

A. INTRODUCTION

This attachment considers the potential impact of the Proposed Action on natural resources including groundwater, floodplains, wetlands, vegetation, wildlife, and federal- and state-listed rare, threatened, and endangered species.

B. METHODOLOGY

The existing natural resource conditions in the vicinity of the Proposed Action were identified through a combination of direct field observations, information in published articles, as well as the following datasets and other sources of information:

- Federal Emergency Management Agency (FEMA) effective Flood Insurance Rate maps (FIRMs);
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps and Information, Planning, and Conservation (IPaC) System list of threatened, endangered, candidate, and proposed species for Nassau County¹
- New York State Department of Environmental Conservation (NYSDEC) tidal and freshwater wetland maps;
- 2000–2005 Breeding Bird Atlas results for Blocks 6350A and 6250B;
- NYSDEC New York Nature Explorer site search;
- NYSDEC New York Natural Heritage Program; and
- Observations made during field surveys conducted on 5/2/2018, 6/12/2018, 8/22/2018, 9/6/2018, 9/19/2018, and 10/3/2018.

Natural Resources identified in the vicinity of the Proposed Action are inventoried below. Field investigations were conducted at the Proposed Substation parcel, the Section A and Section B OH transmission line and structure modification areas, and along the UG 69kV transmission tie-in cables.

Natural Resource field investigations were not conducted for the distribution components of the Proposed Action given that the dense suburban nature of the distribution areas are not likely to support regulated resources or protected species. The UG 13kV distribution exit

¹ As of 1/14/2018 the IPaC System is unavailable due to a governmental furlough. The IPaC assessment for the Proposed Action does not include the UG 13kV Distribution Feeders or Distribution Pole Replacements and C&R Work.

feeders will be installed within previously disturbed public roadway rights-of-way. The distribution pole replacements are considered in-kind replacements and associated C&R activities are consistent with existing distribution poles throughout the distribution route. In addition, the distribution pole replacements and C&R work will occur within previously disturbed utility right-of-way.

C. EXISTING CONDITIONS

GROUNDWATER

PROPOSED SUBSTATION

The Proposed Substation is located within the Nassau-Suffolk Aquifer System, which is a designated Sole Source Aquifer (USEPA 1975). It consists of deposits of unconsolidated gravel, sand, silt, and clay from the Holocene, Pleistocene, and Late Cretaceous age that have a maximum total thickness of approximately 1,500 feet. Precipitation is the sole source of groundwater recharge. The system is primarily composed of the Upper Glacial, Magothy, and Lloyd, aquifers. Potable water supply to the Hamlets of Uniondale, East Meadow, and Salisbury within the Town of Hempstead are serviced by the Town of Hempstead water district. The Town of Hempstead water district consists of six separate districts: Bowling Green Estates, East Meadow, Levittown, Uniondale, Roosevelt Field, Lido-Point Lookout. The potable water for the remaining portions of the Town of Hempstead are serviced through private companies or by village municipal water systems. The Magothy Aquifer provides the majority of the public drinking water supply for the Town of Hempstead's customers. The Water Department has approximately 30 wells, 28 of which are in the Magothy Aquifer. Two wells located in the Lido-Pt. Lookout Water District are from the deeper Lloyd formation. Wells range from 487' to 1,285' below grade and were installed between 1951 and 2004.ⁱ

OFF-SITE WORK

The proposed Off-Site Work is also located within the Nassau-Suffolk Aquifer System and the groundwater resources are consistent with those described immediately above.

FLOODPLAINS

See **Figure B1** provided in **Appendix B** for a map depicting FEMA Floodplains in the vicinity of the Proposed Action.

PROPOSED SUBSTATION

The Proposed Substation is not located within a FEMA-designated floodplain.

OFF-SITE WORK

Based upon a review of the effective Flood Insurance Rate Maps (FIRMs), portions of the proposed UG 69kV transmission tie-in cables overlap with the 100-year floodplain (the area with a 1 percent probability of flooding each year)ⁱⁱ. The portion of the UG 69kV transmission tie-in cables that overlap with the 100-year floodplain is an approximately 1,625-linear foot section along Perimeter Road.

The Distribution C&R work is not located within a FEMA-designated floodplain.

