible aboveground electric transmission line features in the NYSEG Utility Corridor at this location (*i.e.*,

the existing NYSEG Stolle Road Substation that is located south of, and adjacent to, the proposed East Stolle Switchyard).

In those areas of the architectural study area that currently have no views of the existing NYSEG Utility Corridor, including existing overhead transmission lines, the Proposed Line would be a new aboveground feature. In addition, the proposed Dysinger Switchyard would represent a new aboveground feature at its proposed location.

For the 97 known and previously recorded architectural resources previously evaluated for NRHP-eligibility and previously determined not NRHP-eligible, the new components of the project are not expected to result in any adverse indirect visual impacts or effects related to historic significance because these architectural resources are not designated or otherwise recognized as cultural resources or historic properties. For the remaining 138 known and previously recorded architectural resources that are either NRHP-listed, previously determined NRHP-eligible, or have not yet been evaluated for NRHP-eligibility, the new aboveground components of the Project may result in indirect visual impacts or effects if: (1) setting, views, or viewshed are considered character-defining features of these architectural resources that contribute to their significance and NRHP-eligibility; and (2) the new aboveground components are visible from any of these 138 known and previously recorded architectural resources and represent new aboveground features that are inconsistent with the landscape features that are already present within the setting, views, or viewsheds of these resources.

NEETNY will re-evaluate potential indirect visual impacts on NRHP-listed and -eligible architectural resources following the completion of the architectural survey described above. The results of the architectural survey, along with the results of the Visual Resources Assessment conducted separately for the project, will also be used to assist in future coordination with SHPO when assessing the potential impacts of the project on NRHP-listed and -eligible architectural resources.

4.5.5.3 Mitigation

In the event that there are direct physical impacts on any NRHP-eligible archaeological sites identified within the direct APE or indirect visual impacts on any NRHP-listed or –eligible

architectural resources within the indirect APE, continued consultation with SHPO in accordance with Section 106 of the NHPA would be necessary.

Measures to resolve or mitigate adverse effects on archaeological sites can vary, depending on the issues or concerns of the various participants in continued consultation. However, such measures typically consist of Phase II archaeological investigations to evaluate archaeological sites for NRHP-eligibility; Phase III archaeological data recovery investigations for NRHP-eligible archaeological sites that cannot be avoided during construction activities; or other offsetting mitigation for NRHP-eligible archaeological sites.

Measures to resolve or mitigate adverse effects on NRHP-listed or NRHP-eligible architectural resources can also vary, depending on the issues or concerns of the various participants in continued consultation. Such measures may include vegetative screening; architectural recordation according to state or nationally recognized standards, or other offsetting mitigation for NRHP-listed or NRHP-eligible architectural resources.

Any proposed mitigation measures related to archaeological and architectural resources identified through ongoing agency consultation will be included in the EM&CP.

4.6 Terrestrial Ecology and Wetlands

In accordance with PSL §122(1)(c) and 16 NYCRR §86.5(a) and (b), this section summarizes the potential effects to natural and biological resources associated with construction and operation of the Proposed Project. A desktop analysis was completed based on an overlay of Project facilities using existing information from federal and state agency databases, literature review of published data, and agency correspondence to ascertain the presence of biological and natural resources likely to occur in the Project vicinity. This information was supplemented with data collected during biological field surveys completed during spring 2018.

4.6.1 Vegetation

Vegetation communities within the Proposed ROW were identified during the spring 2018 biological field surveys. Communities were classified according to Edinger et al. (2014), which is an update of the first edition of *Ecological Communities by New York State* by Carol Reschke.

This system allows for the description and classification of any ecological community encountered in New York State. The classification was developed to help assess the biological diversity of New York State and provides a ranking system for determining priorities for conservation and management of the state's significant natural areas.

Vegetation within the Proposed ROW is comprised of a mix of ecological associations and cover types. Table 4.6-1 provides a summary of vegetation communities crossed by the Proposed ROW. Vegetation communities at the proposed switchyards are dominated by agricultural land in hay and some successional scrub-shrub.

Table 4.6-1
Vegetation Communities Intersecting the Proposed ROW

Vegetation Community Classification	Acres	Percent[1]
Terrestrial Communities		
Beech-maple mesic forest	2.0	0.7
Hemlock-northern hardwood forest	5.3	1.8
Pine-northern hardwood forest	3.6	1.2
Maple-Basswood rich mesic forest	1.6	0.5
Successional northern hardwoods	31.2	10.7
Successional shrubland	10.7	3.6
Successional old field	6.6	2.2
Agricultural land	88.8	30.4
Developed land	13.3	4.6
Terrestrial Communities Total	**163.0**	**55.7**
Palustrine Communities		
Emergent wetland	24.7	8.4
Scrub-shrub wetland	42.8	14.6
Forested wetland	58.6	20.0
Palustrine Communities Total	**126.1**	**43.1**

[1] 3.49 acres (1.2%) of the Proposed ROW is classified as waterways and waterbodies.

4.6.1.1 Terrestrial Communities

Beech-maple mesic forest

Beech-maple mesic forest is a community type co-dominated by sugar maple (*Acer saccharum*) and American beech (*Fagus grandifolia*). The community is present in areas of moist, well-drained, usually acidic soils. Other tree species found in this community type within the Proposed ROW include yellow birch (*Betula alleghaniensis*), ash species (*Fraxinus* spp.), and red maple (*Acer rubrum*), while common shrub species include striped maple (*Acer pensylvanicum*) and witch hazel (*Hamamelis virginiana*). Understory herbaceous species such as woodferns (*Dryopteris* spp.), Christmas fern (*Polystichum acrostichoides*), Canada mayflower (*Maianthemum canadense*), trilliums (*Trillium* spp.), and trout lily (*Erythronium americanum*) are common in the Proposed ROW.

Hemlock-northern hardwood forest

Hemlock-northern hardwood forest is a coniferous forest community typically present on well-shaded, cool, and middle to low slopes. Coverage ranges from 20% to pure stands of Eastern hemlock (*Tsuga canadensis*). Within the Proposed ROW this community also contains hardwood species such as sugar and red maples (*Acer rubrum* and *Acer saccharum*), yellow birch (*Betula alleghaniensis*), red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), black cherry (*Prunus serotina*), and American basswood (*Tilia americana*). Common shrub species in this community found in the Proposed ROW include striped maple (*Acer pensylvanicum*), witch hazel (*Hamamelis virginiana*), and lowbush blueberry (*Vaccinium pallidium*). Due to the dense canopy and shaded forest floor, the herbaceous layer within the community can be sparsely populated. Within the Proposed ROW the herbaceous layer includes woodferns (*Dryopteris* spp.), Christmas fern (*Polystichum acrostichoides*), Canada mayflower (*Maianthemum canadense*), and ground cedar (*Diphasiastrum digitatum*).

Pine-northern hardwood forest

Pine-northern hardwood forest is a mixed forest that, in the Proposed ROW, includes a mixture of white pine (*Pinus strobus*), red pine (*Pinus resinosa*), paper birch (*Betula papyrifera*), and quaking aspen (*Populus tremuloides*). Within these stands are some species characteristic of northern hardwoods and conifers such as yellow birch (*Betula alleghaniensis*), red maple (*Acer rubrum*),

fir species (*Abies* spp.), and spruce species (*Picea* spp.). The shrub layer of this forest type in the Proposed ROW includes blueberry species (*Vaccinium* spp.) and serviceberry (*Amelanchier canadensis*). Common herbaceous plants include bracken fern (*Pteridium aquilinum* var. *latiusculum*), Canada mayflower (*Maianthemum canadense*), trilliums (*Trillium* spp.), and various sedges (*Carex* spp.).

Maple-Basswood rich mesic forest

Maple-Basswood rich mesic forest is a forest community defined by a majority of hardwood tree species on well drained moist soils. Dominant tree species common in this community type that are present in the Proposed ROW include sugar maple (*Acer saccharum*), basswood (*Tilia americana*), and ash species (*Fraxinus* spp.). Understory shrubs such as dogwoods (*Cornus* spp.) and witch hazel (*Hamamelis virginiana*) are dominant in this community in the Proposed ROW.

Successional northern hardwoods

Successional forests develop after clearing events and the area is left alone to reestablish a similar forest community. These areas are often characterized by a small portion of large mature trees, which were used as seed trees after timber events, surrounded by a high number of similarly aged smaller mature trees. Common tree species for this community type located within the Proposed ROW include quaking aspen (*Populus tremuloide*s), gray birch (*Betula populifolia*), cherry species (*Prunus* spp.), red maple (*Acer rubrum*), and some ash species (*Fraxinus* spp.).

Successional Shrubland

Successional shrubland consists largely of areas that have been previously cleared and contain at least 50 percent cover of shrubs. Characteristic successional shrubland species within the Proposed ROW include various dogwoods (*Cornus* spp.), raspberry species (*Rubus* spp.), serviceberries (*Amelanchier* spp.), and sumac species (*Rhus* spp.). Non-native invasive shrubs such as hawthornes (*Crataegus* spp.), multiflora rose (*Rosa multiflora*), buckthorns (*Rhamnus cathartica, Frangula alnus*), and shrubby honeysuckles (*Lonicera* spp.) are also present.

Successional old field

Successional old fields are previously maintained agricultural fields that are mowed at intervals less than once per year. Successional old fields contain herbaceous vegetation but may contain some shrubs (less than 50% total coverage within the community). With little to no disturbance the community type may revert to successional scrub-shrub or forest. Within the Proposed ROW, this community type is largely dominated by goldenrod species (*Solidago* spp.), and various upland grasses such as bluegrasses (*Poa pratensis*), orchard grass (*Dactylis glomerata*), and timothy (*Phleum pretense*), as well as weedy plants such as common dandelion (*Taraxacum officinale*), Queen-Anne's-lace (*Daucus carota*), and ragweed (*Ambrosia artemisiifolia*).

Agricultural Land

Agricultural land in the Proposed ROW includes cropland/row crops, cropland/field crops, and pastureland (Edinger et al. 2014). Most active agricultural fields present within the Proposed ROW are either cultivated for hay or are corn fields (*Zea mays*) for feed or human consumption. Other agricultural lands in the project area are pasturelands, which are actively used by livestock.

Developed Land

Developed lands include areas that have been greatly impacted by human use such as, roads, homes/buildings, and maintained mowed lawns. These areas are often defined largely by non-existent, sparse, maintained, or mowed vegetation. Often the species that persist may be non-native, invasive, or weed species, such as Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), rambler rose (*Rosa multiflora*), honeysuckle species (*Lonicera* spp.), cut-leaf teasel (*Dipsacus laciniatus*), common mullein (*Verbascum thapsus*), and purple loosestrife (*Lythrum salicaria*).

4.6.1.2 Palustrine Communities

Emergent Wetland

Emergent wetlands are dominated by an herbaceous layer of hydrophytic (water-tolerant) plant species. Emergent wetland typically contains deep, nutrient rich soils that remain heavily saturated or even inundated throughout the year. A wide selection of herbaceous species was observed in emergent wetlands throughout the Proposed ROW. Some of the more prevalent species present in

the emergent wetland communities included various grass species, soft rush (*Juncus effuses*), goldenrods (*Solidago* spp.), and creeping jenny (*Lysimachia nummularia*). More inundated areas contained higher percentage of cattails (*Typha angustifolia* and *Typha latifolia*). Non-native and invasive species such as common reed (*Phragmites australis*) and reed canary grass (*Phalaris arundinacea*) were prevalent in emergent wetlands within the Proposed ROW.

Scrub-shrub Wetland

Scrub-shrubs are dominated by woody vegetation less than 20 feet tall. The species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions. Soils in these communities typically remain saturated or even inundated throughout the year. The species most prevalent within the scrub-shrub wetland communities crossed by the Proposed ROW include various dogwood species (*Cornus* spp.), willow species (*Salix* spp.), and saplings of red maple (*Acer rubrum*) and green ash (*Fraxinus pennsylvanica*). One scrub-shrub wetland within the Proposed ROW was permanently inundated and contained a near monoculture of buttonbush (*Cephalanthus occidentalis*).

Forested Wetland

Forested wetland communities are characterized by woody vegetation that is more than 20 feet tall. They normally possess a canopy of trees, an understory of young trees or shrubs, and an herbaceous layer with soils that remain saturated or even inundated throughout the year. Species most prevalent within the forested wetland communities within the Proposed ROW include green ash (*Fraxinus pennsylvanica*), eastern cottonwood (*Populus deltoides*), swamp white oak (*Quercus bicolor*), silver maple (*Acer sacchainum*), red maple (*Acer rubrum*), and some willow species (*Salix* spp.).

4.6.1.3 Invasive Species

The presence of invasive species is common along transmission line ROWs and other utility and transportation corridors. NYSDEC currently lists 74 plant species as prohibited or regulated invasive species (NYSDEC 2014). Several of these species were observed during spring 2018 field surveys, including garlic mustard (*Alliaria petiolata*), multiflora rose (*Rosa multiflora*), Morrow's honeysuckle (*Lonicera morrowii*), Tartarian honeysuckle (*Lonicera tartarica*), Canada

thistle (*Cirsium arvense*), autumn olive (*Elaeagnus umbellata*), cut-leaf teasel (*Dipsacus laciniatus*), mugwort (*Artemisia vulgaris*), spotted knapweed (*Centaurea stroebe*), oriental bittersweet (*celastrus orbiculatus*), purple loosestrife (*Lythrum salicaria*), and common reed grass (*Phargmites australis*). In accordance with recommendations from NYSDEC, a comprehensive survey to identify and map populations of invasive species within the Proposed ROW will be completed during the growing season prior to construction, and submitted as part of the EM&CP together with a final invasive species management plan, discussed in more detail below (NEETNY 2018).

4.6.1.4 Environmental Effects

The ESL Project has been designed to minimize loss of forest land by locating new structures as close to the edge of currently cleared portion of the NYSEG Utility Corridor as possible, and by selecting a monopole design configuration that requires a narrower clearing width than an H-frame configuration. A 90-foot-wide portion of the NYSEG Utility Corridor will need to be cleared to support construction of the new structures. A cleared ROW width of at least 90 feet will also be required for the proposed Dysinger and East Stolle Tie-Ins. Subsequently, operation of the ESL Project would require long-term vegetation management within the Proposed ROW to maintain low growing and small diameter woody species and open vegetative communities, which are compatible with the restrictions necessary for safe and reliable use of the ROW. The estimated total area of forest land conversion associated with the ESL Project ROW is 87.1 acres. An additional estimated 47.4 acres of shrub communities will be cleared to construct the ESL Project.

