A. INTRODUCTION

This chapter examines the potential impacts from the Proposed Project on natural resources within the Project Corridor comprising the 9.8 miles of the LIRR Right-of-Way (LIRR ROW) between the Floral Park ^ Station and the Hicksville ^ Station, station areas, and grade crossings between Floral Park and Hicksville. This chapter describes:

- The regulatory programs that protect groundwater, wetlands, wildlife, threatened or endangered species, and other natural resources within the broader Study Area;
- The current condition of natural resources within the Study Area, including groundwater, wetlands, terrestrial biota, and threatened or endangered species and species of special concern;
- The natural resources conditions in the Future Without the Proposed Project;
- The potential impacts of the Proposed Project on natural resources; and
- The measures that would be developed, as necessary, to mitigate and/or reduce any of the Proposed Project's potential significant adverse effects on natural resources.

B. PRINCIPAL CONCLUSIONS AND IMPACTS

Because the Proposed Project would occur mostly within the previously-disturbed Project Corridor or within the footprint of existing roadways, buildings, and ^ parking lots, potential adverse impacts would primarily be short term and during the construction phase rather than the operational phase (see Chapter 13, "Construction"). Habitat for vegetation and wildlife within and surrounding the Study Area is limited due to extensive residential, commercial, and industrial land uses present within the Study Area and associated large areas of impervious surface. The Study Area does not contain any floodplains, naturally-occurring water bodies or wetlands, or threatened, endangered, or special concern species. Groundwater is a concern given the sensitivity of the Nassau/Suffolk Aquifer System, a sole source aquifer underlying the Study Area. However, drainage and stormwater management practices will ensure the protection of groundwater during operation of the Proposed Project. Overall, the Proposed Project will not result in significant adverse impacts on natural resources within the Study Area.

C. METHODOLOGY

For this chapter, the Study Area is defined as the Project Corridor and any areas immediately adjacent to the Project Corridor that may be affected by the Proposed Project (**Figure 7-1**). Threatened, endangered, and special concern species were evaluated for a distance of ½-mile on either side of the Project Corridor.

Existing conditions of natural resources within the Study Area were characterized using the following information resources:

7/15/2016

Port Washington Branch

Port Washington Branch

Oyster Bay Branch

Port Jefferson Branch

Ronkonkoma Branch

Hempstead Branch

West Hempstead Branch

Hicksville

Urban Avenue

School Street

Westbury

Carle Place

Cherry Lane

Glen Cove Road

Meadowbrook Parkway

Mineola

Willis Avenue

Main Street

Merillon Avenue

Denton Avenue

New Hyde Park

New Hyde Park Road

South 12th Street

Covert Avenue

Floral Park

South Tyson Avenue

Plainfield Avenue

Nassau Boulevard

To Babylon and Montauk Branches

Grade Crossings

Grade Separated Crossings (Bridges)

LIRR Stations

LIRR Main Line

0 2 MILES

LIRR Expansion Project
Floral Park to Hicksville

Project Corridor
Figure 7-1

- the Information, Planning and Consultation (IPaC) system for federally threatened and endangered species and New York Natural Heritage Program (NYNHP) records of federally and state-listed species;
- 2000-2005 New York State Breeding Bird Atlas results and 1990-1999 New York State Herp Atlas;
- Federal Emergency Management Agency (FEMA) Floodplain Insurance Rate Maps (FIRMs);
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps;
- New York State Department of Environmental Conservation (NYSDEC) wetland maps;
- NYSDEC Environmental Resource Mapper; and
- Site reconnaissance conducted on June 21, 2016 (see **Appendix 7-A** for site photographs).

D. REGULATORY CONTEXT

The following sections identify the federal and state laws and regulatory programs that have potential applicability to the Proposed Project.

FEDERAL

FEDERAL SAFE DRINKING WATER ACT, SECTION 1424(E)

The Sole Source Aquifer (SSA) Protection Program is authorized by Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523, 42 U.S.C. 300 et. seq), which states that no commitment for federal financial assistance may be entered into for any project that may contaminate an area that has been determined to be a sole source aquifer and would create a significant hazard to public health. Such assistance may be used to plan or design the project to ensure that it will not contaminate the aquifer.

The Environmental Protection Agency (EPA) defines a sole source aquifer as "one which supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer." EPA also stipulates that these areas can have no alternative drinking water source(s) that could physically, legally, and economically supply all those who depend upon the aquifer for drinking water.

CLEAN WATER ACT (33 USC §§ 1251 TO 1387)

The Clean Water Act (CWA), also known as the Federal Water Pollution Control Act, is intended to restore and maintain the chemical, physical, and biological integrity of U.S. waters. It regulates point sources of water pollution (i.e., discharges of municipal sewage, industrial wastewater, stormwater, and the discharge of dredged or fill material into navigable waters and other waters of the U.S.) and non-point source pollution (i.e., runoff from streets, agricultural fields, construction sites, and mining).

Section 404 of the CWA requires authorization from the Secretary of Army, acting through the United States Army Corps of Engineers (USACE), before dredged or fill material may be discharged into waters of the United States. Waters of the United States are defined by the USACE regulations, among other things, as: (1) all waters "which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide"; (2) tributaries of such waters; and (3) wetlands adjacent to such waters (33 CFR § 328.3[a]). Wetlands are defined by the USACE regulations as those areas "that are inundated or saturated by surface or ground water at a

frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR § 232.3[b]).

Activities authorized under Section 404 must comply with Section 401 of the CWA, which requires that applicants for federal permits or licenses for an activity that may result in a discharge to navigable waters must provide to the federal agency issuing a permit a certificate (either from the state where the discharge would occur or from an interstate water pollution control agency) that the discharge would comply with Sections 301, 302, 303, 306, 307, and 316 (b) of the CWA. However, in New York, certain nationwide permits from the USACE do not require an individual Section 401 water quality certification.