WETLANDS

See **Figure B2**, provided in **Appendix B** for a map depicting wetlands and surface waters in the vicinity of the Proposed Action.

PROPOSED SUBSTATION

The Proposed Substation is not within State or Federally regulated wetlands or adjacent areas.

OFF-SITE WORK

A review of NYSDEC GIS data indicates that the proposed Off-Site Work does not overlap with NYSDEC regulated wetlands and adjacent areas.

A review of USFWS NWI maps indicates a freshwater emergent wetland is present on the Nassau County-owned property located north of Perimeter Road. In addition, a NWI mapped freshwater emergent wetland, freshwater forested/shrub wetland and freshwater pond are located adjacent to the east of Perimeter Road. These wetlands and their adjacent areas are not regulated by NYSDEC. Although these wetlands are located in the vicinity of the Off-Site Work (specifically the UG 69kV transmission tie-in cables), these work components are located outside the boundaries of these NWI wetlands.

TERRESTRIAL ECOLOGICAL COMMUNITIES AND VEGETATION

Vegetation observed during field surveys of the Proposed Substation property is included in **Table C1**.

Table C1
Vegetation Observed at or Adjacent to the Proposed Action

Species	Common Name	Species	Common Name
<i>Achillea millefolium</i>	Yarrow	<i>Lonicera japonica</i>	Japanese honeysuckle

Table C1
Vegetation Observed at or Adjacent to the Proposed Action

Species	Common Name	Species	Common Name
<i>Ambrosia artemisifolia</i>	Common ragweed	<i>Oenothera biennis</i>	Common evening primrose
<i>Andropogon gerardii</i>	Big bluestem	<i>Panicum virgatum</i>	Switchgrass
<i>Andropogon virginicus</i>	Broomsedge bluestem	<i>Phytolacca americana</i>	American pokeweed
<i>Apocynum cannabinum</i>	Hemp dogbane	<i>Plantago aristata</i>	Bracted plantain
<i>Aristida oligantha</i>	Prairie three awn	<i>Plantago lanceolata</i>	Narrow-leaved plantain
<i>Artemisia vulgaris</i>	Mugwort	<i>Polygonum aviculare</i>	Prostrate knotweed
<i>Celastrus orbiculatus</i>	Oriental bittersweet	<i>Potentilla sp.</i>	Cinquefoil species
<i>Cichorium intybus</i>	Common chicory	<i>Prunus serotina</i>	Black cherry
<i>Cladonia rangiferina</i>	Reindeer lichen	<i>Pseudognaphalium obtusifolium</i>	Sweet everlasting
<i>Cuscuta sp.</i>	Dodder species	<i>Rhus typhina</i>	Staghorn sumac
<i>Daucus carota</i>	Queen Anne's lace	<i>Rosa multiflora</i>	Multiflora rose
<i>Elaeagnus umbellata</i>	Autumn olive	<i>Schizachyrium scoparium</i>	Little bluestem
<i>Eragrostis spectabilis</i>	Purple lovegrass	<i>Solidago altissima</i>	Canada goldenrod
<i>Eupatorium hyssopifolium</i>	Hyssop-leaved thoroughwort	<i>Solidago juncea</i>	Early goldenrod
<i>Euphorbia maculata</i>	Spotted spurge	<i>Solidago nemoralis</i>	Gray goldenrod
<i>Galium aparine</i>	Catchweed bedstraw	<i>Symphotrichum ericoides</i>	White heath aster
<i>Hypericum gentianoides</i>	Orange grass	<i>Trichostema dichotomum</i>	Blue curls
<i>Hypericum perforatum</i>	St. John's wort	<i>Phytolacca americana</i>	American pokeweed
<i>Juniperus virginiana</i>	Eastern red cedar	<i>Plantago aristata</i>	Bracted plantain
<i>Lepidium virginicum</i>	Virginia pepperweed	<i>Plantago lanceolata</i>	Narrow-leaved plantain
<i>Lespedeza cuneata</i>	Chinese bush clover	<i>Polygonum aviculare</i>	Prostrate knotweed
<i>Linaria vulgaris</i>	Yellow toadflax		

Source: PS&S Field Surveys conducted on 5/2/2018, 6/12/2018, 8/22/2018, 9/6/2018, 9/19/2018, and 10/3/2018.