Following construction activities, the Proposed ROW will be managed periodically so that tree branches do not infringe on the conductor security zone and jeopardize the reliability of the electric transmission system. Long-term vegetation management of the Proposed ROW will be conducted in accordance with NEETNY's vegetation management plan, a copy of which is included in Attachment E of this Application.

Post-construction vegetation clearing and management techniques will include mechanical clearing and application of herbicides, or a combination of the two. Chemical control methods will include ground applications of New York State-approved herbicides to target vegetation species. Site-specific selection of vegetation management practices will be based on the

community type, and vegetation structure and density. Additional details regarding vegetation clearing methods, herbicide application, and disposal will be included in the EM&CP.

Construction activities may instigate the introduction or spread of invasive species by transplanting seeds via topsoil, gravel, and straw, or by construction workers and equipment. Areas identified during pre-construction surveys containing an infestation of invasive species will be clearly identified on construction plans and in the EM&CP. An invasive species management plan will be included in the EM&CP, and will include measures to mitigate the potential spread of invasive plant species. The following invasive species management strategies will form the basis of the plan:

- A baseline survey for invasive species will be conducted during the growing season before construction, per recommendations from NYSDEC. Invasive species infestation areas will be mapped using the Global Positioning System (GPS).
- Prior to the start of construction activities, on-site personnel will be trained in the BMPs and good housekeeping procedures to follow if invasive species are encountered, especially near federal- and NYSDEC-regulated wetlands, wetland setback areas, and riparian areas.
- In areas where soil has been disturbed due to Project activities, the soil should be stabilized with a native seed mix and weed-free mulch.
- A monitoring schedule will be implemented to detect any new growth of invasive species within the Project ROW during day-to-day activities and post-construction.

4.6.2 Wetlands

Wetlands provide many ecological functions and values not provided by upland habitats. Wetlands serve as habitat for a diverse mix of fauna or flora, and offer hydrologic functions such as water quality improvement, floodwater retention, and erosion control. Improved water quality occurs through the natural removal of nutrients to reduce runoff and the retention of suspended sediment. Wetlands can also serve as temporary storage areas during periods of flooding and protect downstream areas from damage by holding the flood waters. Finally, wetlands provide recreational opportunities by providing habitat for numerous game species of fish and wildlife and contributing to the aesthetic value of the landscape.

Federal and state agencies, including the U.S. Army Corps of Engineers (USACE) and NYSDEC, protect wetlands and other waters through regulation and permitting activities. A field survey of the Proposed ROW and Dysinger and East Stolle Switchyard sites was completed in April and May 2018 to delineate wetlands regulated by the USACE and NYSDEC. The results of these surveys are presented in the Wetland Delineation Report (WDR) in Attachment F of this Application.

4.6.2.1 NYSDEC-Regulated Wetlands

New York State's freshwater wetlands are protected under Article 24 of the Environmental Conservation Law, commonly referred to as the Freshwater Wetlands Act. Pursuant to Article 24, New York regulates wetlands greater than 12.4 acres or wetlands of any size that possess unique qualities. New York State also regulates the adjacent area of state-mapped wetlands, or those areas of land or water that are outside the wetland and within 100 feet of the wetland boundary.

Wetlands shown on New York's freshwater wetlands map are classified according to their ability to perform specific wetland functions and provide wetland benefits. Class I wetlands have the highest rank, and the ranking decreases from Classes II through IV.

Nine NYSDEC-mapped wetlands totaling 16.48 acres are located within the Proposed ROW. Table 4.6-2 provides a summary of these wetlands. Figure 3-1 in the WDR (see Attachment F of this Application) shows the location of NYSDEC-mapped wetlands crossed by the Proposed Line. No NYSDEC-mapped wetlands are present with the preferred switchyard sites.

The presence of NYSDEC-mapped wetlands was confirmed and their boundaries were refined during NEETNY's wetland delineation surveys. Table 4.6-3 provides a comparison of the state-mapped wetlands with the field delineated data. Appendix D of the WDR (see Attachment F of this Application) provides a map book showing the field delineated wetland boundaries in relation to NYSDEC-mapped wetlands.

Table 4.6-2 NYSDEC-Mapped Wetlands within the Proposed ROW		
NYSDEC Wetland ID	**Acreage within Proposed ROW**	**NYSDEC Wetland Class**
WO-25	2.99	II
WO-37	3.05	III
WO-13	2.29	II
WO-15	2.06	II
CL-8	2.45	II
CL-23	0.80	II
CL-10	1.19	II
CL-6	1.65	II
Total	**16.48**	

Key:
NYSDEC = New York State Department of Environmental Conservation
ROW = right of way

As shown in Table 4.6-3, seven of the eight NYSDEC-mapped wetlands have lower acreages than the field delineated wetlands that are associated with them. One field delineated wetland, W-T01-023C, decreased the acreage of the NYSDEC-mapped wetland of which it was associated. Overall, the field delineated wetlands increased the acreage of NYSDEC-mapped wetlands in the Proposed ROW by 30.71 acres.

Table 4.6-3 Comparison of NYSDEC-Mapped Wetlands with Field Delineated Wetland Boundaries				
NYSDEC Wetland ID	**Acreage within Proposed ROW**	**Field Delineated Wetland ID**	**Acreage within Proposed ROW**	**Difference in Acreage**
WO-25	2.99	W-T04-010B W-T04-010C	8.52	5.53
WO-37	3.05	W-T04-013A W-T04-013B W-T04-013C	7.45	4.40

Table 4.6-3 Comparison of NYSDEC-Mapped Wetlands with Field Delineated Wetland Boundaries				
NYSDEC Wetland ID	**Acreage within Proposed ROW**	**Field Delineated Wetland ID**	**Acreage within Proposed ROW**	**Difference in Acreage**
WO-13	2.29	W-T04-019B W-T04-019C	2.92	0.63
WO-15	2.06	W-T04-020A W-T04-020B W-T04-020C	9.50	7.44
CL-8	2.45	W-T01-023C	1.90	-0.55
CL-23	0.80	W-T01-021A W-T01-021C	2.85	2.05
CL-10	1.19	W-T02-002B W-T02-002C	5.84	4.65
CL-6	1.65	W-T02-005A W-T02-005C W-T02-007A W-T02-007B W-T02-007C	8.21	6.56
Totals	**16.49**		**48.59**	**30.71**

Key:
NYSDEC = New York State Department of Environmental Conservation
ROW = right of way

In addition to the eight NYSDEC-mapped wetlands that were observed to be present in the Proposed ROW during field surveys, two wetlands were delineated that meet the size requirement to be considered a NYSDEC-regulated wetland (*e.g.,* greater than 12.4 acres), and three wetlands were identified as connecting to NYSDEC wetlands that are present outside of the Proposed ROW. These wetlands are listed in Table 4.6-4 and shown on the map book in Appendix D of the WDR (see Attachment F of this Application).

Table 4.6-4
Additional Potential NYSDEC-Regulated Wetlands within the ESL Project ROW

Field Delineated Wetland ID	Acreage within Proposed ROW	Description
Field Delineated Wetlands that Meet NYSDEC Size Criteria		
W-T02-011A W-T02-011B	8.61	Large PSS/PEM wetland adjacent to existing ROW. Herbaceous to the north and dense scrub-shrub to the south. The floodplain to stream S-T02-006 is included in this wetland. Extends outside of the Proposed ROW to the east and west.
W-T01-016A W-T01-016B W-T01-016C	10.69	Large PFO/PSS/PEM complex adjacent to existing ROW. Streams S-T01-013, S-T01-014, S-T01-015, and S-T01-016 flow through the wetland. Extends outside of the Proposed ROW to the east and west.
Field Delineated Wetlands that Connect to NYSDEC-Mapped Wetlands Outside the Proposed ROW		
W-T04-002A W-T04-002B W-T04-002C	5.12	PSS/PEM/PFO wetland, which, based on aerial photography and field observations, connects to WO-17 to the west.
W-T04-012A W-T04-012B W-T04-012C	3.49	PFO/PSS/PEM complex, which connects to WO-21 in the west via drainages and wetlands that are visible on aerial photography.
W-T01-001B	1.10	PSS wetland, which connects to EA-17 to the east via a stream and wetland complex.

Key:
NYSDEC = New York State Department of Environmental Conservation
PEM = Palustrine Emergent Wetland
PFO = Palustrine Forested Wetland
PSS = Palustrine Shrub Scrub Wetland
ROW = right of way

Based on the wetland delineation results and information presented in Tables 4.6.3 and 4.6.4, NEETNY has determined that approximately 77.6 acres of NYSDEC-regulated wetlands are present within the Proposed ROW.

4.6.2.2 USACE-Regulated Wetlands

The USACE has regulatory jurisdiction over wetlands and other waters of the United States pursuant to Section 404 of the Clean Water Act. NEETNY is in the process of coordinating with the USACE to determine which ESL Project activities in wetlands will be considered regulated activities. For the purpose of this exhibit, all wetlands delineated in the Proposed ROW are considered USACE-regulated wetlands. A total of 82 wetlands were delineated within the Proposed ROW, covering approximately 126 acres. These include the following wetland types: palustrine emergent wetland (PEM; 25); palustrine shrub-scrub wetland (PSS; 12); palustrine forested wetland (PFO; 18); PEM/PSS (4); PEM/PFO (6); PSS/PFO (5); and PEM/PSS/PFO (12). An additional two wetlands were delineated at the Dysinger Switchyard site and one wetland was delineated at the East Stolle Switchyard site, covering 0.17 and 0.50 acres, respectively. Wetlands at the switchyard sites are classified as PEM. All delineated wetland boundaries are shown on the map book in Appendix A of the WDR, and each wetland is listed in the data package in Appendix B of the WDR (see Attachment F of this Application).

4.6.2.3 Environmental Effects and Mitigation

Wetlands within the Proposed ROW will be impacted as a result of structure placements in wetlands, conversion of forested and scrub-shrub wetlands to emergent wetlands to establish a new cleared ROW, and temporary access road construction. Tables 4.6-5 and 4.6-6 summarize impacts to USACE-regulated and NYSDEC-regulated wetlands, respectively, associated with structure placements and community type conversion. NEETNY is in the process of developing an access plan for the ESL Project and, to the extent feasible, will avoid placing access roads in wetlands. Where temporary access roads in wetlands are necessary, they will be removed after construction and the affected area restored. A full access plan will be provided with the EM&CP plan.

NEETNY proposes to place new structures outside of wetlands wherever possible. However, as shown in Tables 4.6-5 and 4.6-6, 80 structures will be placed within wetlands, including 45 within NYSDEC-regulated wetlands. Each structure will occupy a small footprint covering approximately 12.57 to 78.54 square feet. Cumulatively, the structures will occupy 0.05 acres within wetlands, of which 0.02 acres is within NYSDEC-regulated wetlands. Additional disturbance will occur in wetlands from placement of temporary work pads at the structure locations. These activities will temporarily disturb approximately 28.39 acres of wetlands, including 16.84 acres of NYSDEC-regulated wetlands. Any disturbed areas will be restored following construction.

Forested and scrub-shrub wetlands will be cleared and converted to emergent wetlands within a 90-foot-wide corridor in the Proposed ROW. A total of 50.04 acres of forested wetlands will be converted to emergent wetlands, including 38.30 acres of NYSDEC-regulated wetlands. An additional 38.06 acres of scrub-shrub wetlands will be cleared during construction of the Proposed Line and converted to emergent wetland, of which 19.34 acres are NYSDEC-regulated wetlands.

Protective measures will be implemented to avoid unnecessary impacts on wetlands within the Proposed ROW as well as to offset short-term and temporary impacts during construction. Erosion control methods may include silt fencing and planting or seeding of exposed soils to prevent soil erosion and sedimentation in nearby wetlands and surface waters due to runoff. Soil compaction will be minimized by scheduling construction activities during drier periods of the year, staging construction materials outside of wetlands, and utilizing construction swamp mats when moving equipment in wetlands, when possible. The EM&CP will contain specific wetland protection measures to minimize wetland impacts.

Construction of the proposed Dysinger and East Stolle Switchyards will also likely impact wetlands. Based on the current site configurations, approximately 0.17 acre of PEM wetland would be filled at the Dysinger Switchyard, and 0.50 acre of PEM wetland would be filled at the East Stolle Switchyard. NEETNY will attempt to minimize impacts on PEM wetlands at these sites during final facility design.

Table 4.6-5
Summary of Impacts to NYSDEC-Regulated Wetlands within the Proposed ROW

DEC-Regulated Wetland ID	Number of Proposed Structure Placements	Wetland Fill Area Associated with Structure Placements (sq. ft.)[2]	Temporary Wetland Disturbance Area from Structure Placements (acres)[3]	Forested Wetland Conversion (acres)[4]	Scrub-Shrub Wetland Conversion (acres)[4]
WO-25	4	50.27	1.45	6.01	1.21
WO-37	6	141.37	2.52	3.38	0.42
WO-13	1	12.57	0.37	1.62	0.89
WO-15	6	75.40	1.89	6.46	1.11
CL-8	2	25.13	0.64	1.63	N/A
CL-23	2	91.11	0.66	0.93	N/A
CL-10	3	103.68	1.21	3.87	1.14
CL-6	6	141.38	2.00	3.45	2.94
Unmapped Potential NYSDEC Wetland (W-T02-011)[1]	4	50.27	1.56	N/A	5.81
Unmapped Potential NYSDEC Wetland (W-T01-016)[1]	6	141.37	2.48	5.50	3.02
Extension of NYSDEC Wetland WO-17 (W-T04-002)	4	125.67	1.20	3.36	1.37
Extension of NYSDEC Wetland WO-21 (W-T04-012)[1]	1	12.57	0.59	2.10	0.32

Table 4.6-5
Summary of Impacts to NYSDEC-Regulated Wetlands within the Proposed ROW

DEC-Regulated Wetland ID	Number of Proposed Structure Placements	Wetland Fill Area Associated with Structure Placements (sq. ft.)[2]	Temporary Wetland Disturbance Area from Structure Placements (acres)[3]	Forested Wetland Conversion (acres)[4]	Scrub-Shrub Wetland Conversion (acres)[4]
Extension of NYSDEC Wetland EA-17 (W-T01-001)[1]	0	0.00	0.36	N/A	1.10
Total[5]	**45**	**970.75 (0.02 acres)**	**16.94 acres**	**38.30 acres**	**19.34 acres**

[1] "Extension of NYSDEC Wetland" and "Unmapped Potential NYSDEC Wetlands" are included based on observed connectivity of delineated wetlands to NYSDEC-mapped wetlands outside the Proposed ROW, or delineated wetlands meeting the size requirement for NYSDEC jurisdiction (greater than 12.4 acres).