ENDANGERED SPECIES ACT OF 1973 (16 USC §§ 1531 TO 1544)

The Endangered Species Act of 1973 recognizes that endangered species of wildlife and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value. The act prohibits the importation, exportation, taking, or possession of species covered under the Act, as well as interstate or foreign commercial or other activities involving illegally taken species The Act also provides for the protection of critical habitats on which endangered or threatened species depend for survival.

NEW YORK STATE

FRESHWATER WETLANDS ACT, ARTICLE 24, ECL, IMPLEMENTING REGULATIONS 6 NYCRR PART 662.

The Freshwater Wetlands Act requires NYSDEC to map freshwater wetlands protected by the Act (12.4 acres or greater in size or of "unusual local importance" containing wetland vegetation characteristic of freshwater wetlands as specified in the Act). Around each mapped wetland is a protected 100-foot adjacent area that serves as a buffer. In accordance with the Act, the NYSDEC ranks wetlands in one of four classes that range from Class I, which represents the greatest benefits and is the most restrictive, to Class IV. The permit requirements are more stringent for a Class I wetland than for a Class IV wetland. Certain activities (e.g., normal agricultural activities, fishing, hunting, hiking, swimming, camping or picnicking, routine maintenance of structures and lawns, and selective cutting of trees and harvesting fuel wood) are exempt from regulation. Activities that could have negative impact on wetlands are regulated and require a permit if conducted in a protected wetland or its adjacent area.

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) (N.Y. ECL ARTICLE 3, TITLE 3; ARTICLE 15; ARTICLE 17, TITLES 3, 5, 7, AND 8; ARTICLE 21; ARTICLE 70, TITLE 1; ARTICLE 71, TITLE 19; IMPLEMENTING REGULATIONS 6 NYCRR ARTICLES 2 AND 3)

Title 8 of Article 17, ECL, Water Pollution Control, authorized the creation of the SPDES program to regulate discharges to the state's waters. Activities requiring a SPDES permit include point source discharges of wastewater into surface or ground waters of the state, constructing or operating a waste disposal system, discharge of stormwater, and construction activities that disturb one acre or more.

ENDANGERED AND THREATENED SPECIES OF FISH AND WILDLIFE; SPECIES OF SPECIAL CONCERN (ECL, SECTIONS 11-0535[1]-[2], 11-0536[2], [4], IMPLEMENTING REGULATIONS 6 NYCRR PART 182)

The Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern Regulations prohibit the taking, import, transport, possession or selling of any endangered or threatened species of fish or wildlife, or any hide, or other part of these species as listed in 6 NYCRR §182.6.

E. EXISTING CONDITIONS

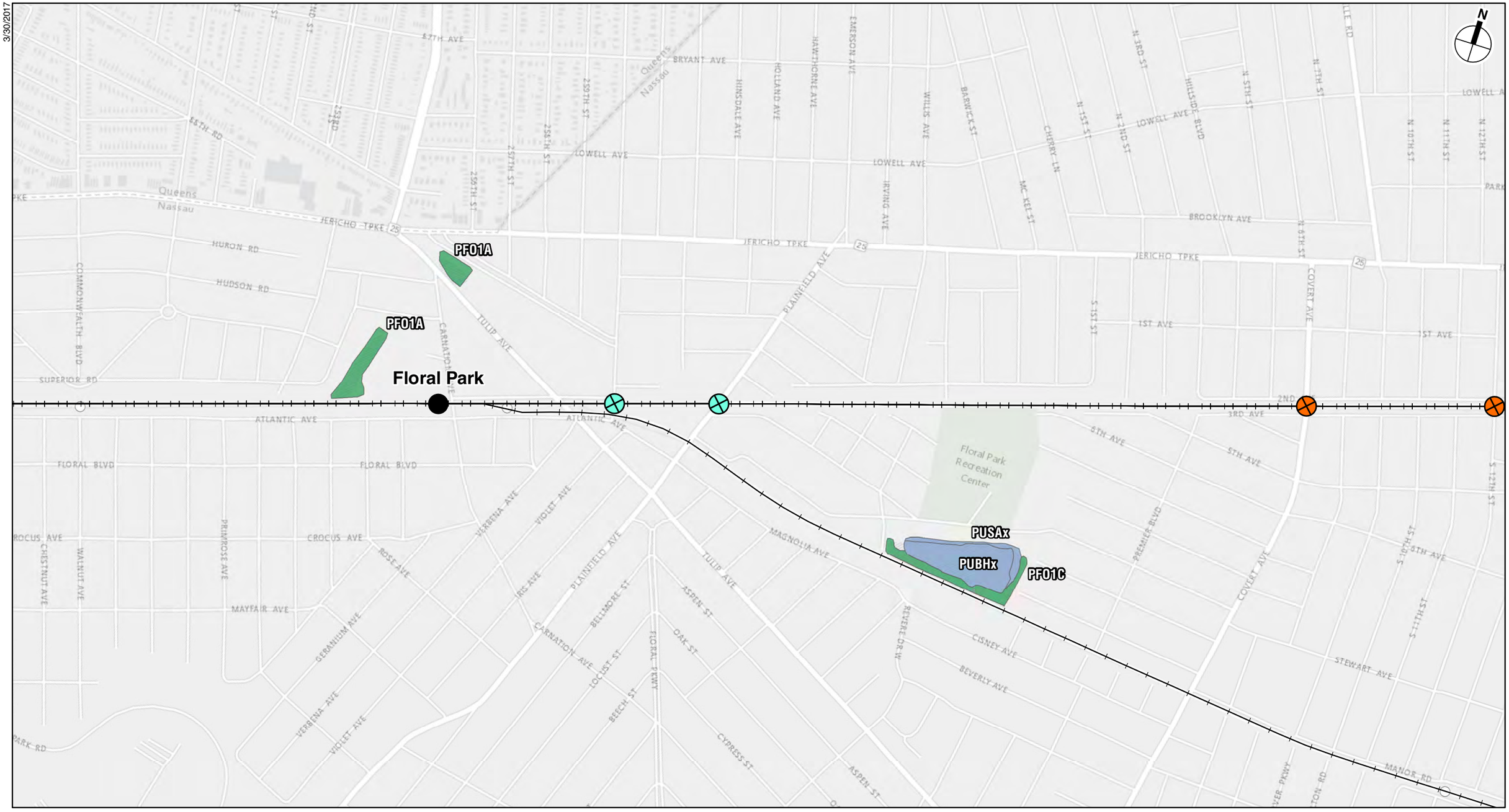
The majority of the Study Area is characterized as heavily developed portions of Nassau County. Natural resources are limited throughout much of the Study Area, but some areas are vegetated and contain natural features, or are immediately adjacent to areas with sensitive natural resources (e.g., the Garden City Bird Sanctuary). All of Long Island is designated a sole source aquifer. These resources are characterized below. On the basis of the NYSDEC Environmental Resource Mapper tool and site reconnaissance, there are no NYSDEC-classified surface waters within the Study Area. Therefore, this resource is not characterized and potential impacts to this resource are not assessed below. Similarly, on the basis of the effective FEMA FIRM maps, there are no 100-year floodplain (the area with at least a 1 percent probability of flooding each year) or 500-year floodplain (the area with at least a 0.2 percent probability of flooding each year) areas within the Study Area. Therefore, floodplain resources are not characterized and potential impacts to floodplains are not assessed.