PROPOSED SUBSTATION

See **Figure B3**, provided in **Appendix B** for a map depicting vegetation identified on the Proposed Substation parcel.

The Proposed Substation will be constructed on an undeveloped lot located at the northwest intersection of Charles Lindbergh Boulevard and Perimeter Road, in the Town of Hempstead, hamlet of Uniondale, Nassau County, New York. Based on the ecological community classification system used by Edinger et al. 2014ⁱⁱⁱ, the Proposed Substation property is best described as a highly disturbed, and poor quality Successional Old Field/Hempstead Plains Grassland/Successional Shrub mix.

The boundaries of the Proposed Substation property are highly disturbed, with the eastern, southern and western boundaries dominated by invasive plant species consisting of mugwort and/or Chinese bush clover. Additionally, in areas proximal to the roadway, the vegetation showed evidence of a regular mowing and clearing to maintain a pull-out space for vehicles and for maintenance associated with a storm sewer. Goldenrod and some successional species such as Eastern red cedar and autumn olive are interspersed throughout these areas. Additionally, the northern boundary of the property is impacted by invasive species such as Oriental bittersweet and Japanese honeysuckle, likely invading from the north.

As directed by the NYSDEC in the NHP letter (see **Appendix B**) field biologists gave special attention to the interior of the Proposed Substation property, which was described by the NYSDEC as “sandy open areas”. In some areas of the property interior, biologists observed unevenly spread gravel. This gravel appeared to be construction waste. The gravel was piled or discarded in an arbitrary manner. In other areas of the interior of the Proposed Substation property, field biologists noted lower nutrient, sandier soils than those which were at the property perimeter. In areas where the dryer and sandier soils were noted, field biologists noted a related change in plant species composition and the inclusion of species that are typically found in meadow habitats. Field Biologists noted an overall low abundance of native species characteristic of grassland habitat and an abundance of invasive species surrounding the patch of native grassland. Most plant species identified at the Proposed Substation property were ornamental or invasive; limited diversity of native species was present.

Given the species composition shift and the presence of sandy soils, the interior of the Proposed Substation property was determined to be poor quality Hempstead Plains habitat. See the analysis provided below in the Threatened, Endangered and Special Concern Species and Significant Habitats section regarding the potential presence of the Hempstead Plains Grassland Significant Natural Community.

OFF-SITE WORK

The proposed Off-Site Work will be completed in an ecological community best described as Paved Road/Path (Edinger et al. 2014^{iv}), which is defined as a road or pathway that is paved with asphalt, concrete, brick, stone, etc. There may be sparse vegetation rooted in cracks of the paved surface. Adjacent to the two UG 13kV transmission tie-in cables and the UG 69kV distribution exit feeder installations are habitats characterized as Mowed Roadside/Pathway^v. Vegetation in these mowed strips and paths may be dominated by grasses, sedges, and rushes; or by forbs, vines, and low shrubs that are tolerant of frequent mowing. The Nassau County-owned parcel to the north of Perimeter Road is characterized as Successional Shrubland^{vi} with an abundance of the invasive vine, multiflora rose.

WILDLIFE

PROPOSED SUBSTATION

The undeveloped lot for the Proposed Substation is comprised of meadow, shrub and tree vegetation that is primarily comprised of invasive or cultivated species. Land uses immediately adjacent to the Proposed Substation include Nassau Energy Corporation, Nassau Community College, Nassau Veterans Memorial Coliseum, and heavily trafficked parking lots that lack habitat spaces. Proximate to the Proposed Substation are the Hempstead Plains and the Francis T. Purcell Preserve, which are areas of grassland that are relatively undisturbed. Wildlife use anticipated in the areas on and adjacent to the Proposed Substation are typically restricted to urban-adapted, habitat generalist species that can tolerate urban/suburban environments and high levels of human activity.