[2] Wetland fill totals based on foundation diameter of proposed structures.

[3] Temporary wetland disturbance was calculated using the a standard 60- by 60-foot work pad around each structure, and a 90 by 250-foot pull pad around a limited number of additional structures.

[4] Forest and scrub-shrub conversion based on 90-foot clearing corridor.

[5] Totals may differ from calculated totals due to rounding.

Table 4.6-6
Summary of Impacts to USACE-Regulated Wetlands[1] within the Proposed ROW

Wetland Type	Number of Proposed Structure Placements	Wetland Fill Area Associated with Structure Placements (sq. ft.)[1]	Temporary Wetland Disturbance Area from Structure Placements (acres)[2]	Forested Wetland Conversion (acres)[3]	Scrub-Shrub Wetland Conversion (acres)[3]
PEM	3	103.67	1.22	N/A	N/A
PSS	4	116.24	1.71	N/A	9.36
PFO	8	270.18	2.61	7.69	N/A
PEM/PSS	7	153.94	2.95	N/A	9.49
PEM/PFO	6	273.32	2.18	4.31	N/A
PSS/PFO	11	204.20	3.87	14.01	4.26
PEM/PSS/PFO	41	1,184.38	13.72	24.03	14.95
Total[4]	**80**	**2,305.93 [0.05 acres]**	**28.26**	**50.04**	**38.06**

[1] USACE-regulated wetlands include all wetlands regulated by NYSDEC.

[1] Wetland fill totals based on foundation diameter of proposed structures.

[2] Temporary wetland disturbance was calculated using a standard 60- by 60-foot work pad around each structure, and a 90- by 250-foot pull pad around a limited number of additional structures.

[3] Forest and scrub-shrub conversion based on 90-foot-wide clearing corridor.

[4] Totals may differ from calculated totals due to rounding.

The NYSDEC advised NEETNY that compensatory wetland mitigation is required for the conversion of NYSDEC-regulated forested wetlands to emergent wetlands (NEETNY 2018a). A mitigation ratio of 1:1 is anticipated, but the final mitigation requirement will be determined in the Article VII proceeding. NYSDEC has also advised NEETNY that enhancing existing emergent wetlands has been acceptable as mitigation for the conversion of forested wetlands (NEETNY 2018a). If wetland fill cannot be avoided at the switchyard sites, NEETNY will be required to provide compensatory mitigation for those impacts as part of the USACE Section 404 permitting process.

NEETNY has preliminarily identified several parcels adjacent to the Proposed ROW that may be suitable mitigation sites and provide the necessary acreage to offset conversion of forested wetland to emergent wetland. In general, these sites are either low-yield agricultural fields used periodically for hay production, or fallow agricultural fields reverting to emergent wetlands. Wetlands on many of these sites are directly connected to the impacted wetlands within the Proposed ROW, and appear to provide significant opportunities to expand forested wetland coverage. NEETNY will develop a Conceptual Wetland Mitigation Plan for the Project and provide it as a supplemental filing to this Application.

4.7 Wildlife

A desktop review of publicly available data sources was conducted to identify the distribution of wildlife potentially occurring within the vegetation communities described in Section 4.6. Distribution maps from the NYSDEC Amphibian and Reptile Atlas were reviewed to assess the presence of reptile and amphibian species potentially occurring in the Project area (NYSDEC 2007). Avian species potentially occurring in the Project area were identified based on records from *The Second Atlas of the Breeding Birds in New York State* (McGowan and Corwin 2008). A review of the *Checklist of Amphibians, Reptiles, Birds and Mammals of New York State, Including Their Legal Status* (NYSDEC 2010) was conducted to identify mammals that may be common in the area.

A list of wildlife species reasonably expected to occur within the Project area is provided in Table 4.7-1. Species that were incidentally observed during spring 2018 biological field surveys are marked with an asterisk.

Table 4.7-1
Summary of Wildlife Expected to be Present in the ESL Project Area

Scientific Name	Common Name	Scientific Name	Common Name
Amphibians and Reptiles			
Necturus maculosus	Common mudpuppy	*Ambystoma jeffersonianum*	Jefferson salamander
Ambystoma laterale	Blue-spotted salamander	*Ambystsoma maculatum*	Spotted salamander
Notophthalmus v. viridescens	Red-spotted newt	*Desmognathus fuscus*	Northern dusky salamander
Desmognathus ochrophaeus	Allegheny dusky salamander	*Plethodon c. cinereus*	Northern redback salamander
Plethodon glutinosus	Northern slimy salamander	*Eurycea bislineata*	Northern two-lined salamander
*Bufo americanus**	American toad*	*Hyla versicolor**	Gray treefrog*
Pseudacris c. crucifer	Northern spring peeper	*Pseudacris triseriata*	Western chorus frog
Rana catesbeiana	Bullfrog	*Rana clamitans melanota*	Green frog
*Rana sylvatica**	Wood frog*	*Rana pipiens**	Northern leopard frog*
Rana palustris	Pickerel frog	*Chelydra serpentine**	Common snapping turtle*
Clemmys guttata	Spotted turtle	*Glyptemys insculpta*	Wood turtle
Chrysemys picta	Painted turtle	*Nerodia sipedon*	Northern water snake
Storeria dekayi	Brown snake	*Storeria occiptomaculata*	Redbelly snake
Thamnophis sirtalis	Common garter snake	*Elaphe o. obsolete*	Black rat snake
Lampropeltis t. triangulum	Eastern milk snake		

Table 4.7-1 Summary of Wildlife Expected to be Present in the ESL Project Area			
Scientific Name	**Common Name**	**Scientific Name**	**Common Name**
Birds			
Sturnus vulgaris	European starling	*Junco hyemalis*	Dark-eyed junco
*Corvus brachyrhynchos**	American crow*	*Branta Canadensis**	Canada goose*
Larus delawarensis	Ring-billed gull	*Anas platyrhynchos**	Mallard*
Phasianus colchicus	Ring-necked pheasant	*Aix sponsa**	Wood duck*
*Cyanocitta cristata**	Blue jay*	*Poecile atricapillus*	Black-capped chickadee
Haemorhous mexicanus	House finch	*Passer domesticus*	House sparrow
Spinus tristis	American goldfinch	*Spizelloides arborea*	American tree sparrow
*Cardinalis cardinalis**	Northern cardinal*	*Picoides pubescens*	Downy woodpecker
*Meleagris gallopavo**	Wild turkey*	*Buteo jamaicensis**	Red-tailed hawk*
Ardea herodias	Great blue heron	*Butorides virescens*	Green heron
*Cathartes aura**	Turkey vulture*	*Accipiter striatus*	Sharp-shinned hawk
Accipiter cooperii	Cooper's hawk	*Charadrius vociferous*	Killdeer
Falco sparverius	American kestrel	*Zenalda macroura**	Mourning dove*
Columba livia	Rock pigeon	*Archilochus colubris*	Ruby-throated hummingbird
Coccyzus erythropthalmus	Black-billed cuckoo	*Melanerpes carolinus*	Red-bellied woodpecker
Megaceryle alcyon	Belted kingfisher	*Colaptes auratus*	Northern flicker
Picoides villosus	Hairy woodpecker	*Contopus virens*	Eastern wood-pewee
*Dryocopus pileatus**	Pileated woodpecker*	*Empidonax traillii*	Willow flycatcher
Empidonax alnorum	Alder flycatcher	*Sayornis phoebe*	Eastern phoebe
Empidonax minimus	Least flycatcher	*Tyrannus*	Eastern kingbird

Table 4.7-1 Summary of Wildlife Expected to be Present in the ESL Project Area			
Scientific Name	**Common Name**	**Scientific Name**	**Common Name**
Myiarchus crinitus	Great crested flycatcher	*Vireo gilvus*	Warbling vireo
Vireo flavifrons	Yellow-throated vireo	*Dendroica petecia*	Yellow warbler
Vireo olivaceus	Red-eyed vireo	*Tachycineta bicolor**	Tree swallow*
Eremophila alpestris	Horned lark	*Riparia*	Bank swallow
Stelgidopteryx serripennis	Northern rough-winged swallow	*Sitta carolinensis*	White-breasted nuthatch
Hirundo rustica	Barn swallow	*Troglodytes aedon*	House wren
Certhia americana	Brown creeper	*Catharus fuscescens*	Veery
Sialia sialis	Eastern bluebird	*Turdus migratorius**	American robin*
Hylocichla mustelina	Wood thrush	*Bombycilla cedorum*	Cedar waxwing
Dumtella carolinensis	Gray catbird	*Vermivora pinus*	Blue-winged warbler
Bombycilla cedrorum	Cedar waxwing	*Geothlypis trichas*	Common yellowthroat
Setophaga ruticilla	American redstart	*Piranga olivacea*	Scarlet tanager
Wilsonia citrina	Hooded warbler	*Dolichonyx oryzivorus**	Bobolink*
Pheucticus ludovicianus	Rose-breasted grosbeak		
Mammals			
Marmota monax	Woodchuck	*Castor Canadensis*	Beaver
*Odocoileus virginianus**	White-tailed deer*	*Sciurus carolinensis**	Gray squirrel*
*Sylvilagus floridanus**	Eastern cottontail*	*Neovison vison*	Mink
*Procyon lotor**	Raccoon*	*Cryptotis parva*	Least shrew
Tamias striatus	Eastern chipmunk	*Canis latrans**	Coyote*
Vulpes	Red fox	*Peromyscus leucopus*	White-footed mouse

Table 4.7-1 Summary of Wildlife Expected to be Present in the ESL Project Area			
Scientific Name	**Common Name**	**Scientific Name**	**Common Name**
*Didelphis virginiana**	Virginia opossum (carcass)*		
Note: Observed during field surveys.			

As described in Section 4.6, the Proposed ROW includes undeveloped forest and shrub land, interspersed with agricultural land. A cleared and maintained ROW borders the western side of the Proposed ROW, while the eastern side is bordered by a similar composition of vegetation communities as occurs within the Proposed ROW. The transition zone between the forested and shrub habitats within the Proposed ROW and adjacent cleared ROW support a large number of animal species. The forested and shrub upland and wetland habitats within the Proposed ROW also provide habitat for numerous bird, mammal, reptile, and amphibian species. Open area communities in the Proposed ROW, such as those found in actively cultivated areas, provide grazing habitat for a wide variety of wildlife species, such as white-tailed deer, wild turkey, raccoon, gray and red squirrel, cottontail rabbit, and Eastern chipmunk.

Wildlife occurring on the proposed switchyard sites includes species noted above in the open area communities. White-tailed deer and wild turkey were observed on both switchyard sites during field surveys.

4.7.1 Environmental Effects and Mitigation

Wildlife species and habitat occurring within the ESL Project area are common throughout Erie and Niagara Counties. Wildlife species may experience temporary displacement during construction due to vegetation clearing and noise from construction activities. These effects will be short-term in duration and limited within, and adjacent to, the existing Utility Corridor. Wildlife species will likely seek temporary shelter in suitable habitat in adjacent areas and those species preferring edge and early successional habitats are expected to return following construction and maintenance. Removal of woody vegetation during ESL Project construction and operation will likely require some wildlife species to seek suitable habitat in adjacent areas. Those species

preferring edge and early successional habitats are expected to return following construction and restoration activities. There will be areas where forested communities will be permanently converted to other community types (*i.e.*, old field, shrub land, shallow emergent wetland, etc.). Species that require forest cover types for food, shelter, and nesting may be affected. However, land cover adjacent to the Proposed ROW largely consists of the same community types to be disturbed during construction. Therefore, significant loss of forage, shelter, and nesting habitat on a local or regional basis is not anticipated.

While the long-term control of vegetation development will influence the habitat suitability for specific species, other species may benefit from maintaining stable vegetation communities. Conversion of forested land use will increase the amount of shrub and herbaceous vegetation communities within the Utility Corridor. The meadow and shrub habitat is used by small mammals and grazing species for forage, cover, and reproduction. Meadows may also provide value to grassland breeding birds by increasing suitable habitat where the Utility Corridor is contiguous to a larger area of actively utilized grassland bird habitat.

4.8 Threatened and Endangered Species

Federal and state protection for threatened and endangered species, as well as their habitat, requires the implementation of certain procedures during Project planning. A letter request was submitted to the New York Natural Heritage Program (NYNHP) on November 8, 2017, for information regarding the presence of state-listed threatened and endangered species and unique natural communities in the ESL Project area. A response from the NYNHP dated December 20, 2017, identified pied-billed grebe (*Podilymbus podiceps*; state threatened), northern long-eared bat (*Myotis septentrionalis;* state threatened), northern brook lamprey (*Ichthyomyzon fossor;* state rare), bigmouth shiner (*Notropis dorsalis;* state rare), and bigeye chub (*Hybopsis amblops*; state rare) as recorded in the vicinity of the Project (Chaloux 2017).

Section 7(a) of the Endangered Species Act (ESA) establishes a national program, headed by the USFWS, for the conservation of threatened and endangered species and their respective habitats. The USFWS Information for Planning and Conservation (IPaC) system provides information on federally listed, proposed, or candidate species that may be present in an area. NEETNY generated

an IPaC species list for the ESL Project, and the report lists one species, the federally threatened northern long-eared bat (*Myotis sodalis*). NEETNY subsequently submitted a ESL Project review request to the USFWS on January 30, 2018. The USFWS acknowledged receipt of NEETNY's species impact determination via correspondence dated February 21, 2018 (USFWS 2018b).

Copies of NEETNY's correspondence with the NYNHP and USFWS are provided in Attachment C of this Application.

A brief summary of habitat use requirements for each state- and federally listed species, as well as their potential presence in the Project area, is presented below.