GROUNDWATER AND WETLANDS

The Study Area overlays the Nassau/Suffolk Aquifer System, which was designated by the USEPA as a sole source aquifer on June 21, 1978 pursuant to Section 1424(e) of the Safe Drinking Water Act. Recharge of the Nassau/Suffolk Aquifer System is from precipitation that infiltrates through pervious ground into the aquifer. Approximately two-thirds of the LIRR ROW consists of impervious ballast area and the other third is either bare ground or grass, with ditches north and south of the existing track alignment consisting of sandy soil through which stormwater can infiltrate. Groundwater depths in this region are approximately 45 to 50 feet below the surface, allowing surface runoff to percolate deep into the sub soil layers. Due to the high percentage of impervious surface within the LIRR ROW, there is limited recharge potential from precipitation other than the infiltration ditches located on either side of the existing tracks Stormwater runoff from the LIRR ROW is managed within the existing ditch/channel on either side of the LIRR ROW during storm events. At each cross street intersection within the Project Corridor, there is a nearby Nassau County storm drainage system that carries runoff from the roadway to existing County-owned recharge basins in proximity to the Project Corridor.

There are six stormwater ponds (or, recharge basins) that were constructed for stormwater drainage and groundwater replenishment located adjacent to the Project Corridor. Five of these stormwater ponds correspond with the NWI-mapped freshwater wetlands shown in **Figures 7-2a and 7-2b**. The two westernmost ponds are mapped by the NWI as palustrine wetlands dominated by emergent persistent vegetation that are temporarily flooded (PEM1A) and are located just west of Tanners Pond Road at the Garden City Bird Sanctuary (a 7-acre nature preserve included in the Study Area for analysis). These ponds correspond with Nassau County Recharge Basin #232. The next pond is located just west of Herricks Road and is classified by NWI as a palustrine wetland with an unconsolidated bottom that is permanently flooded and has been excavated (PUBHx). This pond corresponds with Nassau County Recharge Basin #123 and consists of four interconnected quadrants. Farther east, the NWI-mapped PEM1Fx (palustrine