Birds

The New York State Breeding Bird Atlas (BBA) projects are comprehensive statewide surveys designed to document the distribution of breeding birds within New York State. There were two BBA projects. The first project was conducted from 1980-1985 and the most recent took place from 2000-2004. Mapping for the BBA is based on a grid system that divided the state into discreet atlas blocks measuring 10 kilometers (km) by 10 km. The Proposed Substation is primarily located in Block 6151A; however, it also crosses into the blocks 6150B, 6151C, and 6151D. The 2000-2004 BBA census documented 57 species as confirmed or probable/possible breeders in the survey block where the Proposed Substation is located (see **Table C2**). However, these BBA survey blocks also cover natural areas, where there may be suitable habitat to support many of the identified species. The Proposed Substation property and immediate surroundings contain habitat that is suitable for only a few of the more urban-adapted bird species. These species include European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), rock pigeon (*Columbia liva*), American robin (*Turdus migratorius*), northern cardinal (*Cardinalis cardinalis*), and American crow (*Corvus brachyrhynchos*). Other species that utilize the natural habitats in proximity to the Proposed Substation site (Purcell Preserve, Hempstead Plains) may also

utilize the area, such as the vesper sparrow (*Pooecetes gramineus*), savannah sparrow (*Ammodramus savannarum*), bobolink (*Dolichonyx oryzivorus*) and yellow warblers (*Setophaga petechia*).

Table C2
NYS BBA Results for Blocks 6150A, 6150B, 6151C and 6151D

Species	Common Name	Species	Common Name
<i>Corvus brachyrhynchos</i>	American Crow	<i>Butorides virescens</i>	Green Heron
<i>Carduelis tristis</i>	American Goldfinch	<i>Carpodacus mexicanus</i>	House Finch
<i>Falco sparverius</i>	American Kestrel	<i>Passer domesticus</i>	House Sparrow
<i>Turdus migratorius</i>	American Robin	<i>Troglodytes aedon</i>	House Wren
<i>Scolopax minor</i>	American Woodcock	<i>Charadrius vociferus</i>	Killdeer
<i>Icterus galbula</i>	Baltimore Oriole	<i>Anas platyrhynchos</i>	Mallard
<i>Hirundo rustica</i>	Barn Swallow	<i>Zenaida macroura</i>	Mourning Dove
<i>Megaceryle alcyon</i>	Belted Kingfisher	<i>Cygnus olor</i>	Mute Swan
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	<i>Cardinalis</i>	Northern Cardinal
<i>Poecile atricapillus</i>	Black-capped Chickadee	<i>Colaptes auratus</i>	Northern Flicker
<i>Nycticorax</i>	Black-crowned Night-Heron	<i>Mimus polyglottos</i>	Northern Mockingbird
<i>Toxostoma rufum</i>	Brown Thrasher	<i>Icterus spurius</i>	Orchard Oriole
<i>Molothrus ater</i>	Brown-headed Cowbird	<i>Falco peregrinus</i>	Peregrine Falcon
<i>Branta canadensis</i>	Canada Goose	<i>Melanerpes carolinus</i>	Red-bellied Woodpecker
<i>Thryothorus ludovicianus</i>	Carolina Wren	<i>Vireo olivaceus</i>	Red-eyed Vireo
<i>Bombycilla cedrorum</i>	Cedar Waxwing	<i>Buteo jamaicensis</i>	Red-tailed Hawk
<i>Chaetura pelagica</i>	Chimney Swift	<i>Agelaius phoeniceus</i>	Red-winged Blackbird
<i>Spizella passerina</i>	Chipping Sparrow	<i>Phasianus colchicus</i>	Ring-necked Pheasant
<i>Quiscalus quiscula</i>	Common Grackle	<i>Columba livia</i>	Rock Pigeon
<i>Geothlypis trichas</i>	Common Yellowthroat	<i>Archilochus colubris</i>	Ruby-throated Hummingbird
<i>Picoides pubescens</i>	Downy Woodpecker	<i>Passerculus sandwichensis</i>	Savannah Sparrow

Species	Common Name	Species	Common Name
<i>Tyrannus</i>	Eastern Kingbird	<i>Melospiza melodia</i>	Song Sparrow
<i>Sturnella magna</i>	Eastern Meadowlark	<i>Actitis macularius</i>	Spotted Sandpiper
<i>Pipilo erythrophthalmus</i>	Eastern Towhee	<i>Tachycineta bicolor</i>	Tree Swallow
<i>Sturnus vulgaris</i>	European Starling	<i>Baeolophus bicolor</i>	Tufted Titmouse
<i>Spizella pusilla</i>	Field Sparrow	<i>Vireo gilvus</i>	Warbling Vireo
<i>Corvus ossifragus</i>	Fish Crow	<i>Empidonax traillii</i>	Willow Flycatcher
<i>Sterna forsteri</i>	Forster's Tern	<i>Dendroica petechia</i>	Yellow Warbler
<i>Dumetella carolinensis</i>	Gray Catbird		

