

A. INTRODUCTION

This section assesses the potential impact of the Proposed Action on natural resources including groundwater, floodplains, wetlands, vegetation, wildlife, and federal- and state-listed species at and within the vicinity of the Proposed Action.

B. METHODOLOGY

STUDY AREA

Natural resources and the potential impacts of the Proposed Action on natural resources were evaluated for the limits of the Proposed Action site, including the Proposed Substation property, the existing transmission circuit, the proposed distribution exit feeder routes, and the proposed distribution C&R work areas.

EXISTING CONDITIONS

Existing natural resource conditions were identified through direct field observations, published literature, government agency datasets and other sources of information, including the following:

- 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 Official Species List of threatened, endangered or candidate species
- New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper
- United States Geological Survey (USGS) Long Island Depth to Water Viewer
- NYSDEC resources including tidal and freshwater wetland maps, the 2000–2005 Breeding Bird Atlas and the Amphibian and Reptile Atlas Project database
- The New York Natural Heritage Program (NYNHP) publication *Ecological Communities of New York State* (Edinger et. al., 2014)
- Observations made during field surveys of the Proposed Substation property on August 11, 2017 and October 24, 2018; and of the entire Proposed Action study area on December 10, 2021.

FUTURE WITH THE PROPOSED ACTION

The potential impacts of the Proposed Action on natural resources were evaluated by considering:

- Potential impacts to groundwater resources during land-disturbing construction activities;

- Potential direct impacts to vegetation, ecological communities, terrestrial wildlife and protected species/communities due to land-disturbing construction activities and site operations;
- Potential indirect impacts to wildlife from increased human activity during project construction and site operations.

C. EXISTING CONDITIONS

GROUNDWATER

The Proposed Action is located within the Nassau-Suffolk Aquifer System, which is a designated Sole Source Aquifer. The aquifer 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 about 1,500 feet. Precipitation is the sole source of groundwater recharge. The system is primarily comprised of the Upper Glacial, Magothy, and Lloyd aquifers.

The majority of the drinking water in Nassau County is delivered by public water systems. There are 46 public water systems and approximately 500 private wells in Nassau County that range in depth from 100 to 500 feet below ground surface (bgs). Potable water supply to the project area is primarily provided by the Massapequa Water District. The source of water for the District is pumped from nine wells located throughout the community that are drilled into the Magothy Aquifer. There are wells located approximately 85 feet north of the Proposed Substation property, and one well located approximately 530 feet west-southwest of the Proposed Substation property.

The depth to groundwater at the Proposed Substation is approximately 10 feet bgs. The depth to groundwater along the UG distribution feeder locations is approximately 5 to 10 feet bgs. The depth to groundwater throughout the surrounding distribution C&R locations and transmission pole work areas ranges from approximately 5 to 20 feet bgs.

FLOODPLAINS

Based upon a review of the effective FIRMs, and as shown on **Figure C-1**, minimal portions of the Proposed Action are located within the 100-year floodplain (the area with a 1 percent probability of flooding each year) or the 500-year floodplain (the area with a 0.2 percent probability of flooding each year). These areas are limited to locations immediately east of the Tackapausha Nature Preserve (along Riverside Avenue and Seaford Avenue) and along Oakdale Avenue and Harbor Boulevard, south of Merrick Road. No other portions of the Proposed Action lie within the 100-year or 500-year floodplains. In addition, the Proposed Substation was engineered utilizing proprietary software, which based on currently climate forecasts, accounts for climate change and projected rise in sea levels until the year 2,070. Using this software, it is projected that in 2,070 the Proposed Substation equipment will be located above the 100-year plus two-foot floodplain and the 500-year floodplain.

WETLANDS

Three areas (see **Figures C-2 through C-5**) of the Proposed Action are located within NYSDEC-regulated freshwater wetland adjacent areas: i) along Jerusalem Avenue, to the north of the Tackapausha Nature Preserve; ii) along Locust Street, Seaford Avenue and Merrick Road, immediately north, south, and east of the Tackapausha Nature Preserve; and iii) along Ocean Avenue, west of Massapequa Lake. Work activities to be completed in these areas include the installation of UG distribution cable and conduit, the replacement and the installation of distribution poles. These work activities are authorized under PSEG Long Island's NYSDEC General Freshwater Wetlands Permit (NYSDEC Permit No. 1-9901-00011/00032). There are additional areas located along Merrick Road that are located adjacent to NYSDEC-regulated tidal wetlands. However, these areas have substantially fabricated structures (e.g. bulkheads and roadways) in place prior to the creation of New York State wetlands regulations in 1977; therefore, the areas around these wetlands are considered non-jurisdictional. No other portions of the Proposed Action are located within or immediately adjacent to any NWI wetlands, or within any NYSDEC-mapped freshwater or tidal wetlands or their adjacent areas.