4.8.1 Pied-billed Grebe

The pied-billed grebe is a state listed threatened species. It is a small waterfowl species with a total length of up to 15 inches. This species has breeding range throughout all of New York; it builds a floating nest of partially decayed plants and clipped leaves attached to emergent vegetation in marshes and quiet waters. The species typically winters in the southern United States to Central America, returning to New York State between mid-March and mid-April (NYSDEC 2017b).

According to correspondence with NYSDEC, a breeding population of pied-billed grebe occupies a wetland complex approximately 3,750 feet from the proposed East Stolle Switchyard (Adams 2018). The population has been observed in this area since 2005, and NYSDEC surveys the wetland complex every spring in late May, during the breeding season. Pied-billed grebes have been observed breeding in the wetland complex as recently as May 2017.

4.8.2 Northern Long-eared Bat

The northern long-eared bat was federally listed as threatened on May 4, 2015, and is also a threatened species in New York State. Northern long-eared bats spend winter months hibernating in caves and abandoned mines. During summer, they roost alone or in small colonies underneath exfoliated bark or in cavities or crevices of both living and dead trees (snags). Northern long-eared bats form maternity colonies between May and August that generally consist of less than 100 individuals and averaging about 20 to 30 individuals (USFWS 2013).

This species was federally listed primarily due to the threat of white-nose syndrome (WNS), which is causing bats to disappear completely from many hibernation sites. Prior to the arrival of WNS in 2006, the northern long-eared bat population was estimated to be ≥500,000 individuals in New York State (NYSDEC 2016). Recent winter hibernacula surveys now indicate that only 2% of the northern long-eared bat population remains (NYSDEC 2012). Additionally, "where WNS has been present for at least three years, northern long-eared bats are often extirpated or are found at extremely low numbers during winter hibernacula surveys. However, they continue to be found during summer in some WNS affected areas, although in very low numbers" (USFWS 2015). Other threats to the northern long-eared bat include habitat destruction or disturbance (*e.g.*, vandalism to hibernacula, roost tree removal) and contaminants.

Based on the response letter from the NYNHP and information provided on the NYSDEC website, a northern long-eared bat hibernaculum is present approximately 3.1 miles east of the Proposed ROW in the town of Newstead (NYSDEC 2018j). Northern long-eared bats using this hibernaculum could potentially use trees in the Proposed ROW as roosting habitat.

4.8.3 Northern Brook Lamprey

The northern brook lamprey is not a federal- or state-listed species, but is of conservation concern to the state and considered rare by the NYNHP. It is found in three creeks in Erie County, which are part of the Lake Erie watershed (NYSDEC 2018k). The northern brook lamprey inhabits clear, permanent, medium-sized streams with moderately warm temperatures. They use gravel and stone beds for spawning, while larvae inhabit slower parts of the streams and dig burrows in the sand bottoms.

4.8.4 Bigmouth Shiner

The northern brook lamprey is not a federal- or state-listed species, but is of conservation concern to the state and considered rare by the NYNHP. It is found in medium-sized streams with clean gravel.

4.8.5 Bigeye Chub

The bigeye chub is not a federal- or state-listed species, but is of conservation concern to the state. It lives in larger streams with clean gravel in the western New York area. The bigeye chub is native to four watersheds but has only had 40 catch records since 1977 (NYSDEC 2018l). The NYNHP letter states that the last sighting of bigeye chub in the vicinity of the Project area was August 30, 1921 (Chaloux 2017).

4.8.6 Environmental Effects and Mitigation

Pied-billed Grebe

As noted above, the proposed East Stolle Switchyard site is approximately 3,750 feet from a wetland complex that supports a breeding population of pied-billed grebe. The East Stolle Tie-In lines extend to within approximately 0.5 miles of the complex. NEETNY consulted with NYSDEC regarding potential impacts on pied-billed grebe from construction and operation of the Project, in particular the East Stolle Switchyard. NYSDEC indicated that the proposed switchyard site, adjacent to the existing NYSEG Stolle Road Substation, is an acceptable location given the distance from the sensitive habitat. If NEETNY were to select an alternative site closer to the wetland complex, such as Alternative Site 2 described in Exhibit 3, construction would be restricted from April 1 to August 15 to avoid disturbing pied-billed grebe nesting and fledging (Adams 2018). A copy of NEETNY's correspondence with NYSDEC regarding the pied-billed grebe is provided in Appendix A of this Application.

Based on the distance of the proposed East Stolle Switchyard and East Stolle Tie-Ins from the wetland complex supporting the pied-billed grebe, no impacts on this species are expected from construction and operation of the ESL Project.

Northern Long-eared Bat

All ESL Project activities will occur greater than 3 miles from the documented northern long-eared bat hibernaculum in the town of Newstead. Therefore, construction and operation of the ESL Project will not affect the hibernaculum. NYSDEC notified NEETNY that northern long-eared bats should be assumed present within a 5-mile buffer around the hibernaculum. This buffer covers an approximately 7.63-mile-long segment of the Proposed ROW in the town of Newstead. Tree

clearing is restricted in this buffer from April 1 to November 1 to avoid impacting any northern long-eared bats that may use trees for roosting habitat (NEETNY 2018a). NEETNY will comply with this tree clearing restriction for the portion of the Proposed ROW within the hibernaculum buffer. Consequently, no impacts on northern long-eared bat are expected from construction and operation of the ESL Project. To fulfill the project review requirements under Section 7 of the Federal ESA, NEETNY has also determined that the ESL Project may affect the northern long-eared bat, but is relying upon the findings of the January 5, 2016, Programmatic Biological Opinion for Final 4(d) Rule on the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions. This determination was provided to and acknowledged by the USFWS (USFWS 2018b).

Northern Brook Lamprey, Bigmouth Shiner, and Bigeye Chub

The northern brook lamprey and bigmouth shiner have been documented in Little Buffalo Creek. The Proposed Line crosses this stream and several of its tributaries in the towns of Lancaster and Elma. Each of the streams will be spanned by the Proposed Line, and no structures will be located within 50 feet of the stream top of banks. NEETNY does not anticipate that any access roads will need to be installed to move construction equipment across the streams. If during final design a need is identified to install an access road across Little Buffalo Creek or any of its tributaries, NEETNY will consult with NYSDEC to develop appropriate avoidance and minimization measures to prevent impacts on northern brook lamprey and bigmouth shiner. Based on historical records, the bigeye chub could potentially be present in Cayuga Creek in the town of Lancaster. The Proposed Line will span Cayuga Creek, no construction will be completed within 50 feet of the stream top of bank, and no access roads will be constructed across the stream. Consequently, construction and operation of the Project will not impact the bigeye chub.

4.9 Topography and Soils

4.9.1 Topography

Erie County is located within the Erie-Ontario Lowland physiographic province to the north and the Allegheny Plateau physiographic province to the south, while Niagara County lies wholly

within the Erie-Ontario Lowland province (ESRI 2018). The Proposed ROW is distributed almost equally within the two provinces.

The Erie-Ontario Lowlands has little significant relief and typifies topography of an abandoned lakebed. The contrasting Allegheny Plateau contains steep valley walls, wide ridgetops, and flat-topped hills (USDA 1986). Topography crossed by the Proposed ROW is nearly horizontal, with the ground surface sloping gently from south to north at less than 15 feet per mile. Elevation ranges from approximately 850 feet above mean sea level (amsl) near the southern end of the Project, to approximately 580 feet amsl at the crossing of Tonawanda Creek near the northern end.

4.9.2 Geology

The Proposed ROW is underlain by bedrock of the Middle Silurian and Middle and Upper Devonian periods, with the oldest members occurring to the north. The bedrock dips slightly (less than 1 degree) south, and is comprised of layers of limestone, dolostone, and shale with minor occurrences of sandstone and evaporate (Isachsen et al. 2000).

Glacial deposits overlie bedrock in the Proposed ROW. These include sorted and stratified lacustrine sand, silt and clay; and unsorted, unstratified glacial till. Till is a heterogeneous mix of clay and silt to boulder-sized particles mobilized as glaciers advanced and deposited as they receded. Recent (less than 10,000 years) alluvial deposits are also found in the overburden (Isachsen et al. 2000).

Local surficial deposits generally range in thickness from absent (where bedrock crops out), to tens of meters (Natural Resource Conservation Service [NRCS] 2018). Sand and gravel deposited in glacial lakes provide an important economic resource in the Project area.

Based on a review of data available from the USGS and NYSDEC, nine sand and gravel mines or quarries and two natural gas wells have been identified in the vicinity of the Project (USGS 2018). These geologic resources are listed in Table 4.9-1, and the identification number corresponds to the labels on Figure 2-2 in Exhibit 2.

Table 4.9-1 Geologic Resources			
Map Reference	**Name**	**Location**	**Category**
G1	Amax Specialty Metals Corp. Zirconium Refinery	Newstead, NY	Mineral Refinery
G2	Delta Materials Inc. Pembroke Pit	Newstead, NY	Sand and Gravel
G3	Clarence Material Corp. Clarence Sand and Gravel Pit	Clarence, NY	Sand and Gravel
G4	Pine Hill Concrete Mix Corp. Sterling Pit	Newstead, NY	Sand and Gravel
G5	Pine Hill Concrete Mix Corp. Jones Road Pit	Clarence, NY	Sand and Gravel
G6	B. Feldman No.1 Well	Newstead, NY	Oil or Gas Well
G7	Madison Construction Company Peters Corners Pit	Alden, NY	Sand and Gravel
G8	Lafarge North America, Inc. Genesee Pit	Lancaster, NY	Sand and Gravel
G9	Pine Hill Concrete Mix Corp. Genesee Pit	Lancaster, NY	Sand and Gravel
G10	Pine Hill Concrete Mix Corp. Jones Road Pit	Lancaster, NY	Sand and Gravel
G11	F. W. Heist No.1 Well	Alden, NY	Oil or Gas Well
G12	Pine Hill Concrete Mix Corp. Lancaster Dredge E	Lancaster, NY	Sand and Gravel
Source: ESRI 2017.			

4.9.3 Geology

The Proposed ROW is underlain by bedrock of the Middle Silurian and Middle and Upper Devonian periods, with the oldest members occurring to the north. The bedrock dips slightly (less

than 1 degree) south, and is comprised of layers of limestone, dolostone, and shale with minor occurrences of sandstone and evaporate (Isachsen et al. 2000).

Glacial deposits overlie bedrock in the Proposed ROW. These include sorted and stratified lacustrine sand, silt and clay; and unsorted, unstratified glacial till. Till is a heterogeneous mix of clay and silt to boulder-sized particles mobilized as glaciers advanced and deposited as they receded. Recent (less than 10,000 years) alluvial deposits are also found in the overburden (Isachsen et al. 2000).

Local surficial deposits generally range in thickness from absent (where bedrock crops out), to tens of meters (Natural Resource Conservation Service [NRCS] 2018). Sand and gravel deposited in glacial lakes provide an important economic resource in the Project area.

Based on a review of data available from the USGS and NYSDEC, nine sand and gravel mines or quarries, two natural gas wells, and one mineral refinery have been identified in the vicinity of the ESL Project (USGS 2018). These geologic resources are listed in Table 4.9-1, and the identification number corresponds to the labels on Figure 2-2 in Exhibit 2.

4.9.4 Soils

The soils in Erie County vary greatly. Poor natural drainage is a principal soil management issue in the Erie-Ontario Lowland soils found in the northern portion of the ESL Project area, while erosion is an issue in the Allegheny Plateau soils found in the south. Loam with varying proportions of silt, sand, and gravel is the dominant texture. Drainage of soils varies widely, from very poorly to excessively drained (NRCS 2018).

County-level soil survey information from the USDA NRCS Soil Survey Geographic (SSURGO) database was reviewed to assess the soil types within the Proposed ROW. The SSURGO data categorizes soils based on associations. Soils characteristics common between associated members include local relief, drainage capability, and landscape. Analysis of SSURGO data indicates 67 individual soils are within the Proposed ROW, as shown in Table 4.9-2.

Evaluation of soils indicates the presence of members that may be particularly sensitive to disturbance. These units include hydric soils; poorly drained soils; prime farmland soils and soils

of statewide importance; soils with shallow bedrock; soils with shallow groundwater; soils with limitations for shallow excavations; and soils with high risk of corrosion of concrete. A geotechnical program has not been conducted for the ESL Project; however, soil borings will be obtained at selected structure locations and the switchyards as necessary to support foundation design. The results of the geotechnical investigations will be included in the EM&CP.

Fifty-one of the 67 soil units encountered within the Proposed ROW are classified as follows with respect to agricultural considerations: (i) 21 are classified as Prime Farmland, if drained; (ii) 19 are classified as Prime Farmland; and (iii) 11 are classified as Farmland of Statewide Importance as defined by the USDA. However, these soil units do not necessarily correspond to active agricultural areas.

4.9.5 Environmental Effects and Mitigation

Ground-disturbing activities associated with the ESL Project that will affect soils and topography include shallow grading and excavations associated with construction of the transmission line structures, new switchyards, and access roads. Extensive alterations of slope and gradient are not anticipated for any ESL Project components. Minor changes to topography will occur due to grading in work areas, establishment of the switchyard foundations, and installation of temporary access pathways with construction matting.

Although topographic changes are not expected to be significant, soil erosion and sediment control practices will be implemented during construction activities. After construction activities are complete, soils will be re-graded to pre-construction contours, and compacted soils will be returned to their native state.