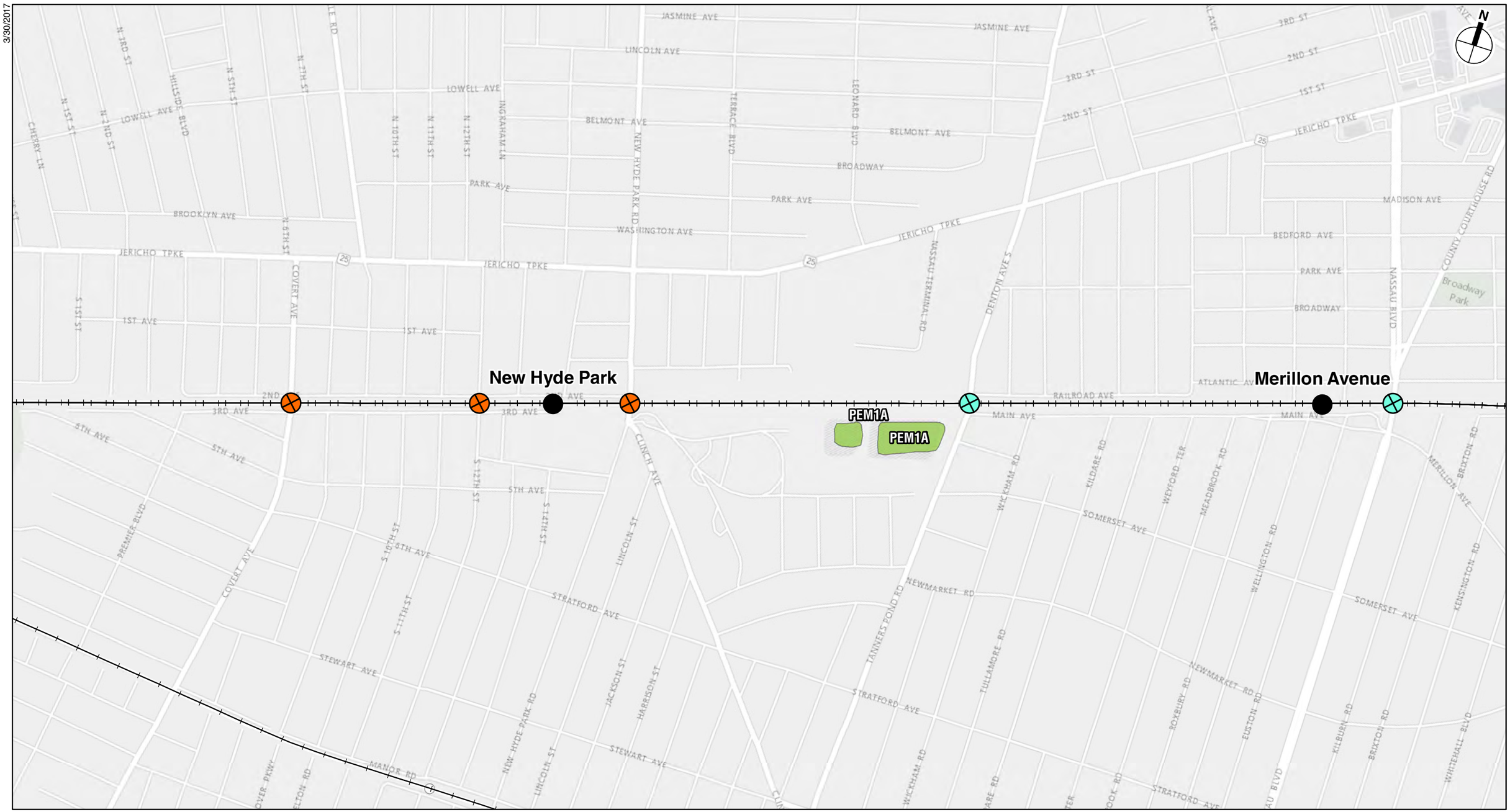
3/30/2017



LIRR Expansion Project
Floral Park to Hicksville

NWI Wetlands/Nassau County Stormwater Basins
Figure 7-2A

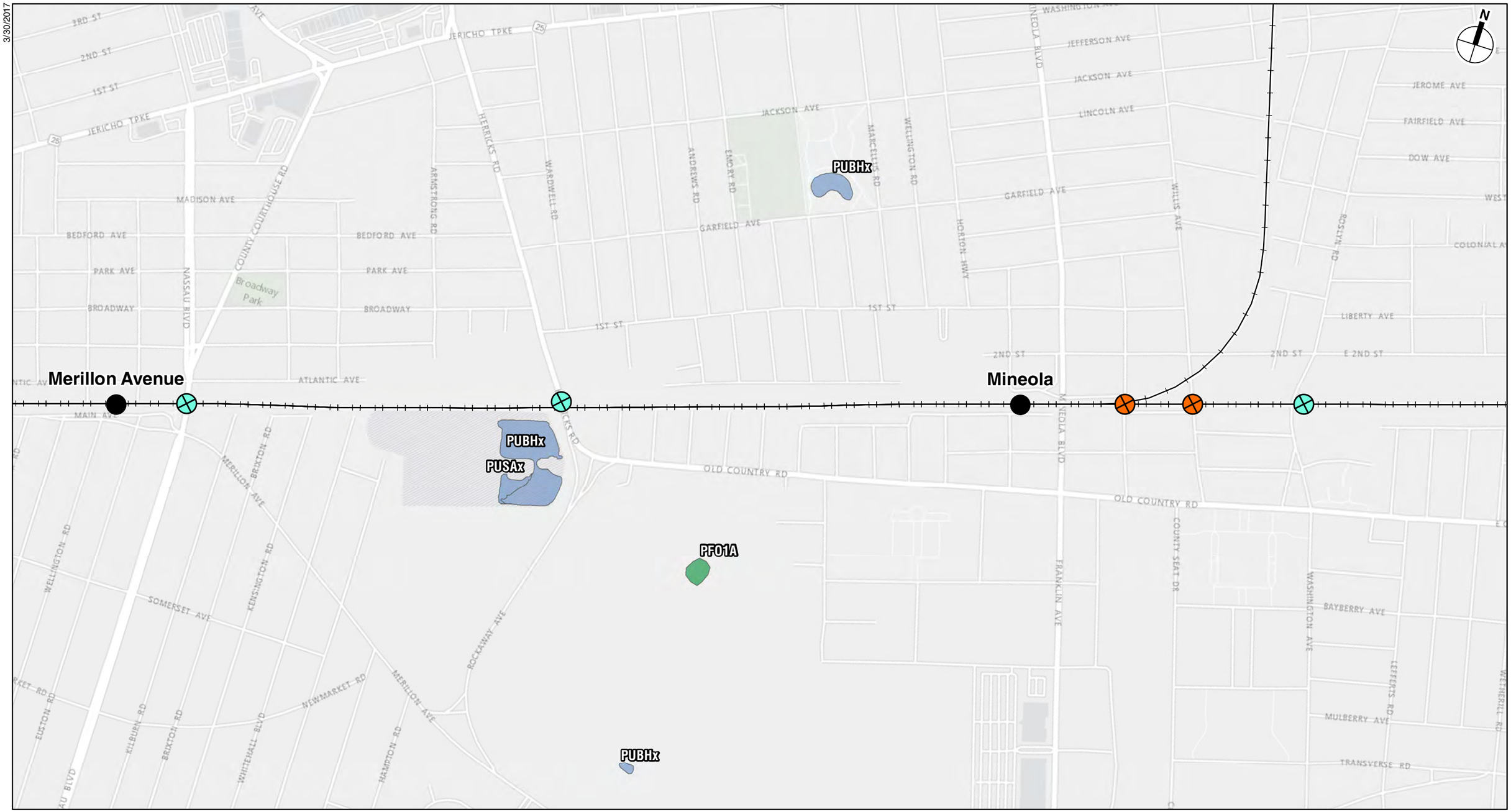
3/30/2017



LIRR Expansion Project
Floral Park to Hicksville

NWI Wetlands/Nassau County Stormwater Basins
Figure 7-2B

3/30/2017



Grade Crossings

Grade Separated Crossings (Bridges)

LIRR Stations

Freshwater Forested/Shrub Wetland (PFO, PSS)