COASTAL ZONE

Sections of the Overhead C&R work and Underground C&R work, located along and south of Merrick Road, are located within the New York State Coastal Zone Area (see **Figures C-6**). These areas are located within paved public roadways or along maintained road shoulders.

TERRESTRIAL ECOLOGICAL COMMUNITIES AND VEGETATION

The Proposed Substation will be constructed on property that is currently vacant and unvegetated. The Proposed Substation property is undeveloped, with the exception of a crushed dolomite ground cover and perimeter chain-link fence. Following the ecological community classification system used by Edinger et al. (2014), the Proposed Substation area is best described as an "Urban Vacant Lot," which is defined as an open site in a developed urban area that has been cleared for either construction or following the demolition of a building. Vegetation is typically sparse and there may be large areas of exposed soil, often with rubble or other debris. The Urban Vacant Lot community is classified as an "unranked cultural" community, with distribution throughout New York State.

Following the ecological community classification system used by Edinger et al. (2014), the UG distribution exit feeders will be located in areas best described as "Paved road/path", 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 in the paved surface. The distribution C&R activities will be located in areas best described as "Mowed roadside/pathway" or "Paved road/path". "Mowed roadside/pathway" is defined as a narrow strip of mowed vegetation along the side of a road, or a mowed pathway through taller vegetation (e.g., meadows, old fields, woodlands, forests), or along utility right-of-way corridors (e.g., power lines, telephone lines, gas pipelines). The vegetation in these mowed strips and paths may be dominated by grasses, sedges, and rushes; or it may be dominated by forbs, vines, and low shrubs that can tolerate infrequent mowing.

The transmission pole activities will be located in areas best described as “Successional southern hardwoods”, which is defined as a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed.

The Proposed Action will involve minimal vegetation clearing or trimming. The replacement and installation of poles within the existing OH transmission circuit immediately south of the Proposed Substation will require some limited removal and trimming of vegetation. This vegetation is located along the northern slope of the raised LIRR train tracks. The UG distribution exit feeders will be installed, by a combination of open-trench and horizontal directional drilling methods, entirely within paved public roadways, and will not require the removal of any vegetation. Distribution C&R activities will be completed at existing utility alignments located along paved public roadways and sidewalks. Trimming of OH limbs and vegetation that could interfere with the OH wire may be completed, as needed for safety and reliability purposes.

WILDLIFE

Due to the disturbed and largely unvegetated conditions at the Proposed Action site, there is limited natural habitat available to support terrestrial wildlife. Combined with the high levels of human activity and predominance of invasive species, the limited vegetative habitats are of poor quality and have minimal potential as wildlife habitat. Based on these factors, wildlife use of the Proposed Action areas is limited by a scarcity of vegetated habitat and the disturbed, suburban nature of the surrounding area. Wildlife use in such settings is typically restricted to a limited assemblage of suburban-adapted, habitat generalist species that can tolerate developed 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 have been two BBA projects. The first project was conducted from 1980-1985 and the more recent project took place from 2000-2005. Mapping for the BBA is based on a grid system that divided the state into discreet atlas blocks measuring 10 kilometers (km) by 10km. The Proposed Action is primarily located in Block 6250C, with portions of the off-site C&R work located in Block 6250A and 6250D. The Proposed Substation property is located within BBA Block 6250C. The 2000-2004 BBA survey documented 55 species as confirmed or probable/possible breeders within BBA Block 6250C (See **Table C-2**). However, these BBA survey blocks also cover natural areas, where there may be suitable habitat to support many of the identified species. The site of the Proposed Action and immediate surroundings contain habitat that is suitable for only a few of the more urban-adapted bird species. These species include common species listed on **Table C-2** such as European Starling (*Sturnus vulgaris*), House Sparrow (*Passer domesticus*), Rock Pigeon (*Columbia livia*), American Robin (*Turdus migratorius*), Northern Cardinal (*Cardinalis cardinalis*), and Song Sparrow (*Melospiza melodia*).

MAMMALS

Habitat for mammals is limited on and within the vicinity of the Proposed Action, and is likely to be used by only urban-adapted species. These species include common species listed on **Table C-3**, such

as Raccoon (*Procyon lotor*), House Mouse (*Mus musculus*), Norway Rat (*Rattus norvegicus*), Gray Squirrel (*Sciurus carolinensis*), and feral Domestic Cats (*Felis catus*). Most of the mammalian species that might utilize the study area are ubiquitous species that are highly adaptable to various habitats and degrees of human disturbance. These species are considered habitat generalists. No mammals were observed at the Proposed Substation property during the field surveys.