Table 4.9-2
Characteristics of Soils within the Proposed ROW

Soil Series	Soil Symbol	Parent Material	Bedrock Depth	Water Table Depth	Hydric Rating	Drainage Class	Farmland Class	Excavation Difficulty	Risk of Corrosion to Concrete
Alton fine gravelly loam, 0 to 3 percent slopes	AmA	Gravelly loamy glaciofluvial deposits derived mainly from acidic rocks, with some limestone	No data	No data	Not Hydric	Well drained	All areas are prime farmland	No data	High
Alton fine gravelly loam, 3 to 8 percent slopes	AmB	Gravelly loamy glaciofluvial deposits derived mainly from acidic rocks, with some limestone	No data	No data	Not Hydric	Well drained	All areas are prime farmland	No data	High
Alton fine gravelly loam, 8 to 15 percent slopes	AmC	Gravelly loamy glaciofluvial deposits derived mainly from acidic rocks, with some limestone	No data	No data	Not Hydric	Well drained	Farmland of statewide importance	No data	High
Appleton silt loam, 0 to 3 percent slopes	ApA	Calcareous loamy lodgment till derived from limestone, sandstone, and shale	No data	20	Not Hydric	Somewhat poorly drained	Prime farmland if drained	Moderate	Low
Arkport very fine sandy loam, 8 to 15 percent slopes	ArC	Glaciofluvial or deltaic deposits with a high sand content	No data	No data	Not Hydric	Well drained	Farmland of statewide importance	No data	Moderate
Arkport very fine sandy loam, 15 to 25 percent slopes	ArD	Glaciofluvial or deltaic deposits with a high sand content	No data	No data	Not Hydric	Well drained	Not prime farmland	No data	Moderate
Arkport very fine sandy loam, 25 to 40 percent slopes	ArE	Glaciofluvial or deltaic deposits with a high sand content	No data	No data	Not Hydric	Well drained	Not prime farmland	No data	Moderate
Benson very channery loam, 0 to 3 percent slopes	BfA	Channery loamy till underlain by limestone or calcareous shale	38	No data	Not Hydric	Somewhat excessively drained	Farmland of statewide importance	No data	Low
Benson very channery loam, very rocky, 8 to 15 percent slopes	BgC	Channery loamy till underlain by limestone or calcareous shale	38	No data	Not Hydric	Somewhat excessively drained	Not prime farmland	No data	Low
Blasdell channery silt loam, 15 to 25 percent slopes	BlD	Channery loamy glaciofluvial deposits derived mainly from local acid shale bedrock	No data	No data	Not Hydric	Well drained	Not prime farmland	No data	Moderate
Canandaigua silty clay loam	Cb	No data	0	0	Hydric	Very poorly drained	Not prime farmland	No data	No data
Canandaigua silt loam	Cc	Silty and clayey glaciolacustrine deposits	No data	15	Hydric	Poorly drained	Farmland of statewide importance	No data	Low
Canandaigua mucky silt loam	Cd	Silty and clayey glaciolacustrine deposits	No data	15	Hydric	Very poorly drained	Not prime farmland	No data	Low
Cayuga silt loam, 3 to 8 percent slopes	CfB	Clayey glaciolacustrine deposits over loamy till derived from limestone, dolomite, sandstone, or shale	No data	69	Not Hydric	Moderately well drained	All areas are prime farmland	No data	Low

Table 4.9-2
Characteristics of Soils within the Proposed ROW

Soil Series	Soil Symbol	Parent Material	Bedrock Depth	Water Table Depth	Hydric Rating	Drainage Class	Farmland Class	Excavation Difficulty	Risk of Corrosion to Concrete
Cazenovia silt loam, 8 to 15 percent slopes	CgC	Loamy till that contains limestone with an admixture of reddish lake-laid clays or reddish clay shale	No data	92	Not Hydric	Well drained	Farmland of statewide importance	No data	Low
Cheektowaga fine sandy loam	Ch	Sandy deltaic deposits over clayey glaciolacustrine deposits	No data	7	Hydric	Very poorly drained	Farmland of statewide importance	No data	Low
Churchville silt loam, 0 to 3 percent slopes	CoA	Clayey glaciolacustrine deposits over loamy till	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Claverack loamy fine sand, 3 to 8 percent slopes	CrB	Sandy glaciolacustrine deposits, derived primarily from non-calcareous sandstone or granite, that overlie clayey glaciolacustrine deposits	No data	54	Not Hydric	Moderately well drained	All areas are prime farmland	No data	Low
Collamer silt loam, till substratum, 3 to 8 percent slopes	CtB	Silty and clayey glaciolacustrine deposits	No data	54	Not Hydric	Moderately well drained	All areas are prime farmland	No data	Low
Colonie loamy fine sand, 3 to 8 percent slopes	CuB	Sandy glaciofluvial or eolian deposits	No data	No data	Not Hydric	Well drained	All areas are prime farmland	No data	Moderate
Cosad loamy fine sand	Cv	Sandy glaciofluvial or deltaic deposits over clayey glaciolacustrine deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Moderate
Darien silt loam, 0 to 3 percent slopes	DbA	Loamy till derived predominantly from calcareous gray shale	No data	23	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Darien silt loam, 3 to 8 percent slopes	DbB	Loamy till derived predominantly from calcareous gray shale	No data	23	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Elnora loamy fine sand, 0 to 3 percent slopes	ElA	Sandy glaciofluvial, eolian, or deltaic deposits	No data	54	Not Hydric	Moderately well drained	All areas are prime farmland	No data	High
Elnora loamy fine sand, 3 to 8 percent slopes	ElB	Sandy glaciofluvial, eolian, or deltaic deposits	No data	54	Not Hydric	Moderately well drained	All areas are prime farmland	No data	High
Fluvaquents and Udifluvents, frequently flooded	Fu	Slluvium with highly variable texture	No data	15	Hydric	Very poorly drained	Not prime farmland	No data	Moderate
Galen fine sandy loam, till substratum, 3 to 8 percent slopes	GbB	Deltaic deposits with a high content of fine and very fine sand	No data	54	Not Hydric	Moderately well drained	All areas are prime farmland	No data	Moderate

Table 4.9-2
Characteristics of Soils within the Proposed ROW

Soil Series	Soil Symbol	Parent Material	Bedrock Depth	Water Table Depth	Hydric Rating	Drainage Class	Farmland Class	Excavation Difficulty	Risk of Corrosion to Concrete
Getzville silt loam	Ge	Silty and clayey glaciolacustrine deposits over sandy glaciolacustrine deposits	No data	8	Hydric	Poorly drained	Farmland of statewide importance	No data	Low
Halsey silt loam	Ha	Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits	No data	8	Hydric	Very poorly drained	Not prime farmland	No data	Moderate
Hamlin silt loam	Ha	No data	0	137	Not Hydric	Well drained	All areas are prime farmland	No data	No data
Honeoye loam, 0 to 3 percent slopes	HoA	Calcareous loamy lodgment till derived from limestone, sandstone, and shale	No data	No data	Not Hydric	Well drained	All areas are prime farmland	High	Low
Honeoye loam, 3 to 8 percent slopes	HoB	Calcareous loamy lodgment till derived from limestone, sandstone, and shale	No data	No data	Not Hydric	Well drained	All areas are prime farmland	High	Low
Hudson silty clay loam, 25 to 40 percent slopes	HvE	Clayey and silty glaciolacustrine deposits	No data	54	Not Hydric	Moderately well drained	Not prime farmland	No data	Low
Ilion silt loam	In	Loamy till derived from calcareous dark shale	No data	15	Hydric	Poorly drained	Farmland of statewide importance	No data	Low
Kendaia silt loam, 0 to 3 percent slopes	Ke	Calcareous loamy lodgment till derived from limestone, sandstone, and shale	No data	20	Not Hydric	Somewhat poorly drained	Prime farmland if drained	Moderate	Low
Lakemont silt loam, 0 to 3 percent slopes	La	Red clayey glaciolacustrine deposits derived from calcareous shale	No data	0	Hydric	Poorly drained	Farmland of statewide importance	No data	Low
Lamson very fine sandy loam	Lc	Deltaic or glaciolacustrine deposits with a high content of fine and very fine sand	No data	7	Hydric	Very poorly drained	Not prime farmland	No data	Low
Lima loam, 0 to 3 percent slopes	LmA	Calcareous loamy lodgment till derived from limestone, sandstone, and shale	No data	54	Not Hydric	Moderately well drained	All areas are prime farmland	Moderate	Low
Lima loam, 3 to 8 percent slopes	LmB	Calcareous loamy lodgment till derived from limestone, sandstone, and shale	No data	54	Not Hydric	Moderately well drained	All areas are prime farmland	High	Low
Lyons soils, 0 to 3 percent slopes	Ly	Calcareous loamy lodgment till derived from limestone and shale	No data	0	Hydric	Poorly drained	Farmland of statewide importance	Moderate	Low
Lyons soils, 0 to 3 percent slopes, frequently ponded	Lz	Calcareous loamy lodgment till derived from limestone and shale	No data	0	Hydric	Very poorly drained	Not prime farmland	Moderate	Low
Madalin silt loam, 0 to 3 percent slopes	Ma	Brown clayey glaciolacustrine deposits derived from calcareous shale	0	0	Hydric	Poorly drained	Farmland of statewide importance	No data	Low

Table 4.9-2
Characteristics of Soils within the Proposed ROW

Soil Series	Soil Symbol	Parent Material	Bedrock Depth	Water Table Depth	Hydric Rating	Drainage Class	Farmland Class	Excavation Difficulty	Risk of Corrosion to Concrete
Middlebury silt loam	Mg	Loamy alluvium predominantly from areas of shale and sandstone with some lime-bearing material	No data	38	Not Hydric	Somewhat poorly drained	All areas are prime farmland	No data	Moderate
Minoa very fine sandy loam	Mh	Deltaic or glaciolacustrine deposits with a high content of fine and very fine sand	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Moderate
Newstead loam	Ne	Loamy till derived from limestone, with varying amounts of sandstone, shale, and granite	77	23	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Niagara silt loam, 0 to 3 percent slopes	NfA	Silty and clayey glaciolacustrine deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Niagara silt loam, 3 to 8 percent slopes	NfB	Silty and clayey glaciolacustrine deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Niagara silt loam, till substratum	Nh	Silty and clayey glaciolacustrine deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Odessa silt loam, 0 to 3 percent slopes	Od	Red clayey glaciolacustrine deposits derived from calcareous shale	No data	20	Not Hydric	Somewhat poorly drained	Prime farmland if drained	High	Low
Ovid silt loam, 0 to 3 percent slopes	OvA	Loamy till with a significant component of reddish shale or reddish glaciolacustrine clays, mixed with limestone and some sandstone	No data	38	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Palms muck	Pa	Organic material over loamy glacial drift	No data	15	Hydric	Very poorly drained	Not prime farmland	No data	Moderate
Palmyra gravelly loam, 3 to 8 percent slopes	PbB	Loamy over sandy and gravelly glaciofluvial deposits, derived mainly from limestone and other sedimentary rocks	No data	No data	Not Hydric	Well drained	All areas are prime farmland	No data	Moderate
Phelps gravelly loam, 0 to 3 percent slopes	PhA	Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, containing significant amounts of limestone	No data	54	Not Hydric	Moderately well drained	All areas are prime farmland	No data	Moderate
Raynham silt loam, 0 to 3 percent slopes	RaA	Glaciolacustrine, eolian, or old alluvial deposits, comprised mainly of silt and very fine sand	No data	38	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low

Table 4.9-2
Characteristics of Soils within the Proposed ROW

Soil Series	Soil Symbol	Parent Material	Bedrock Depth	Water Table Depth	Hydric Rating	Drainage Class	Farmland Class	Excavation Difficulty	Risk of Corrosion to Concrete
Raynham silt loam, 0 to 2 percent slopes	RaA	No data	0	20	Not Hydric	Poorly drained	Prime farmland if drained	No data	No data
Red Hook silt loam	Re	Loamy glaciofluvial deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Moderate
Rhinebeck silt loam, 0 to 3 percent slopes	RgA	Clayey and silty glaciolacustrine deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Rhinebeck silt loam, 3 to 8 percent slopes	RgB	Clayey and silty glaciolacustrine deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Rhinebeck silty clay loam, sandy substratum, 0 to 2 percent slopes	RhA	No data	0	20	Hydric	Somewhat poorly drained	Prime farmland if drained	No data	No data
Rhinebeck gravelly loam, 0 to 3 percent slopes	RkA	Clayey and silty glaciolacustrine deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Low
Schoharie silt loam, 3 to 8 percent slopes	SaB	Red clayey glaciolacustrine deposits derived from calcareous shale	No data	76	Not Hydric	Moderately well drained	All areas are prime farmland	High	Low
Swormville clay loam	Sw	Silty glaciolacustrine deposits overlying sandy glaciolacustrine, deltaic, or glaciofluvial deposits	No data	31	Not Hydric	Somewhat poorly drained	Prime farmland if drained	No data	Moderate
Udorthents, smoothed	Uc	No data	No data	137	Not Hydric	Moderately well drained	Not prime farmland	No data	No data
Wassaic silt loam, 0 to 3 percent slopes	WaA	Loamy till derived mainly from limestone, with varying amounts of sandstone, shale, and crystalline rock	71	69	Not Hydric	Well drained	All areas are prime farmland	No data	Low
Wassaic silt loam, 3 to 8 percent slopes	WaB	Loamy till derived mainly from limestone, with varying amounts of sandstone, shale, and crystalline rock	71	69	Not Hydric	Well drained	All areas are prime farmland	No data	Low
Wassaic very stony loam, 3 to 8 percent slopes	WbB	Loamy till derived mainly from limestone, with varying amounts of sandstone, shale, and crystalline rock	71	69	Not Hydric	Well drained	Not prime farmland	No data	Low
Wayland soils complex, 0 to 3 percent slopes, frequently flooded	Wd	Silty and clayey alluvium derived from interbedded sedimentary rock	No data	0	Hydric	Poorly drained	Not prime farmland	No data	Low

Construction in active agricultural areas will be managed to protect farm soils from erosion, compaction, and soil mixing. NEETNY is in the process of evaluating the use of timber mats and/or topsoil stripping where access is required through agricultural areas, in accordance with NYSDAM Guidelines for Electric Transmission Right-of-Way Projects. Best management practices (BMPs) will be identified in the EM&CP to minimize topsoil disturbance. Detailed restoration procedures will also be included in the EM&CP.

The Proposed Line and switchyards will be designed, constructed, operated, and maintained to be compatible with on-site geologic conditions. There are no known geologic or environmental issues expected to affect the integrity of the structures, as demonstrated by the long-standing presence of existing transmission lines within the NYSEG Utility Corridor.

4.10 Water Resources

In accordance with PSL §122(1)(c) and 16 NYCRR §86.5(a) and (b), this section details the potential effects on local water resources associated with construction and operation of the ESL Project. The Applicant also identifies BMPs that may be used to avoid or minimize potential impacts, as well as mitigation measures to address unavoidable impacts. The mitigation measures will be reflected in the ESL Project design and incorporated into the EM&CP. Floodplains and wetlands are discussed separately in Sections 4.3 and 4.6, respectively.

Because ESL Project construction will require more than 1 acre of land disturbance, the Applicant will obtain coverage under the State Pollutant Discharge Elimination System (SPDES), General Permit (GP) for Stormwater Discharges from Construction Activities (GP-0-10-001) to prevent the discharge of construction-related pollutants to surface waters.