Source: NYS Breeding Bird Atlas (2000-2005)^{vii} Blocks 6150A, 6150B, 6151C and 6151D

Mammals

Habitat for mammals is limited within the Proposed Substation property and is likely to be utilized by only urban-adapted species. These species include the raccoon (*Procyon lotor*), house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*) and domestic cat (*Felis catus*). A gray squirrel and an eastern cottontail were the only mammals observed in the vicinity of the Proposed Substation during the site visits.

Reptiles and Amphibians

Suitable habitat to support certain amphibian life stages such as surface waterbodies, is nonexistent within the Proposed Substation parcel. Amphibians potentially present include the northern redback salamander (*Plethodon cinerus*), and the spadefoot toad (*Scaphiopus holbrookii*). Reptile species that may be found on the Proposed Substation parcel are the northern brown snake (*Storeria dekayi*), and common garter snake (*Thamnophis sirtalis*).

OFF-SITE WORK

The proposed Off-Site Work components are within heavily disturbed, previously paved or regularly mowed adjacent roadway areas and offer limited habitat space. Immediately adjacent to the proposed Off-Site UG 13kV transmission tie-in cables is the Hempstead Plains preserve. Land uses immediately adjacent to the Section A and Section B OH transmission line and structure modifications areas include a golf course, suburban residential housing, and commercial buildings. Wildlife anticipated in these areas is typically restricted to urban-adapted, habitat generalist species that can tolerate urban/suburban environments and high levels of human activity.

Birds

The analysis and inventory of bird species potentially present within the Proposed Substation property would be consistent with the potential species present within the proposed Off-Site Work areas given the study area of the Breeding Bird Atlas and the transient and migratory nature of these species.

Mammals

Given the majority of the Off-Site Work components are within habitat types characterized as Paved Road/Path (Edinger et al. 2014^{viii}), habitats for mammals is limited or non-existent.

The 500 linear-foot section of the Nassau County County-owned parcel located north of Perimeter road is characterized as Successional Shrubland, similar to the Proposed Substation site. Species likely to utilize this area include the raccoon (*Procyon lotor*), house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*) and domestic cat (*Felis catus*).

Reptiles and Amphibians

Suitable habitat for reptiles and amphibians is very limited within the proposed Off-Site Work areas and immediately adjacent areas. Surface water bodies, which are necessary to support certain amphibian life stages are limited to the NWI-mapped wetland areas located on the Nassau County-owned parcel north of Perimeter Road and to the east of Perimeter Road, as well as any NWI or NYSDEC mapped wetlands located along the Meadowbrook Parkway. Amphibians which may be found in the adjacent area include the bullfrog (*Rana catesbeiana*), greenfrog (*Rana clamitans melanota*), possibly the spadefoot toad (*Scaphiopus holbrookii*), or the redback salamander (*Plethodon c. cinereus*). The reptile species that may be found on the proposed Off-Site components are the northern brown snake (*Storeria dekayi*), and common garter snake (*Thamnophis sirtalis*).

THREATENED, ENDANGERED, SPECIAL CONCERN SPECIES AND SIGNIFICANT HABITATS

USFWS IPaC Reports were generated April 4, 2018 and on February 1, 2019 for the Project Site (see **Appendix B**). The official species list contained six threatened or endangered mammal, bird and flowering plant species. These species are listed in **Table C3** below.