REPTILES AND AMPHIBIANS

No reptile or amphibian species were observed at the Proposed Substation property during the field inspections. In order to identify herpetofauna that may occur, an evaluation of existing site conditions was performed and the NYSDEC New York State Amphibian and Reptile Atlas Project (NYSARAP) was consulted. According to the NYSARAP data (collected from 1990 to 1999), 17 amphibian and reptile species have been identified within the Amityville, New York Quadrangle that the Proposed Substation property occurs within. The majority of the 17 listed species require aquatic habitats for at least a portion of their life cycles or undisturbed vegetated habitats such as forests, wetlands and grasslands. Although these habitats occur elsewhere within the Amityville, New York Quadrangle, they do not occur at or adjacent to the Proposed Action. Considering the observed largely unvegetated conditions at the Proposed Substation property and taking into account the predominantly developed conditions within the general surrounding area, the area of the Proposed Action does not provide habitat for the NYSARAP-listed species and does not represent a significant herpetofauna habitat area overall.

Table C-2 - 200-2004 BBA Survey Results for Block 6051B

Common Name	Scientific Name
Canada Goose	<i>Branta canadensis</i>
Mute Swan	<i>Cygnus olor</i>
Mallard	<i>Anas platyrhynchos</i>
Green Heron	<i>Butorides virescens</i>
Killdeer	<i>Charadrius vociferus</i>
American Oystercatcher	<i>Haematopus palliatus</i>
Spotted Sandpiper	<i>Actitis macularius</i>
Willet	<i>Tringa semipalmata</i>
Common Tern	<i>Sterna hirundo</i>
Black Skimmer	<i>Rynchops niger</i>
Rock Pigeon	<i>Columba livia</i>
Mourning Dove	<i>Zenaida macroura</i>
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>
Chimney Swift	<i>Chaetura pelagica</i>
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Northern Flicker	<i>Colaptes auratus</i>
Eastern Wood-Pewee	<i>Contopus virens</i>
Willow Flycatcher	<i>Empidonax traillii</i>

Common Name	Scientific Name
Great Crested Flycatcher	<i>Myiarchus crinitus</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
White-eyed Vireo	<i>Vireo griseus</i>
Warbling Vireo	<i>Vireo gilvus</i>
Red-eyed Vireo	<i>Vireo olivaceus</i>
Blue Jay	<i>Cyanocitta cristata</i>
American Crow	<i>Corvus brachyrhynchos</i>
Purple Martin	<i>Progne subis</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
Barn Swallow	<i>Hirundo rustica</i>
Black-capped Chickadee	<i>Poecile atricapillus</i>
Tufted Titmouse	<i>Baeolophus bicolor</i>
Carolina Wren	<i>Thryothorus ludovicianus</i>
House Wren	<i>Troglodytes aedon</i>
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
Wood Thrush	<i>Hylocichla mustelina</i>
American Robin	<i>Turdus migratorius</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Brown Thrasher	<i>Toxostoma rufum</i>
European Starling	<i>Sturnus vulgaris</i>
Cedar Waxwing	<i>Bombycilla cedrorum</i>
Yellow Warbler	<i>Dendroica petechia</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Song Sparrow	<i>Melospiza melodia</i>
Northern Cardinal	<i>Cardinalis cardinalis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>
Common Grackle	<i>Quiscalus quiscula</i>
Boat-tailed Grackle	<i>Quiscalus major</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Orchard Oriole	<i>Icterus spurius</i>
Baltimore Oriole	<i>Icterus galbula</i>
American Goldfinch	<i>Spinus tristis</i>
House Sparrow	<i>Passer domesticus</i>
Source: NYS BBAAtlas (2000-2005) Blocks 6250C	

Table C-3 – Mammals That May Be Found Within the Study Area

Common Name	Scientific Name
Opossum	<i>Didelphis marsupialis</i>
Feral Cat	<i>Felis domesticus</i>
House Mouse	<i>Mus musculus</i>
White Footed Mouse	<i>Peromyscus leucopus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Raccoon	<i>Procyon lotor</i>
Norway Rat	<i>Rattus norvegicus</i>
Eastern Mole	<i>Scalopus aquaticus</i>
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>
Eastern Cottontail Rabbit	<i>Sylvilagus floridanus</i>
Eastern Chipmunk	<i>Tamias striatus</i>

THREATENED, ENDANGERED, SPECIAL CONCERN SPECIES AND SIGNIFICANT HABITATS

No federal or New York State threatened, endangered or special concern species, or significant habitats are listed or were observed at, or in the vicinity of the Proposed Action during the field visits.