In conjunction with the issuance of a Certificate pursuant to Article VII, NEETNY will request the issuance of a Water Quality Certificate pursuant to Section 401 of the Clean Water Act, 33 United States Code §1341(a)(1) and 6 NYCRR Subpart 608.9 from the Commission or its designated representative after the filing of its ACOE permit application.

4.10.1 Surface Waterbodies

The U.S. National Hydrography Dataset (NHD) (USGS 2010), USGS topographical maps, and a NYSDEC database were used to identify the location and obtain information about surface waterbodies within the Proposed ROW. The NYSDEC database indicates classifications and standards of quality and purity to the surface waters identified within the Proposed ROW. A field survey of the Proposed ROW and Dysinger and East Stolle Switchyard sites was completed in April and May 2018 to delineate streams and other waterbodies regulated by the USACE and NYSDEC. The results of these surveys are presented in the WDR in Attachment F of this Application.

The ESL Project area is located within the Buffalo-Eighteen Mile Creek and Niagara watersheds (Hydrologic Unit Codes 04120103 and 04120104, respectively). The Buffalo-Eighteen Mile Watershed is located along Lake Erie on the western edge of New York State and occupies 458,699 acres. The Niagara Watershed is located along the Niagara River north of Lake Erie in the western portion of New York State and occupies 511,569 acres. Both watersheds occupy portions of two major physiographic provinces: Erie-Ontario Lowlands and Appalachian Plateau. The Erie-Ontario Lowlands are generally low relief with subdued topography, except for the Niagara escarpment. The Allegheny Plateau is underlain by great thickness of horizontal-lying sedimentary rocks. Rugged relief in this province is a result of water and ice erosion (NYSDOT 2013).

A total of 20 NYSDEC-mapped streams are located within the Proposed ROW, as listed in Table 4.10-1 and shown on Figure 3-1 in the WDR (see Attachment F of this Application). Table 4.10-1 includes the assigned waterbody quality classification for each stream. Two of the surface waters are classified as Class B streams, while the remaining 18 surface waters are classified as Class C streams. Class B streams are those that have a best usage for swimming and other contact recreation, but not for drinking water. Class C streams are those that support fisheries and are suitable for non-contact activities. Streams with (T) after their classification may support trout populations. Three of the streams crossed by the ESL Project, Little Buffalo Creek, and two unnamed tributaries to Ellicott Creek, have a "(T)" designation, indicating that those waters may support a trout population. Those streams designated as Class B and C(T) are also referred to as "protected" streams.

No NYSDEC-mapped waterbodies are present within the switchyard sites.

Table 4.10-1
NYSDEC-Mapped Waterbodies Located within the Proposed ROW

Town	Surface Waterbody Name	NYSDEC Classification and Standard	Number of Crossings
Royalton	Mud Creek	C	1
Newstead/Royalton	Tonawanda Creek	B	1
Newstead	Unnamed Tributary to Tonawanda Creek	C	2
Newstead	Unnamed Tributary to Tonawanda Creek	C	1
Newstead	Unnamed Tributary to Tonawanda Creek	C	2
Newstead	Beeman Creek	C	1
Newstead	Unnamed Tributary to Ellicott Creek	C(T)	1
Alden	Unnamed Tributary to Ellicott Creek	C(T)	1
Alden/Lancaster	Ellicott Creek	B	1
Alden/Lancaster	North Branch Plum Bottom Creek	C	1
Lancaster	Plum Bottom Creek	C	1
Lancaster	Unnamed Tributary to Cayuga Creek	C	1
Lancaster	Unnamed Tributary to Cayuga Creek	C	1
Lancaster	Unnamed Tributary to Cayuga Creek	C	1
Lancaster	Cayuga Creek	C	1
Lancaster	Unnamed Tributary to Little Buffalo Creek	C	1
Elma	Unnamed Tributary to Little Buffalo Creek	C	1
Elma	Unnamed Tributary to Little Buffalo Creek	C	1
Elma	Unnamed Tributary to Little Buffalo Creek	C	1
Elma	Little Buffalo Creek	C(T)	1

Each stream listed in Table 4.10-1 was confirmed during spring 2018 biological field surveys. Fifty-two additional streams not mapped by NYSDEC were also identified within the Proposed ROW during field surveys. All surface waterbodies delineated during field surveys are shown on the map book in Appendix A of the WDR, and listed in the data package in Appendix C of the WDR (see Attachment F of this Application). Field delineated streams will also be shown on plan and profile drawings to be included in the EM&CP. None of the streams delineated in the Proposed ROW are classified as navigable by the USACE.

No streams were delineated within the Dysinger Switchyard site. One stream was delineated within the East Stolle Switchyard. Stream S-T01-002 is a perennial stream that encroaches within the eastern boundary of the switchyard.

The *Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy* was reviewed to identify waters that do not support specific water uses and that may require development of a total maximum daily load. Results of that review indicate that Tonawanda Creek, Beeman Creek and its tributaries, Ellicott Creek and its tributaries, and Cayuga Creek and its minor tributaries are included on the List of Impaired Waters. The waters of Tonawanda Creek and Ellicott Creek are Class B, while all the others are Class C.

4.10.2 Stormwater Management

Because the ESL Project will require more than 1 acre of land disturbance, NEETNY will apply for coverage under the SPDES, GP for Stormwater Discharges from Construction Activities (GP-0-10-001). A Storm Water Pollution Prevention Plan (SWPPP) specific to the Project will be developed to prevent discharges of construction-related pollutants to surface waters. A draft SWPPP will be submitted to the Commission as a supplemental filing. NEETNY will provide the NYSDEC with a Notice of Intent (NOI) for the ESL Project prior to construction.

4.10.3 Environmental Effects and Mitigation

Because the Proposed Line will be installed overhead, structures have been located to span streams and avoid the discharge of fill material that would require a USACE permit pursuant to Section 404 of the Clean Water Act. Additionally, the Proposed Line will not be placed in, on, or over a

navigable water body. Accordingly, a permit under Section 10 of the 1899 Rivers and Harbors Act is not required.

ESL Project-related impacts to surface waters could potentially result from clearing and grading in areas adjacent to, within, and downstream of the Proposed ROW for construction access, installation and maintenance of the Proposed Line. Small spills, including diesel and gasoline fuels, lubricating oils, and cooling fluids, may result from operation of construction equipment and vehicles. These types of spills would be confined to work sites to limit the potential flow into surface waters. All spills will be cleaned up in accordance with the applicable regulations, and in accordance with a spill plan to be prepared for the ESL Project and included in the EM&CP.

Vehicular access across streams and other watercourses will be avoided, to the extent possible. Where equipment stream crossings are necessary, to the extent feasible NEETNY will complete the crossing when stream beds are dry or where existing stream crossings are available. Factors used to determine the appropriate crossing types to be installed at a particular location include channel characteristics, stream bottom substrate, stream gradient and flow, riparian vegetation, resource value, assessment of erosion potential, and an estimate of potential stream flow at the time of construction.

Stream crossings will utilize swamp mats and other minimally intrusive bridge materials and will be designed to minimize stream bed and bank disturbance and water quality impacts. They will be installed at right angles to the stream, where practicable, and will be designed for one traffic lane with a minimum width of 12 feet and a maximum width of 20 feet. All temporary crossings will be removed within 14 days after the structure is no longer needed.

Temporary stream crossings, if required, in those waters listed in Table 4.10-1 for trout will be avoided from October 1 to April 30.

Each stream crossing type for each crossing location will be identified on the plan and profile drawings to be provided in the EM&CP. Care will be taken to ensure that stream flow remains uninhibited and to avoid damage to the stream banks during the installation and removal of crossing materials.

Transmission line structures were placed greater than 50 feet from streams to the greatest extent possible to facilitate the preservation and/or establishment of vegetative buffer strips at these locations. Due to design constraints, 11 structure placements are proposed within 50 feet of the top of bank of 10 streams. No proposed structures are located within 50 feet of any NYSDEC-regulated streams.

Any potential impacts on streams from adjacent structure installation, such as minor increases in turbidity, will be short-term. The proposed BMPs to be included in the EM&CP will control runoff from structure installation sites; they will be designed and maintained in accordance with state guidelines.

Along certain portions of the Proposed ROW, dewatering may be required during construction activities due to the shallow groundwater table. Should dewatering be required, a temporary sedimentation basin will be created to receive dewatering effluent. Once filtered and/or settled, clear water will be pumped or allowed to flow onto a vegetated area. Materials, such as straw bales, filter fabric, and other materials, will be used to construct the retention structures and basins. Dewatering plans will be presented in the EM&CP.

Proposed stormwater management practices would effectively minimize and control stormwater runoff to avoid an increase in stormwater runoff volume, erosion, and flood potential along the Proposed ROW and surrounding lands.

4.11 Noise

Temporary noise sources associated with the ESL Project will include construction activities, such as vegetation clearing, grading and excavation, and structure installation in both the Proposed ROW and at the proposed switchyards. Noise from operation of the ESL Project will include the corona effect of the Proposed Line under atmospheric conditions, such as rain, fog, and high humidity, and a minor source from routine inspection and maintenance of the Proposed Line and switchyard. Operation of the proposed Dysinger and East Stolle Switchyards will result in new sources of noise during post-construction daily operations.

4.11.1 Acoustic Terminology

Noise is defined as any unwanted sound. Sound is defined as any pressure variation that the human ear can detect. Humans can detect a wide range of sound pressures, but only the pressure variations occurring within a particular set of frequencies are experienced as sound. However, the acuity of human hearing is not the same at all frequencies. Humans are less sensitive to low frequencies than to mid-frequencies and, therefore, noise measurements are often adjusted (or weighted) to account for human perception and sensitivities. The unit of noise measurement is a decibel (dB). The most common weighting scale used is the A-weighted scale, which was developed to allow sound-level meters to simulate the frequency sensitivity of human hearing. Sound levels measured using this weighting are noted as A-weighted decibels (dBA). ("A" indicates that the sound has been filtered to reduce the strength of very low and very high frequency sounds, much as the human ear does.) The A-weighted scale is logarithmic, so an increase of 10 dB actually represents a sound that is 10 times louder. However, humans do not perceive the 10 dBA increase as 10 times louder, but as only twice as loud.

The following is typical of human responses to changes in noise level:

- A 3 dBA change is the threshold of change detectable by the human ear;
- A 5 dBA change is readily noticeable; and
- A 10 dBA change is perceived as a doubling (or halving) of noise level.

Table 4.11-1 list some typical sources and levels of noise and corresponding human responses to the noise.

Noise sources that affect the environment can be mobile sources, such as automobiles, buses, trucks, aircraft, and trains, or stationary sources, such as machinery or mechanical equipment associated with industrial and manufacturing operations or building heating, ventilating, and air-conditioning systems. Sources of construction noise are both mobile sources (*e.g.*, trucks and bulldozers) and stationary sources (*e.g.*, compressors, pile drivers, and power tools).

Table 4.11-1
Decibel Level of Some Common Sounds

Sound Source	dB(A)	Perception/Response
	150	
Carrier Deck Jet Operation	140	
	130	Painfully Loud Limit
Jet Takeoff (200 feet) Discotheque	120	
Auto Horn(3 feet) Riveting Machine	110	
Jet Takeoff (2,000 feet) shout (0.5 feet)	100	
N.Y. Subway Station Heavy Truck (50 feet)	90	Very Annoying Hearing Damage (8 hours, continuous exposure)
Pneumatic Drill (50 feet)	80	Annoying
Freight Train (50 feet) Freeway Traffic (50 feet)	70	Telephone Use Difficult Intrusive
Air Conditioning Unit (20 feet)	60	
Light Auto Traffic (50 feet)	50	Quiet
Living Room Bedroom	40	
Library Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

Source: NYSDEC 2002

Sound energy is characterized by the properties of sound waves, including wave length, frequency, amplitude, period, and velocity. A sound source is defined by a sound power level (L_W), which is independent of external factors. As defined, sound power is the rate at which acoustical energy is radiated outward and is expressed in units of watts (W). Sound energy travels through a medium where it is sensed and interpreted by a receiver. A sound pressure level (SPL) is a measure of this fluctuation at a given receiver location and can be obtained through a microphone or calculated from information about the source sound power level and the surrounding environment. Sound power, however, cannot be measured directly, but is calculated from measurements of sound intensity or sound pressure at a given distance from the source.

The SPL that humans experience typically varies from moment to moment. A commonly used noise descriptor is the continuous equivalent sound level (L_{eq}). The L_{eq} is the sound energy from the fluctuating SPLs averaged over time to create a single number to describe the mean energy, or intensity, level. The L_{eq} has an advantage over other descriptors because L_{eq} values from various sound sources can be combined to determine cumulative sound levels.

4.11.2 Applicable Noise Standards

A review of noise regulations at the federal, state, and municipal levels was conducted. There are no federal requirements in the United States that specifically refer to transmission lines as noise sources.

The Commission's adopted certificate conditions for transmission facilities and substations generally require designs to minimize environmental impacts and not to exceed a maximum noise level of 40 dBA Leq without prominent tones (for both daytime and nighttime) at potentially impacted noise receptors.

NYSDEC has issued Program Policy Guidelines, *Assessing and Mitigation Noise Impacts, Document DEP-00-1*, Revised June 3, 2002. NYSDEC's Program Policy is intended to provide direction to the staff of NYSDEC for the evaluation of sound levels and characteristics (such as pitch and duration) generated from proposed or existing facilities. This guidance also serves to identify when noise levels may cause a significant environmental impact and gives methods for noise impact assessment, avoidance, and reduction measures. The guidance is based on

perceptibility of a sound source and identifies limits relative to the existing conditions at the nearest residences, or other potentially sensitive receptors (*e.g.*, schools and churches). The following human reactions to increases in noise level are listed in the document (NYSDEC 2002):

Under 5 dBA	Unnoticed to tolerable
5 – 10 dBA	Intrusive
10 – 15 dBA	Very noticeable
15 to 20 dBA	Objectionable
Over 20 dBA	Very objectionable to intolerable

Under this policy, sound pressure increases of more than 6 dBA over the baseline conditions is identified as the threshold when adverse noise impacts may begin to occur, and may require a closer analysis of impact potential depending on existing SPLs and the character of surrounding land use and receptors.