**Table C3
USFWS IPAC Official Species List**

Species Common Name	Scientific Name	Listing
<i>Mammal</i>		
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Threatened
<i>Birds</i>		
Piping Plover	<i>Charadrius melodus</i>	Threatened
Red Knot	<i>Calidris canutus rufa</i>	Threatened
Roseate Tern	<i>Sterna dougallii</i>	Endangered
<i>Flowering Plants</i>		
Sandplain Gerardia	<i>Agalinis acuta</i>	Endangered
Seabeach Amaranth	<i>Amaranthus pumilus</i>	Threatened

New York Natural Heritage Program (NHP) data was obtained in a letter dated April 25, 2018 and subsequent correspondence dated February 12, 2019 (see **Appendix B**) detailing the presence of rare or state-listed animals and significant natural communities at or near the Proposed Action. The NHP letter documented the presence of the Hempstead Plains Grassland Significant Natural Community in the vicinity the Proposed Action. A figure provided in the April 25, 2018 NHP letter detailed the findings of a 2017 Presence Survey of the Hempstead Plains grasslands which were identified extensively across three open land parcels in the vicinity of the Proposed Action. These parcels include one parcel located northeast of the Proposed Substation (across Perimeter Road, approximately 90 feet from the Proposed Substation parcel) and immediately north of the two proposed UG 69kV transmission tie-in cables along Perimeter Road and two parcels located within the Francis T. Purcell Preserve, located approximately 200 and 500 feet southwest of the Proposed substation.

The NHP letter detailed two state-listed threatened animals within the Hempstead Plains Grasslands as well as eight state-listed plant species as summarized in **Table C4** below.

**Table C4
NHP Report on State-Listed Species in Vicinity of Proposed Action**

Species Common Name	Scientific Name	Listing
<i>Animals</i>		
Upland Sandpiper	<i>Bartramia longicauda</i>	NY Threatened
Frosted Elfin	<i>Callophyrus irus</i>	NY Threatened
<i>Plants</i>		
Sandplain Agalinis	<i>Agalinis decemloba</i>	Federally Endangered, NY Threatened

Table C4
NHP Report on State-Listed Species in Vicinity of Proposed Action

Species Common Name	Scientific Name	Listing
Few-flowered Nut Sedge	<i>Scleria pauciflora</i>	NY Endangered
Nuttals's Milkwort	<i>Polygala nuttallii</i>	NY Threatened
Early Frostweed	<i>Crocantemum propinquum</i>	NY Threatened
Narrow-leaved Bush Clover	<i>Lespedeza angustifolia</i>	NY Threatened
Green Milkweed	<i>Asclepias viridiflora</i>	NY Threatened
Midland Sedge	<i>Carex mesochorea</i>	NY Threatened
Rough Hedge Nettle	<i>Stachys hyssopifolia</i> var.	NY Threatened

Source: April 25, 2018 New York Natural Heritage Program Report

The habitats known to support the species included in **Table C4** are grasslands that experience minor disturbances and have sandy soils. Several of these species are known to exist within the parcels located to the northeast and south of the Proposed Action within the Hempstead Plains grassland. The upland sandpiper (*Bartramia longicauda*) is considered an obligate grassland species that necessitates large acreages of agricultural crops, prairie grasslands and specifically the Hempstead Plains grassland, and therefore, potential habitat exists for this species within parcels adjacent to the Proposed Action. Confirmed presence of the upland sandpiper within Nassau County was last recorded in the Breeding Bird Atlas 1980-1985 survey.^{ix} The Frosted Elfin is known to pine barrens, oak savannas and dry oak forests. The Frosted Elfin feeds solely on either the Wild Blue Lupine (*Lupinus perennis*) or Wild Indigo (*Baptisia spp.*).

Field surveys of the Proposed Substation were conducted on 5/2/2018, 6/12/2018, 8/22/2018, 9/6/2018, 9/19/2018, and 10/3/2018. A table summarizing the plant species observed at the Proposed Action during the field surveys is included as **Table C1**.

PROPOSED SUBSTATION

The critical habitats known to support the federally endangered animal species listed in **Table C4** above (Sandplain Agalinis) are either dense forested areas or caves, or coastal or sandy beach areas. These habitat types were not identified within the Proposed Substation property. The habitat types that support the state listed frosted elfin and upland sandpiper are similar to the habitat types found in the Proposed Substation parcel, albeit restricted in size (~0.1 acre).

The boundaries of the Proposed Substation property are highly disturbed, with the eastern, southern, and western boundaries consisting mostly of mugwort and/or Chinese bush clover. Goldenrod species mentioned in the tables above are sparsely distributed within these areas.