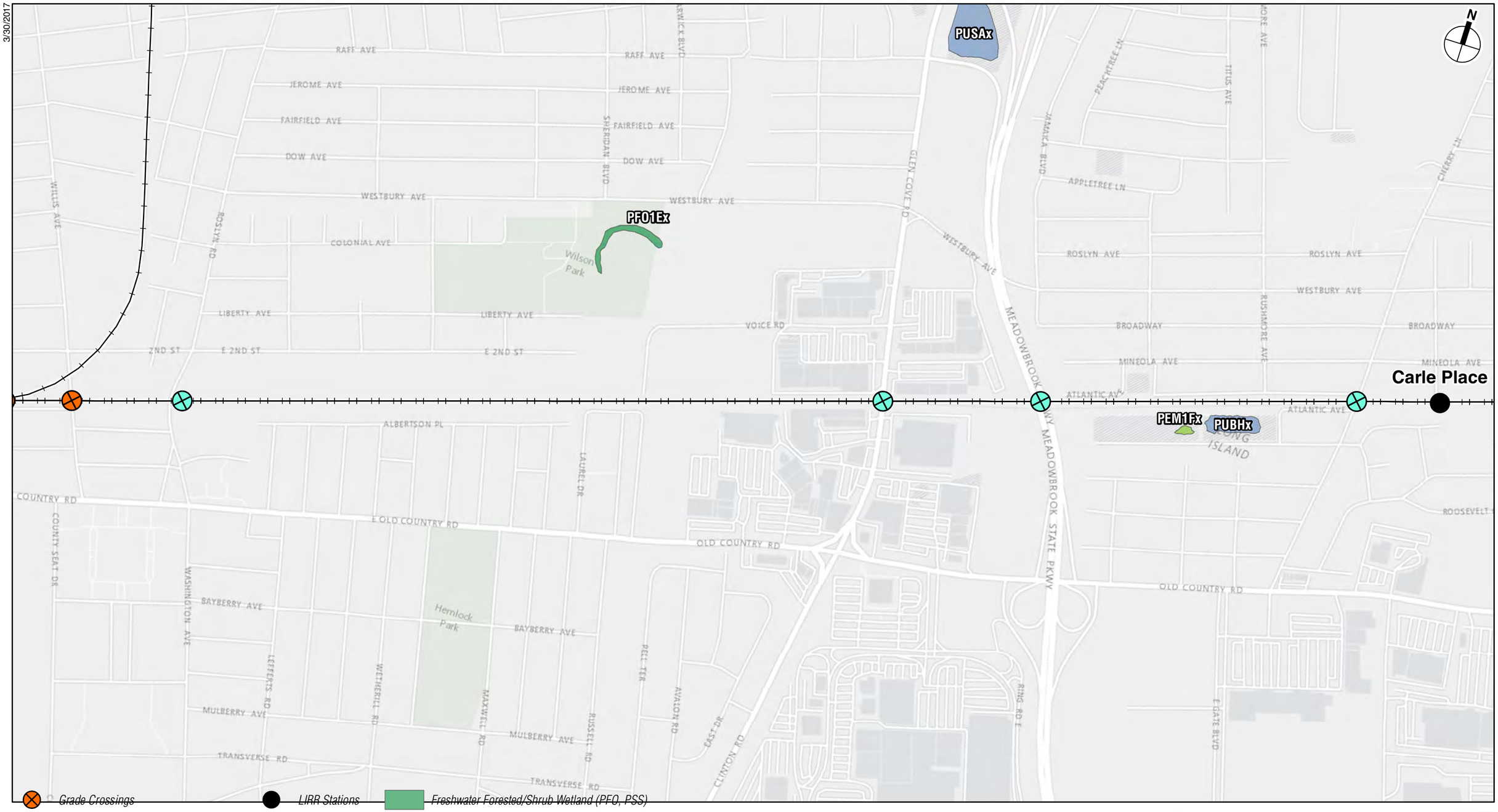
Freshwater Pond (PUB, PAB)

0 2,000 FEET

LIRR Expansion Project
Floral Park to Hicksville

NWI Wetlands/Nassau County Stormwater Basins
Figure 7-2C

3/30/2017



Grade Crossings

Grade Separated Crossings (Bridges)

LIRR Stations

Freshwater Forested/Shrub Wetland (PFO, PSS)