Local noise ordinances were considered to assess compliance with their respective substantive provisions, if applicable to the Project. The compliance of the ESL Project with the noise provisions of the codes of the affected towns is discussed in Exhibit 7 of the Application based upon the noise impact analysis presented below.

4.11.3 Existing Noise Levels

The Proposed ROW traverses small community areas, state and local roads, farmland, and undeveloped forested areas. Ambient noise levels will vary along the Proposed ROW depending on the surrounding land use types, with noise levels generally being lowest in open settings and low-density residential areas to highest along state highway corridors.

The majority of the land uses traversed by the Proposed ROW is agricultural land or forested areas, all rural in nature. These areas will have low ambient sound levels, possibly 30 dBA or less during the nighttime hours. Elevated existing ambient sound levels along the Proposed ROW occur near the road crossings, in particular Interstate 90 and the four state routes, and in areas with higher population densities.

Principal contributors to the existing acoustic environment likely include motor vehicle traffic, mobile farming equipment, agricultural activities, including plowing and irrigation, local roadways, periodic aircraft flyovers, and natural sounds, including birds, insects, and leaf and vegetation rustle during windy conditions. Sound levels are typically lower during the night compared to the daytime, except when nighttime insect noise dominates in warmer seasons.

NEETNY conducted an ambient noise survey at the proposed Dysinger and East Stolle Switchyard sites. The results of the ambient noise survey are provided in the Dysinger and East Stolle Road Switchyard noise studies, which are provided in Attachment G of this Application and summarized below.

Noise surveys were completed from February 14 to February 26, 2018, and on April 18, 2018, at the proposed Dysinger Switchyard site, and from February 14 to February 22, 2018, at the proposed East Stolle Switchyard site. The purpose of the surveys was to characterize the existing noise environment around the proposed switchyard sites to assist in evaluating noise impacts from operation of the facilities. Both short-term and long-term noise measurements were collected during the surveys.

Short-term noise measurements at the Dysinger Switchyard were collected at two locations: at the northern property line of the proposed switchyard site, adjacent to the Akron Road ROW (M1); and just south of the intersection of Block Church Road and Simms Road, within the Block Church Road ROW (M2). Measurements were collected at these locations to be as close as possible to the nearest noise sensitive receptors (R1 and R2), both of which are residences. Measurements were also collected at these locations to characterize the noise levels influenced by traffic typical of the location of most residential structures in the vicinity. Long-term noise measurements were collected at a single location (CM1), along the property line of the proposed switchyard site and as close as possible to the nearest noise sensitive receptor (R2). Location CM1 was chosen to characterize sound levels over several days at the property line of the nearest residence and in a location not influenced by traffic. Please refer to Figure 5-1 in the Dysinger Noise Study (see Attachment G of this Application) for the noise measurement locations.

Short-term noise measurements at the East Stolle Switchyard were collected along the Bullis Road ROW northwest of the proposed switchyard site (M1), approximately 1,800 feet from the center of the switchyard. Measurements were collected at M1 to characterize the noise levels near the closest residences to the switchyard site. Short-term measurements were also collected along the edge of the NYSEG Utility Corridor, approximately 1,735 feet southwest of the center of the switchyard site (M2). Location M2 was chosen to characterize sound levels along the edge of the NYSEG Utility Corridor in the vicinity of residences to the southwest of the site. Long-term noise measurements were collected at a single location (CM1), just south of Bullis Road and within the NYSEG Utility Corridor. Location CM1 was chosen to characterize sound levels over several days in the vicinity of the nearest residences (R1 and R2). Please refer to Figure 5-1 in the East Stolle Noise Study (see Attachment G of this Application) for noise measurement locations.

Tables 4.11-2 and 4.11-3 present the sound level measurement locations and results for the Dysinger and East Stolle Switchyards, respectively. The results are presented as L_{eq} sound levels in dBA. The recorded sound levels are typical of a rural residential environment.

Table 4.11-2
Dysinger Switchyard Ambient Sound Measurements

Location	Distance (feet)/ Direction[1]	Location	Daytime Sound Level Leq (dBA)	Nighttime Sound Level Leq (dBA)
M1	990/North	Northern property line/Akron Road ROW	61.4	54.7
M2	1260/West	Block Church Road ROW	59.2	43.2
CM1	380/Northwest	Switchyard Property Line	45.8	39.6

Note:
[1] Approximate distance and direction from switchyard site center

Key:
M1 = short-term measurements
M2 = short-term measurements
CM1 = continuous measurement

Table 4.11-3 East Stolle Switchyard Ambient Sound Measurements				
Location	**Distance (feet)/ Direction[1]**	**Location**	**Daytime Sound Level Leq (dBA)**	**Nighttime Sound Level Leq (dBA)**
M1	1796/West	Adjacent to Residential Area North	62.3	52.5
M2	1735/Southwest	NYSEG South Line	46.0	39.9
CM1	1465/North	Adjacent to Nearest Residence	55.1	52.0

[1] Approximate distance and direction from switchyard center

Key:
M1 = short-term measurements
M2 = short-term measurements
CM1 = continuous measurement

4.11.4 Environmental Effects and Mitigation

4.11.4.1 Construction Noise

Proposed Line

Overhead transmission line construction will generate noise levels that are periodically audible. The primary sources of construction noise will be associated with equipment operation; use of heavy-duty vehicles; grading and foundation work activities; and equipment use for the transmission lines wire stringing, tower transportation, and erection. Overhead line construction is typically completed in the following stages; however, various construction activities may overlap with multiple construction crews operating simultaneously:

- Site access and preparation;
- Structure foundation installation;
- Erecting support structures;
- Stringing of conductors, shield wire and fiber-optic ground wire; and
- Cleanup and site restoration.

Noise levels resulting from construction equipment are dependent on several factors, including the number and type of equipment operating, the level of operation, and the distance between sources and receptors. The loudest equipment during construction would contribute to a composite average or equivalent site noise level.

Heavy construction equipment typically generates noise levels up to approximately 95 dBA at 50 feet. Projected noise levels based on the typical Project equipment indicate that noise from the loudest equipment during the ROW clearing, tower foundation construction, tower assembly, and wire stringing operations would range between 83 to 91 dBA (adjusted for quantity of equipment and utilization factor) at 50 feet from the source, as shown in Table 4.11-4.

During a typical day, equipment would not be operated continuously at peak levels. While the average noise levels would represent a noticeable temporary increase in the ambient noise levels near the construction sites, the noise would attenuate with increasing distance, fading into ambient noise background levels at distances over 0.5 miles from the loudest equipment. Generally, airborne noise decreases by 6 dBA with each doubling of distance. Table 4.11-4 presents the estimated Project construction equipment noise levels at various distances from construction sites.

Access roads to each tower site are generally required for construction, operation, and maintenance activities but there may be areas where access roads are limited in width, grade, or availability and require assistance by helicopters during construction. ESL Project construction activities that could be facilitated by helicopters may include the delivery of construction laborers, equipment, and materials to structure sites; structure placement; hardware installation; and wire-stringing operations. Helicopters generally fly at low altitudes; therefore, potential temporary increases to ambient sound levels will occur in the area where helicopters are operating as well as along their flight path. Depending on the helicopter and its gross weight, noise levels of 89 dBA to 99 dBA may be generated at ground level receptors, when in flight at 200 feet. Helicopter operations would occur for short periods of time during daytime hours, and local residents will be contacted and notified in advance of helicopter operations as they progress along the Proposed ROW. The potential contribution of helicopter operation to noise levels produced during transmission line construction is accounted for in Table 4.11-4.

Table 4.11-4
Proposed Line Construction Noise Levels

Construction Phase	Construction Equipment	Quantity	Composite Noise Level (dBA)/ Distance in Feet					
			50 (adjusted)	100	200	250	500	1000
Site Preparation	Bulldozer	1	78	80	74	72	66	60
	Chipper	1	71					
	Excavator	1	81					
	Bush hog	1	80					
	Loader	1	76					
	Pick-up truck	4	77					
Tower Foundation	Excavator	1	81	79	73	67	61	59
	Wheel Loader	1	75					
	Concrete truck	1	75					
	Skidsteer	1	71					
	Drill rig	1	72					
	Dump truck	1	72					
	Generator	1	78					
	Pick-up trucks	2	74					
	Plate compactor	1	76					
Tower Assembly	Cranes	2	76	77	71	69	63	57
	Generator	1	78					
	Forklifts	2	79					
	Pick-up trucks	4	77					
	Trucks	2	75					
Wire Stringing	Line pullers	2	80	89	83	77	70	69
	Bulldozers	2	82					
	Cranes	2	85					
	Pick-up truck	3	55					

Table 4.11-4 Proposed Line Construction Noise Levels								
Construction Phase	**Construction Equipment**	**Quantity**	**Composite Noise Level (dBA)/ Distance in Feet**					
			50 (adjusted)	**100**	**200**	**250**	**500**	**1000**
	Compressors	2	55					
	Trucks	3	85					
	Wire reel trailers	3	85					
	Helicopter	1	95					

While construction noise levels associated with the Proposed Line are expected to be greater than ambient conditions for some receivers, a significant reduction in the potential impact of construction noise associated with construction will result from construction occurring over relatively short 50- to 400 foot stretches. Work in the proximity of any single general location along the Proposed Line will likely last no more than a few days to one week, as construction activities move along the Proposed ROW. Therefore, no single receptor will be exposed to significant noise levels for an extended period.

Proposed Switchyards

Construction activities at the switchyards will involve clearing and grading, excavation for foundations, building construction, and installation of major electrical equipment. Table 4.11-5 presents typical noise emission levels at various distances for the noise producing equipment that will operate during the construction of the switchyards. Construction of the switchyards would cause temporary increases in ambient noise levels in the immediate vicinity of the construction sites.

Table 4.11-5 Switchyard Construction Noise Levels								
Construction Phase	**Construction Equipment**	**Quantity**	**Composite Noise Level (dBA)/ Distance in Feet**					
			50 (adjusted)	**100**	**200**	**250**	**500**	**1000**
Site Preparation	Scrapers	2	84	86	80	78	72	66
	Bulldozers (ripper)	2	84					
	Motor graders	2	84					
	Roller compactors	2	81					
	Excavators	2	84					
	Dump trucks	2	83					
	Water trucks	1	77					
	Mechanics' truck	1	77					
	Fuel truck	1	77					
	Pick-up trucks	2	54					
Switchyard Foundation	Boom trucks	1	81	84	78	76	70	64
	Excavator	1	81					
	Concrete trucks	2	84					
	Dump truck	1	81					
	Roller compactor	1	78					
	Plate compactors	2	76					
	Backhoe	1	76					
	Bobcats	2	69					
	Mechanics' truck	1	77					
	Fuel truck	1	77					
	Water truck	1	77					
	Pick-up trucks	2	54					

Table 4.11-5 Switchyard Construction Noise Levels								
Construction Phase	**Construction Equipment**	**Quantity**	**Composite Noise Level (dBA)/ Distance in Feet**					
			50 (adjusted)	**100**	**200**	**250**	**500**	**1000**
Switchyard Construction	Pick-up Truck	3	56	85	79	77	71	65
	Truck (2-ton)	2	83					
	Truck (1-ton)	2	83					
	Forklift (Telescopic)	2	85					
	Fuel Truck	1	80					
	Boom Lift	1	77					
	Crane (30-ton)	1	77					
	Welder Truck	1	51					
	Air Compressor	2	79					
	Generator	2	82					

Construction Mitigation Measures

The following actions will be implemented to control construction noise:

- Maximize the distance between stationary equipment and noise sensitive receptors to the extent practicable;
- Route construction equipment away from noise sensitive receptors to the extent practicable;
- Turn off idling equipment when not in use; and
- Utilize construction equipment with proper mufflers.

4.11.4.2 Operation Noise

Proposed Line

Noise generated by transmission lines typically contributes very little to area noise levels when compared to other common noise sources, such as motor vehicles, aircraft flyovers, and industrial sources. Audible noise from transmission lines occurs primarily during foul weather.

Generally, during fair weather conditions, the noise produced by transmission lines cannot be distinguished from ambient noise at the edge of the ROW. During wet conditions, when water drops impinge or collect on the conductors, corona discharges are produced, creating noise.

Audible noise generated by corona on transmission line during rainfall is comprised of two components. The broadband component has a high frequency content distinguishing it from more common environmental noises. The random phase relationship of the pressure waves generated by each corona source along a line combined with the high frequency content creates the crackling or hissing characteristic of transmission line noise. The second component is a low frequency pure tone that is superimposed over the broadband noise. The corona discharges produce positive and negative ions that, under the influence of the alternating electric field around alternating current conductors, are alternately attracted to and repelled from the conductors. This activity creates a sound-pressure wave having a frequency twice that of the voltage, namely, 120 Hertz for a 60-Hertz system.

The relative magnitudes of random noise and hum may vary in different weather conditions. Noise levels in fog and snow typically do not reach the elevated level as compared to rain, and when reached, are usually for a shorter duration in proportion to the weather event. During relatively dry conditions, corona noise typically results in continuous noise levels of 40 to 50 dBA in proximity to the transmission line, such as at the edge of the ROW. In many locations, this noise level is similar to ambient noise conditions in the environment. During wet or high humidity conditions, corona noise levels typically increase. Depending on conditions, wet weather corona noise levels could increase to 50 to 60 dBA at the edge of the ROW and could increase to over 60 dBA under some limited conditions. Corona noise levels are not consistent from location to location because conductor surface defects, damage, dust, and other inconsistencies can influence the corona effect.

In inclement weather, the potential exists for raindrops or snowflakes to stick to the conductor surface. A wide range of noise levels may occur during a rain event. At the start of rainfall, when the conductors are not entirely wet, a considerable fluctuation in the noise level may occur as the rain intensity varies. When the conductors are thoroughly wet, noise fluctuations are often less, even as rain intensity lessens, because the conductors will still be saturated with water drops. The variation in noise levels during a rain event depends heavily on the condition of the conductor surface as well as the voltage gradient at which the conductors are operating. At high operating gradients, audible noise is less sensitive to rain intensity than at low gradients. Consequently, the dispersion of noise levels is less at higher gradients.