Some individuals of early successional species such as Eastern red cedar and autumn olive are interspersed throughout the area. The northern boundary of the Proposed Substation property is also impacted with invasive species, with a higher proportion of Oriental bittersweet and Japanese honeysuckle, likely invading from the disturbed area to the north of the Proposed Substation parcel. A small area within the boundaries of the Proposed Substation property contains drier, sandier soil, visible in patches, consistent with what was previously characterized by the NYSDEC as “sandy open areas.” The plant species observed in the interior sandy portion of the Proposed Substation property includes goldenrod species, big bluestem, orange grass, blue curls, white heath aster, hyssop leaved thoroughwort and purple lovegrass, with some patches of British soldier lichen. The invasive species found along the boundaries of the Proposed Substation property were also found within the sandy interior of the property; however, at a significantly lesser density than that of the edges which contain nutrient dense soils, resulting in a higher species richness of native grassland species. The grassland species composition and presence of sandy soils is indicative of Hempstead Plains grassland, the Habitat of Particular Concern. However, during field visits, no rare plant species were found at the Proposed Substation property.

The Proposed Substation property was determined to be heavily impacted and lacking the species composition and richness characteristic of healthy Hempstead Plains. Utilizing the Ecological Communities of New York State (Edinger et al. 2014), the field surveys characterized the Proposed Substation parcel as highly disturbed and poor quality Successional Old Field/ Hempstead Plains Grassland /Successional Shrubland mix.

OFF-SITE WORK

The proposed Off-Site Work areas are located almost entirely within existing public roadway right-of-way. Habitat types necessary to support the above listed state and federally listed protected species or habitats of concern were not identified within the proposed Off-Site Work areas.

D. POTENTIAL IMPACTS OF THE PROPOSED ACTION

This section covers the permanent impacts associated with Proposed Action operations once construction is completed. The temporary impacts associated with the construction of the Proposed Action are discussed separately in **Attachment G**.

GROUNDWATER

Operation of the Proposed Action will not disturb groundwater levels. Impacts to groundwater will therefore not occur as a result of operation of the Proposed Action.

FLOODPLAINS

As discussed above, the proposed Off-Site Work areas located within FEMA-designated floodplains is limited to an approximately 1,625-linear foot portion of the UG 69kV transmission tie-in cables that overlap the 100-year floodplain mapped along Perimeter Road. However, the land use of these areas will not change following installation of the UG 69kV transmission tie-in cables, and surface features will be restored. As such, the proposed Off-Site Work will not result in significant adverse impacts to flood levels, flood risk, or the flow of flood waters on or within the vicinity of the Proposed Action.

The Proposed Substation is not located within a FEMA-designated floodplain; however, it will result in an increase in impervious surface when compared to existing conditions. A gravel/dolomite surface will be installed throughout the Proposed Substation property, and a paved access road will be constructed to provide access to the Proposed Substation. In addition, the substation equipment will be constructed on concrete foundations. As part of construction of the Proposed Substation, a detention/infiltration basin containing four proposed dry wells will be installed for infiltration and treatment in order to reduce the water quality volume and to reduce stormwater runoff peak flow rates on-site from pre- to post-development conditions.

As the Proposed Action will require soil disturbance of an area greater than one acre, the Proposed Action requires coverage under the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (NYSDEC SPDES Permit No. GP-0-15-002). Stormwater quality and volume will be addressed in Stormwater Pollution Prevention Plans (SWPPP) that will be prepared for the Proposed Substation and proposed Off-Site Work prior to initiation of construction activities. The SWPPPs will be prepared in accordance with the requirements and the technical specifications set forth in the NYSDEC SPDES Permit No. GP-0-15-002 and New York State Stormwater Management Design Manual (NYSSMDM) or the “Blue Book”.

As such, the Proposed Action will not result in significant adverse impacts to flood levels, flood risk, or the flow of flood waters on or within the vicinity of the Proposed Action.

WETLANDS

A review of NYSDEC GIS data indicates that the Proposed Action is not located within any NYSDEC regulated wetlands or adjacent areas, and as such, no significant adverse impacts to NYSDEC wetlands will occur as a result of the Proposed Action.