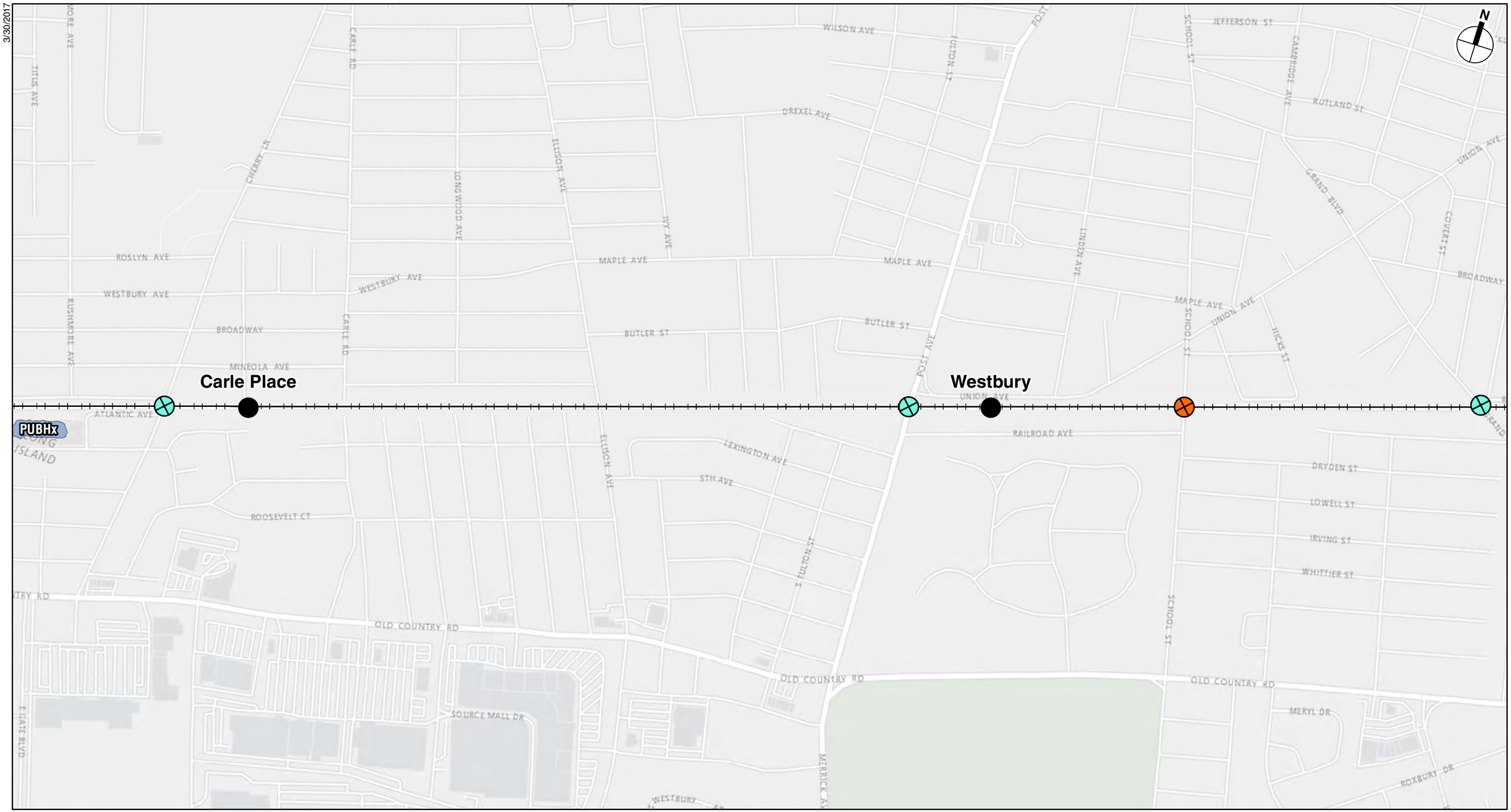
Freshwater Emergent Wetland (PEM)

Freshwater Pond (PUB, PAB)

LIRR Expansion Project
Floral Park to Hicksville

NWI Wetlands/Nassau County Stormwater Basins
Figure 7-2D

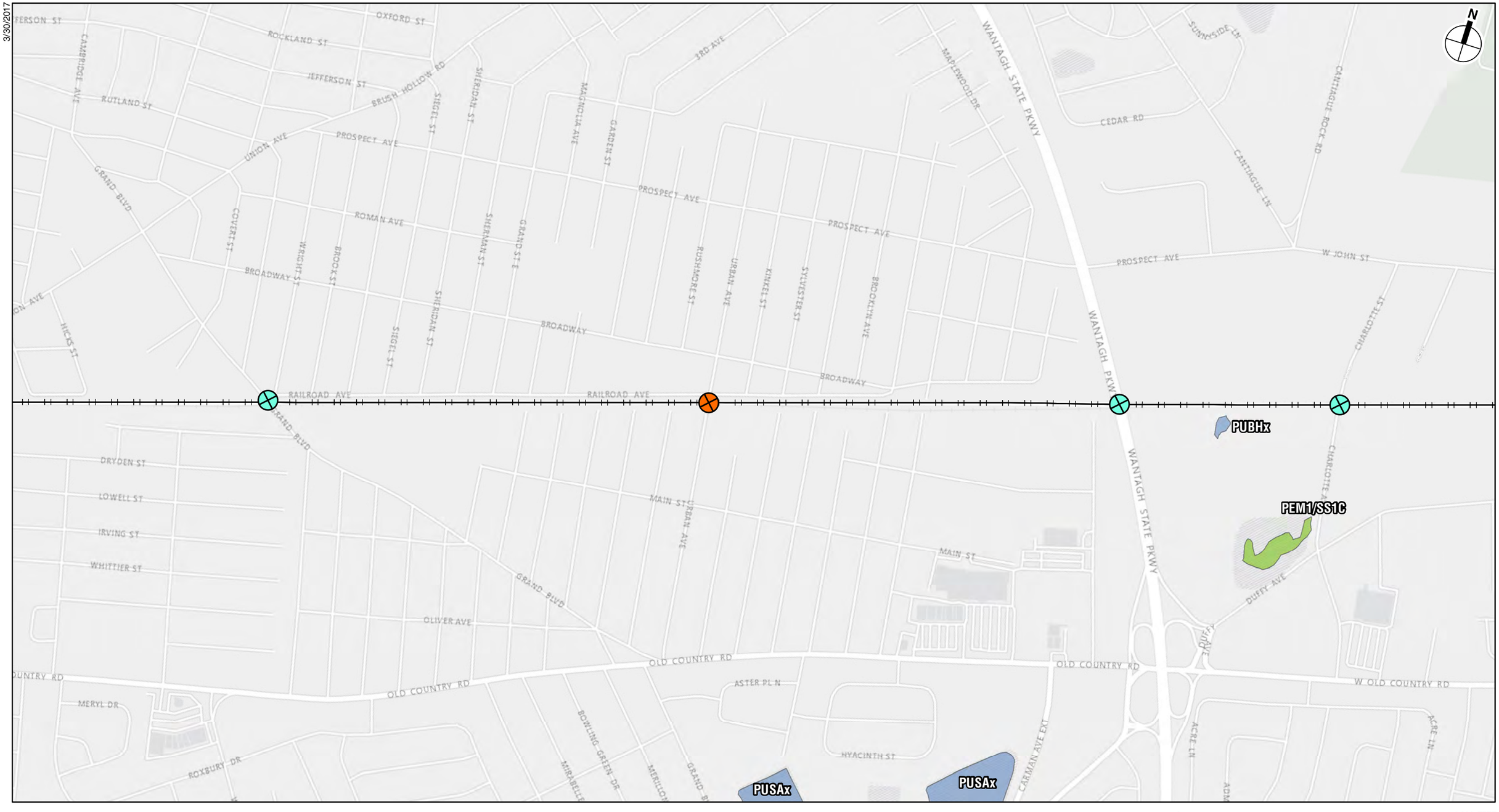
3/30/2017



LIRR Expansion Project
Floral Park to Hicksville

NWI Wetlands/Nassau County Stormwater Basins
Figure 7-2E

3/30/2017



Grade Crossings

Grade Separated Crossings (Bridges)