D. PROBABLE IMPACTS OF THE PROPOSED ACTION

GROUNDWATER

Due to the proposed depths of excavation activities, construction activities may encounter groundwater, particularly within the Proposed Substation property and during transmission pole activities, where depth to groundwater is relatively shallow (10 feet or less). Construction activities at these depths will be limited to installation of concrete substation foundations, and footings for substation equipment and transmission poles. The vast majority of excavation activities will be completed above the water table.

It is not anticipated that construction dewatering will be necessary. However, in the event construction dewatering is necessary, in accordance with state and federal regulations, groundwater will be discharged to on-site pervious areas or the sewer system or will containerized and transported off-site.

FLOODPLAINS

As described in Section C Existing Conditions, areas immediately east of the Tackapausha Nature Preserve (along Riverside Avenue and Seaford Avenue) and along Oakdale Avenue and Harbor Boulevard, south of Merrick Road are located within the 100-year or 500-year floodplains. C&R activities will be completed in these areas within/along paved public roadways or sidewalks, which will be restored in-kind upon completion of the work and will not result in any significant increase of

impervious surfaces that would result in the potential for significant adverse impacts to flood levels, flood risk, or the flow of floodwaters on the site of the Proposed Action or within the vicinity.

WETLANDS

As described in Existing Conditions, limited work activities will be completed in NYSDEC-regulated freshwater wetland adjacent areas. No work will occur within the boundary of the wetlands. These work activities are authorized activities under PSEG Long Island's NYSDEC General Freshwater Wetlands Permit (NYSDEC Permit No. 1-9901-00011/00032). All work within the regulated freshwater wetland adjacent areas will be performed in accordance with the conditions set forth in the permit, and therefore the Proposed Action will not result in significant adverse impacts to wetlands.

COASTAL ZONE

Sections of the Overhead C&R and Underground C&R work located along and south of Merrick Road are located within the New York State Coastal Zone. A New York State Coastal Assessment Form was completed and submitted to New York Department of State (NYSDOS) (see Appendix A). The Proposed Action will be consistent with and will not substantially hinder the achievement of any of the coastal policies set forth in 19 NYCRR Part 600.5.

TERRESTRIAL ECOLOGICAL COMMUNITIES AND VEGETATION

As described in Section C - Existing Conditions, the Proposed Substation will be constructed on property that is currently vacant and unvegetated, with a crushed dolomite ground cover, best described as "Urban Vacant Lot", an unranked cultural community with wide distribution throughout New York State. Urban Vacant Lots, is defined as an open site in a developed urban area that has been cleared for either construction or following the demolition of a building. Vegetation is typically sparse and there may be large areas of exposed soil, often with rubble or other debris.

The surrounding areas, including the proposed location of the UG distribution exit feeders and distribution C&R activities is comprised of areas best described as "Mowed roadside/pathway" or "Paved road/path", where there is likely to be sparse vegetation, or mowed roadside areas. The transmission pole activities will be located in areas best described as "Successional southern hardwoods", which is defined as a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed.

The Proposed Action will result in disturbance or removal of the limited existing vegetation. Up to approximately 900 square feet (or 0.02 acres) of vegetation will need to be removed along the LIRR ROW for the replacement and installation of the transmission poles. These areas will be stabilized with a native grass seed mix at completion of construction. This ecological community ("Southern successional hardwoods"), as observed in the field, was comprised mainly of invasive species, and is of little to no ecological significance.

Due to the lack of sensitive ecological communities, as well as much of the site of the Proposed Action being paved, unvegetated, or mowed roadside areas, the Proposed Action will not result in significant adverse impacts to terrestrial ecological communities and vegetation.

WILDLIFE

Terrestrial wildlife use of the site of the Proposed Action is limited due to disturbed and largely unvegetated conditions and high levels of human activity. Due these existing conditions, the Proposed Action will not result in the elimination of high quality or otherwise undisturbed wildlife habitat and will not adversely affect the limited suburban species assemblage observed and expected to occur in the vicinity of the Proposed Action. Suburban species are able adapt quickly to changes in habitat with any displacement being temporary in nature, and therefore are tolerant of disturbance. Individuals of these species that may temporarily be displaced from the site of the Proposed Action during construction and will likely ultimately occupy abundant surrounding suitable habitats.

THREATENED, ENDANGERED AND SPECIAL CONCERN SPECIES AND SIGNIFICANT HABITATS

No federal or New York State threatened, endangered, or special concern species, or significant habitats, were observed in the vicinity of the Proposed Action. Therefore, the Proposed Action will not result in significant adverse impacts to threatened, endangered or special concern species, or significant habitats.