As noted above, the proposed UG 69kV transmission tie-in cables will originate from riser structures located immediately west of the Meadowbrook Parkway and north of Perimeter Road and will cross an approximate 500 linear-foot section of Nassau County-owned property before following Perimeter Road south approximately 0.62-mile before entering the Proposed Substation. NWI maps depict a freshwater emergent wetland present on this

Nassau County-owned property, as well as a freshwater emergent wetland, freshwater forested/shrub wetland and freshwater pond located adjacent to the east of Perimeter Road. However, these NWI wetlands are not located within the actual area of disturbance associated with construction. The installation of the UG 69kV transmission tie-in cables along Perimeter Road and within the Nassau County-owned property have been designed to avoid the NWI wetland areas. Best management practices will be implemented by PSEG Long Island and its contractors during construction to prevent erosion and sedimentation to the wetland areas and as such, there will be no significant adverse impacts to NWI wetlands.

TERRESTRIAL ECOLOGICAL COMMUNITIES AND VEGETATION

Ecological communities within the Proposed Action areas are limited to an undeveloped parcel (i.e., poor quality Successional Old Field/Hempstead Plains Grassland mix) and previously disturbed public right-of-way or adjacent areas (Mowed roadside/pathway, a Paved Road/path). These communities provide limited ecological value due to the extensive coverage of invasive species and regular human disturbance. As a result, operation of the Proposed Action will not result in significant adverse impacts to terrestrial ecological communities and vegetation on or within the vicinity of the Proposed Action.

WILDLIFE

The Proposed Action will not result in significant adverse impacts to wildlife at either the individual or population level. Terrestrial wildlife use on the Proposed Action areas, or within the vicinity of the Proposed Action areas, is limited due to current habitats, which are comprised of poor quality Successional Old Field/Hempstead Plains Grassland/Successional Shrubland mix, Mowed roadside/pathway, and Paved Road/Path. Wildlife species that may be present in the surrounding area would likely prefer the protected and less disturbed open space areas of the Hempstead Plains and the Francis T. Purcell Preserve when compared to the Proposed Action areas. Installation of the Proposed Action will not eliminate any high quality or valuable wildlife habitat and will not adversely affect the few urban-adapted species that may occur in the area. As habitat generalists, these species are highly disturbance-tolerant. Individuals of these species may temporarily be displaced from the Proposed Action areas during construction; however, they are likely to return once construction is completed.

THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES AND SIGNIFICANT HABITATS

No federal or state-listed endangered, threatened, and special concern species, or significant habitats were found on-site or within the vicinity of the Proposed Action.

The frosted elfin and upland sandpiper are sensitive to high levels of disturbance. If these species were potentially present within or near the Proposed Substation parcel, they would likely be displaced to adjacent parcels that have less disturbance and greater acreages of

grassland habitat space. The highly degraded grassland within the Proposed Substation property is approximately 0.1 acres and is therefore not likely to be large enough to support the frosted elfin or upland sandpiper species. As a result, the Proposed Action will not result in significant adverse impacts to these species.

Additionally, while field surveys indicated a small area within the boundaries of the Proposed Substation property is comprised of remnant Hempstead Plains Grassland, given the relatively small size of this area and given that this area was surrounded by invasive species, it was determined that this area is heavily degraded and no rare plant species were identified during site visits. Given that none of the threatened or endangered plant species were observed in this small area, or in any other portions of the Proposed Action site, the Proposed Action will not result in significant adverse impacts to the Hempstead Plains Significant Natural Community, or any grassland-dependent rare, threatened or endangered species described above in **Table C4**. Based on this information, the Proposed Action will not have a significant effect on rare, threatened, or endangered species or significant natural communities.

ⁱ The Town of Hempstead. nd. Water Department. Available online: <https://hempsteadny.gov/water-department>. Accessed: 12/17/2018.

ⁱⁱ Federal Emergency Management Agency. 2009. Flood Insurance Rate Map for Nassau County, New York. Panel 227 of 366 Map Suffix: G. Map Number 36059c0227G.

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

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

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

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

^{vii} McGowan, Kevin James, and Kimberley Corwin, eds. The second atlas of breeding birds in New York State. Comstock Pub. Associates, 2008.

^{viii} Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2014. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol

Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

^{ix} Andrie, Robert F., and Janet R. Carroll, eds. The atlas of breeding birds in New York State. Cornell University Press, 1988.