Freshwater Emergent Wetland (PEM)

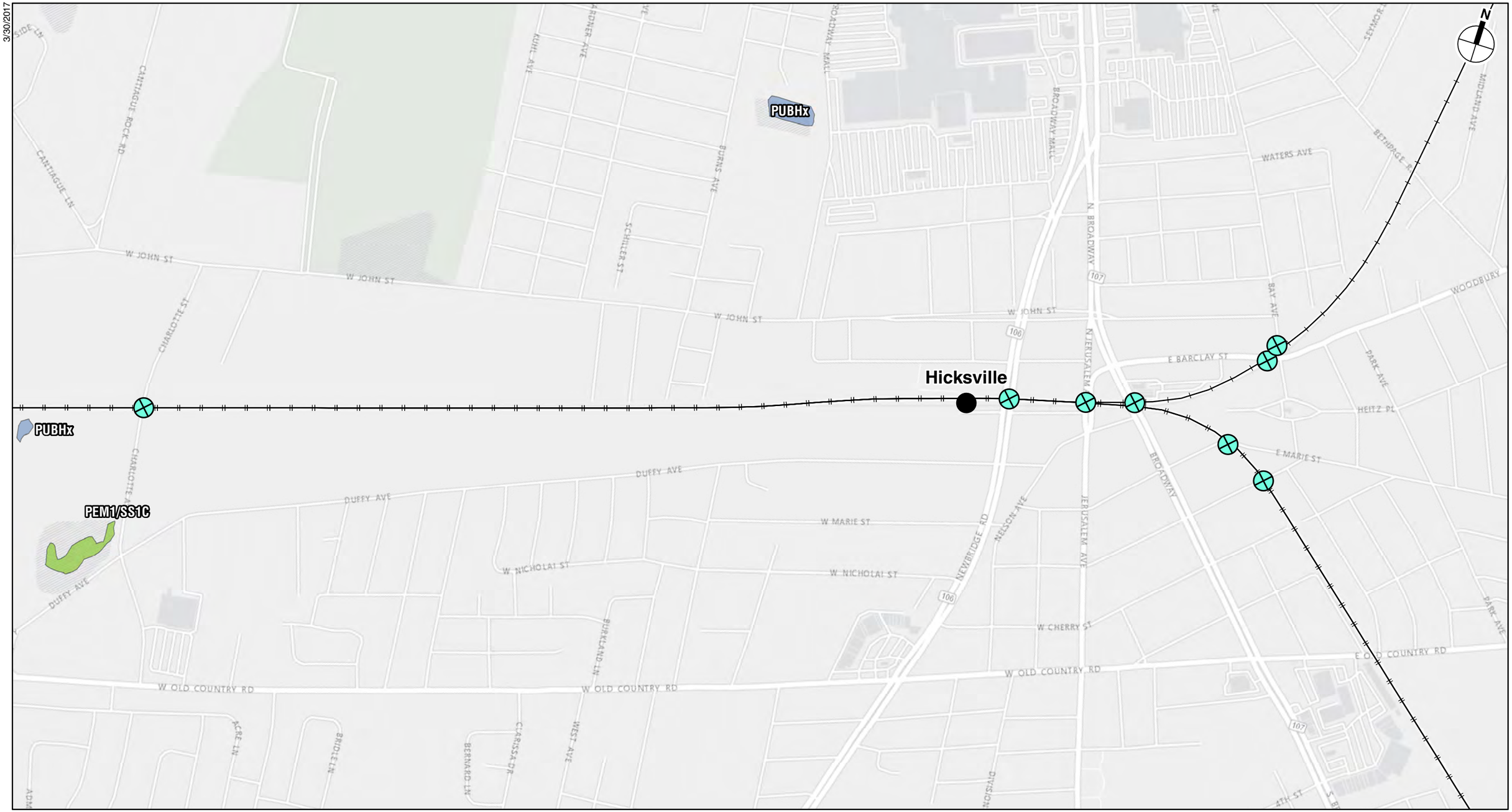
Freshwater Pond (PUB, PAB)

0 2,000 FEET

LIRR Expansion Project
Floral Park to Hicksville

NWI Wetlands/Nassau County Stormwater Basins
Figure 7-2F

3/30/2017



Grade Separated Crossings (Bridges)

LIRR Stations

Freshwater Emergent Wetland (PEM)

Freshwater Pond (PUB, PAB)

0 2,000 FEET

LIRR Expansion Project
Floral Park to Hicksville

NWI Wetlands/Nassau County Stormwater Basins
Figure 7-2G

wetland dominated by emergent persistent vegetation that is semi-permanently flooded and has been excavated) and PUBHx wetlands, located north of Mallard Road west of the LIRR Carle Place ^ Station, correspond with Nassau County Recharge Basin #139. A small, NWI-mapped PUBHx ped wetland occurs just east of Wantagh Sate Parkway. All ponds are located to the south of the LIRR ROW. A seventh stormwater pond is located approximately 2,600 feet southeast of the grade crossing at Urban Avenue and corresponds with Nassau County Recharge Basin #51. Although this pond is not located adjacent to the LIRR ROW, it may receive drainage from the proposed grade crossing modifications at Urban Avenue.

These NWI-mapped wetlands are not NYSDEC-mapped wetlands[1] and therefore not regulated under Article 24 of the ECL, and are not likely to be considered federal wetlands. 33 Code of Federal Regulations (CFR) 328.3(b) defines waters and wetlands that are not "waters of the United States" to include:

- Stormwater control features constructed to convey, treat, or store stormwater that are created on dry land; and
- Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Based upon this definition, the six stormwater ponds would not be considered waters of the United States and therefore would not be regulated under Section 404 of the Clean Water Act.