The Proposed Line will parallel the Existing Lines and it is expected that all of these lines would generate similar audible noise levels with minimal variation related to line geometry and/or conductor-surface conditions. The addition of the Proposed Line may cause an estimated increase in existing transmission line sounds levels in the range of 2 to 6 dBA, depending on the orientation of the receptor to the new line. The lateral attenuation of noise from a line source, such as a transmission line, is due to the divergence of the sound pressure waves with increased distance from the source. Molecular absorption of energy as the sound pressure waves travel through the air results in additional attenuation. Atmospheric absorption is a function of frequency, temperature, and relative humidity.

During meteorological conditions favorable to sound propagation and conducive to corona noise generation, as well as very quiet background ambient sound conditions, corona noise may be periodically audible at distances beyond the Proposed ROW. Conversely, corona noise may be partially or entirely masked by elevated ambient sound levels generated by rainfall. If ambient noise is very low, even a modest amount of wind can obscure the other noise sources and become the dominant ambient noise, particularly in areas with mature tree stands. Sound impacts related to the addition of the Proposed Line, therefore, are expected to be low-level and generate corona sound levels below the recommended guideline limits to avoid the potential for adverse noise impacts on public health and safety in accordance with NYSDEC policy limits.

Proposed Switchyards

Acoustic modeling was completed to determine the expected noise levels from operation of the proposed switchyards. The results of the modeling are provided in the Dysinger and East Stolle Road Switchyard Noise Studies, which are provided in Attachment G of this Application and summarized below.

Table 4.11-6 shows a comparison of the measured existing noise as an average of the day and night levels measured, the predicted Dysinger Switchyard noise contribution, and the total noise including both the existing noise and the switchyard operation noise at the ambient noise monitoring locations (M1, M2, and CM1) and at the nearest noise sensitive receptors (R1 and R2). The table also lists the noise level increases to show the noise impact of the operation of the switchyard.

As shown in Table 4.11-6, the noise increase at the northwestern property boundary based on the noise modeling, with no mitigation measures installed, is 3.3 dBA. This increase would not be expected to be noticeable. The modeling shows no increase in noise at the M1, R1, M2, or R2 locations.

Table 4.11-6
Dysinger Switchyard Noise Impact Leq Noise Levels (dBA)

Receptor	Location	Existing Noise (dBA)	Switchyard Noise Contribution (dBA)	Total Noise (dBA)	Noise Increase (dBA)
M1	Akron Road ROW (northern property line)	59.2	38.3	59.2	0.0
R1	8525 Akron Road	59.2	36.5	59.2	0.0
M2	Block Church Road and Simms Road	56.3	32.6	56.3	0.0
R2	6585 Block Church Road	56.3	33.5	56.3	0.0
CM1	Switchyard Property Line (northwestern property line)	43.7	44.2	47.0	3.3

The modeling shows that the noise contribution from the operation of the Dysinger Switchyard at the nearest residence to the west (R2) is 33.5 dBA, and for the nearest residence to the north (R1) is 36.5 dBA. These levels are below the Commission standard requirement for transmission facilities and substation designs not to exceed a maximum noise level of 40 dBA Leq without prominent tones (for both daytime and nighttime).

Table 4.11-7 shows a comparison of the measured existing noise as an average of the day and night levels measured, the predicted East Stolle Switchyard noise, and the total noise including both the existing noise and the switchyard operation noise at the ambient noise monitoring locations (M1, M2, and CM1) and at the nearest noise sensitive receptors (R1 and R2). The table also lists the noise level increases to show the noise impact of the operation of the switchyard.

Table 4.11-7
East Stolle Switchyard Noise Impact Leq Noise Levels (dBA)

Receptor	Location	Existing Noise (dBA)	Switchyard Noise Contribution (dBA)	Total Noise (dBA)	Noise Increase (dBA)
M1	Adjacent to Residential Area North	59.7	24.5	59.7	0.0
R1	3898 Bullis Road	59.7	27.1	59.7	0.0
M2	NYSEG South Line	43.9	23.1	43.9	0.0
R2	3700 Bullis Road	53.8	24.0	53.8	0.0
CM1	Adjacent to Nearest Residence	53.8	26.9	53.8	0.0

As shown in Table 4.11-7, there would be no appreciable noise increase at any of the measurement locations based on the noise modeling. The modeling shows that the noise contribution from the operation of the East Stolle Switchyard at the nearest residence to the Northeast (R1) is 27.1 dBA and at the nearest residence to the northwest (R2) is 24.0 dBA. These levels are below the Commission standard requirement for transmission facilities and substation designs not to exceed a maximum noise level of 40 dBA Leq without prominent tones (for both daytime and nighttime).

Combining this noise level with the existing ambient background noise levels would not result in an increase in noise.

4.12 Electric and Magnetic Fields

A study of the expected EMF effects using the Winter Normal Ratings as required by the Commission has been performed for the Proposed Line. The detailed study is provided in Attachment H of this Application. The results of the study show that the maximum levels at the edge of the Proposed ROW are below the levels recommended in the Commission's Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities

4.13 Summary of Environmental Impacts

Land Use: Placement of the Proposed Line within the existing NYSEG Utility Corridor minimizes impacts on surrounding land uses. Ongoing agricultural activities within the NYSEG Utility Corridor will be allowed to continue within the Proposed ROW around new transmission structures. NEETNY will continue to consult with NYSDAM to identify appropriate measures to minimize impacts on agricultural fields during construction. The proposed Dysinger and East Stolle Switchyards will permanently convert approximately 13 acres of agricultural land to developed land use.

The ESL Project is consistent with the goals of the 2016 New York State Open Space and Conservation Plan in that it does not conflict with conservation efforts in the Buffalo River and Niagara River watersheds. The ESL Project is also consistent with local land use plans or policies in in Niagara and Erie Counties, and in the towns of Royalton, Alden, Newstead, Lancaster, and Elma.

Visual Resources: Construction of the Proposed Line within the existing NYSEG Utility Corridor, and use of monopole structures for the transmission line minimize the potential for visual impacts on visual resources or visually sensitive areas. Additionally, a visual resource assessment (VRA) was completed for the Project in order to comprehensively consider the potential for any adverse visual impacts.

There are a total of 36 NYSDEC Program Policy visual resources within the 6-mile-wide visual study area for the ESL Project. These resources include NRHP listed or eligible architectural resources, designated heritage areas, and National Parks resources. Based on visibility modelling conducted as part of the VRA, the Project would have no visual impacts on 10 of these 36 NYSDEC visual resources because the Project is not visible; the Project has the potential to result in relatively minor incremental visual impacts on 22 of these NYSDEC visual because they already have views of the existing NYSEG Utility Corridor and existing transmission lines, but the ESL Project would not represent a new visual impact; and the ESL Project has the potential to result in new, relatively minor visual impacts on four of these NYSDEC visual resources, because the existing NYSEG Utility Corridor is not visible within the existing setting, views, or viewsheds of these four resources. For the majority of the NYSDEC visual resources, modelling suggests that the ESL Project will either not be visible or would be visible but would be generally consistent with the structures that are currently visible within the NYSEG Utility Corridor; therefore, no significant visual impacts on the NYSDEC visual resources are expected.

There are at least 29 local visually sensitive areas, all associated with local recreational resources, within the 6-mile-wide visual study area for the ESL Project. Based on visibility modelling conducted as part of the VRA, the ESL Project would have no visual impacts on 10 of these visually sensitive areas because the ESL Project is not visible; the ESL Project has the potential to result in relatively minor incremental visual impacts on 18 of these visually sensitive areas because they already have views of the existing NYSEG Utility Corridor and existing transmission lines, but the ESL Project would not represent a new visual impacts; and the ESL Project has the potential to result in some visibility from one of these visually sensitive resources, because the existing NYSEG Utility Corridor is not visible within the existing setting, views, or viewsheds of these four resources. For the majority of the local visually sensitive areas, modelling suggests that the ESL Project will either not be visible or would be visible but would be generally consistent with the structures that are currently visible within the NYSEG Utility Corridor; therefore, no significant visual impacts on local visually sensitive areas are expected.

Cultural Resources: Eight previously recorded archaeological sites are located within the Proposed ROW. NEETNY is completing a Phase 1B archaeological survey to document

archaeological sites. Any archaeological site discovered during NEETNY's planned Phase 1B survey could likely be avoided during the detailed design and final engineering. Consequently, construction activities are not expected to result in the direct impacts or effects on archaeological sites. NEETNY will reevaluate potential direct impacts on archaeological sites following the completion of the Phase IB archaeological field investigation.

No previously recorded architectural resources are located within the direct APE. Therefore, construction activities are not expected to result in direct impacts or effects on known and previously recorded architectural resources.

There are 138 known and previously recorded architectural resources that are either NRHP-listed, previously determined NRHP-eligible, or have not yet been evaluated for NRHP-eligibility. NEETNY is in the process of completing an architectural survey to determine if the proposed aboveground components of the Project will result in indirect visual impacts or effects on these resources.

Terrestrial Ecology and Wetlands: The existing cleared and maintained portion of the NYSEG Utility Corridor will be expanded by approximately 90 feet to construct and operate the Project. As a result, approximately 87.1 acres of forest and 47.4 acres of shrub vegetation communities will be converted to an herbaceous vegetation community.

Based on field surveys and other analysis, 13 NYSDEC-regulated wetlands covering approximately 77.6 acres are present within the Proposed ROW. A total of 45 transmission line structures will be placed within NYSDEC-regulated wetlands, resulting in approximately 0.02 acres of wetland fill and 16.9 acres of temporary wetland disturbance from structure installation activities. In addition, approximately 38.3 acres of NYSDEC-regulated forested wetland and 19.3 acres of NYSDEC-regulated scrub-shrub wetland will be converted to emergent wetland to construct and operate the Proposed Line. NEETNY is developing a compensatory wetland mitigation plan to offset the conversion of NYSDEC-regulated forested and scrub-shrub wetlands to emergent wetlands.

Wildlife: Land cover adjacent to the Proposed ROW largely consists of the same community types to be disturbed during construction. Therefore, significant loss of forage, shelter, and nesting habitat on a local or regional basis is not anticipated.

Threatened and Endangered Species: Consultation with the NYNHP and USFWS identified one state and federal-listed threatened species (northern long-eared bat); one state-listed threatened species (pied-billed grebe); and three state rare species (northern brook lamprey, bigmouth shiner, and bigeye chub) as previously recorded in the vicinity of the Project.

The proposed East Stolle Switchyard site is approximately 3,750 feet from a wetland complex that supports a breeding population of pied-billed grebe. The East Stolle Tie-In lines extend to within approximately 0.5 miles of the complex. Based on the distance of the proposed East Stolle Switchyard and East Stolle Tie-Ins from the wetland complex supporting the pied-billed grebe, no impacts on this species are expected from construction and operation of the ESL Project.

ESL Project activities will not affect a northern long-eared bat hibernaculum in the town of Newstead as it is greater than 3 miles from the Proposed ROW. NEETNY will restrict tree clearing from April 1 to November 1 in a 5-mile buffer around the hibernaculum to avoid impacting any northern long-eared bats that may be using trees in this areas for roosting habitat. Consequently, no impacts on northern long-eared bat are expected from construction and operation of the Project.

Each of the streams potentially supporting the state rare fish species will be spanned by the Proposed Line, and no structures will be located within 50 feet of the stream top of banks. In addition, NEETNY does not anticipate that any access roads will need to be installed to move construction equipment across the streams. Consequently, construction and operation of the ESL Project will not impact the state rare fish species.

Topography and Soils: Extensive alterations of slope and gradient are not anticipated for any Project components. After construction activities are complete, soils will be re-graded to pre-construction contours, and compacted soils will be returned to their native state. Construction in active agricultural areas will be managed to protect farm soils from erosion, compaction, and soil mixing. There are no known geologic features expected to affect the integrity of the proposed

structures, as demonstrated by the long-standing presence of existing transmission lines within the NYSEG Utility Corridor.

Water Resources: The Proposed transmission line structures have been located to span streams, thereby avoiding direct impacts within the streams that cross the Proposed ROW. Where equipment stream crossings are necessary, to the extent feasible NEETNY will complete the crossing when stream beds are dry or where existing stream crossings are available. Care will be taken to ensure that stream flow remains uninhibited and to avoid damage to the stream banks during the installation and removal of crossing materials.

Transmission line structures were placed greater than 50 feet from streams to the greatest extent possible to facilitate the preservation and/or establishment of vegetative buffer strips at these locations. Due to design constraints, 11 structure placements are proposed within 50 feet of the top of bank of 10 streams. No proposed structures are located within 50 feet of any NYSDEC-regulated streams.

Because the ESL Project will require more than 1 acre of land disturbance, NEETNY will apply for coverage under the SPDES, GP for Stormwater Discharges from Construction Activities (GP-0-10-001). A Storm Water Pollution Prevention Plan specific to the ESL Project will be developed to prevent discharges of construction-related pollutants to surface waters, and included in the EM&CP.

Noise: Construction of the Proposed Line will generate noise levels that are periodically audible. While construction noise levels associated with the Proposed Line are expected to be greater than ambient conditions for some receivers, a significant reduction in the potential impact of construction noise associated with construction will result from construction occurring over relatively short 50- to 400-foot stretches. Work in the proximity of any single general location along the Proposed Line will likely last no more than a few days to one week, as construction activities move along the Proposed ROW. Therefore, no single receptor will be exposed to significant noise levels for an extended period. Construction of the switchyards would cause temporary increases in ambient noise levels in the immediate vicinity of the sites for the duration of construction.

Sound impacts related to the addition of the Proposed Line with the other transmission lines in the NYSEG Utility Corridor are expected during rain, fog or snow events are expected to be low-level and generate corona sound levels below the recommended guideline limits to avoid the potential for adverse noise impacts on public health and safety in accordance with NYSDEC policy limits.

Acoustic modeling was completed for the Dysinger and East Stolle Switchyards. The modeling shows that operation of both switchyards will not result in a noise increase greater than the NYSDEC Guidance level of 6 dBA at the switchyard property lines and at the nearest noise-sensitive receptors. In addition, the modeled noise levels at the potentially impacted noise receptors in the vicinity of both switchyards are below the NYSPSC standard requirement for transmission facilities and substation designs not to exceed a maximum noise level of 35 dBA if a prominent tone occurs or is likely to occur.

Electric and Magnetic Fields: The results of an Electric and Magnetic Fields (EMF) study show that the maximum EMF levels at the edge of the Proposed ROW are below the levels recommended in the Commission's Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities.

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Figure 4.3-1 Agricultural Districts and FEMA-Designated Floodplains