Nassau County owns and operates these basins and has jurisdiction over them.

ECOLOGICAL COMMUNITIES

The Study Area is located in an urbanized area and thus contains an abundance of landscaped, urban-adapted, and invasive/opportunistic vegetation such as Norway maple (*Acer platanoides*), tree of heaven (*Ailanthus altissima*), black locust (*Robinia pseudoacacia*), Asiatic bittersweet (*Celastrus orbiculatus*), crabgrass (*Digitaria* sp.), and Japanese honeysuckle (*Lonicera japonica*). **Table 7-1** lists vegetation identified within the Study Area during the June 21, 2016 reconnaissance investigation.

Following Edinger et al. (2014), the Study Area would best be described as having "terrestrial cultural" communities, which are defined as "communities that are either created and maintained by human activities, or are modified by human influence to such a degree that the physical conformations of the substrate, or the biological composition of the resident community is substantially different from the character of the substrate or community as it existed prior to human influence." The terrestrial cultural communities that are present within the Project Corridor include paved road/path[2], urban structure exterior[3] and railroad.[4] These three terrestrial

[1] Article 24 of the New York ECL defines freshwater wetlands as "lands and waters of the state as shown on the freshwater wetlands map…"

[2] Edinger et al. (2014) define this community 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."

[3] Edinger et al. (2014) define this community as "the exterior surfaces of metal, wood, or concrete structures (such as commercial buildings, apartment buildings, houses, bridges) or any structural surface composed of inorganic materials (glass, plastics, etc.) in an urban or densely populated suburban area. These sites may be sparsely vegetated with lichens, mosses, and terrestrial algae; occasionally vascular plants may grow in cracks. Nooks and crannies may provide nesting habitat for birds and insects, and roosting sites for bats."

cultural communities: paved road/path, urban structure exterior, and railroad correspond to the three project elements: grade crossings, stations, and track alignment, respectively. Terrestrial cultural communities in the Study Area beyond the Project Corridor generally comprise urbanized areas and residential properties with lawn and shade trees.

Table 7-1
Vegetation Identified within the Study Area

Common Name	Scientific Name	Stratum
Norway maple	*Acer platanoides*	Tree
Sycamore maple	*Acer pseduoplatanus*	Tree
Tree of heaven	*Ailanthus altissima*	Tree
Garlic mustard	*Alliaria petiolata*	Herb
Greater burdock	*Arctium lappa*	Herb
Common mugwort	*Artemisia vulgaris*	Herb
Common milkweed	*Asclepias syriaca*	Herb
Southern catalpa	*Catalpa bignonioides*	Tree
Asiatic bittersweet	*Celastrus orbiculatus*	Vine
Spotted knapweed	*Centaurea maculosa*	Herb
Lamb's quarters	*Chenopodium album*	Herb
Black swallowwort	*Cynanchum louiseae*	Herb
Orchard grass	*Dactylis glomerata*	Herb
Queen Anne's lace	*Daucus carota*	Herb
Crabgrass	*Digitaria* sp	Herb
Japanese knotweed	*Fallopia japonica*	Herb
Forsythia	*Forsythia* sp	Shrub
White ash	*Fraxinus americana*	Tree
Bedstraw	*Galium* sp	Herb
English ivy	*Hedera helix*	Vine
Cat's ear dandelion	*Hypochaeris radicata*	Herb
Eastern redcedar	*Juniperus virginiana*	Tree
Prickly lettuce	*Lactuca serriola*	Herb
Sweetgum	*Liquidambar styraciflua*	Tree
Japanese honeysuckle	*Lonicera japonica*	Vine
Pineapple weed	*Matricaria discoidea*	Herb
White mulberry	*Morus alba*	Tree
Panic grass	*Panicum virgatum*	Herb
Virginia creeper	*Parthenocissus quinquefolia*	Vine
Common reed	*Phragmites australis*	Herb
Pokeweed	*Phytolacca americana*	Herb
English plantain	*Plantago lanceolata*	Herb
Common plantain	*Plantago major*	Herb
London planetree	*Platanus acerfolia*	Tree
Kentucky bluegrass	*Poa pratensis*	Herb
Black cherry	*Prunus serotina*	Tree
Pin oak	*Quercus palustris*	Tree
Black locust	*Robinia pseudoacacia*	Tree
Crown vetch	*Securigera varia*	Herb
Common greenbrier	*Smilax rotundifolia*	Vine
Bittersweet nightshade	*Solanum dulcamara*	Herb
Goldenrod	*Solidago* sp	Herb
Common dandelion	*Taraxacum officinale*	Herb
Yew	*Taxus* sp	Shrub
Little leaf linden	*Tilia cordata*	Tree
Poison ivy	*Toxicodendron radicans*	Vine
White clover	*Trifolium repens*	Herb
Moth mullein	*Verbascum blattaria*	Herb
Common mullein	*Verbascum thapsus*	Herb

Sources: AKRF reconnaissance investigation on June 21, 2016.

[4] Edinger et al. (2014) define this community as "a permanent road having a line of steel rails fixed to wood ties and laid on gravel roadbed that provides a track for cars or equipment drawn by locomotives or propelled by self-contained motors. There may be sparse vegetation rooted in the gravel substrate along regularly maintained railroads. The railroad right of way may be maintained by mowing or herbicide spraying."

WILDLIFE

MAMMALS

Mammals that may be expected to be found within the Study Area are limited to highly urban-adapted, generalist species that are tolerant of the heavy levels of development and human disturbance and degraded habitat conditions, and those associated with habitats typical of suburban areas. Most of the portion of the Study Area is covered by impervious surface and lacks habitat that is capable of supporting mammals other than eastern gray squirrels, raccoons, white-footed mice, and feral cats. **Table 7-2** lists mammals with the potential to occur within the Study Area. A few small green spaces that are within the Study Area adjacent to the LIRR ROW, including the Garden City Bird Sanctuary and the stormwater management ponds, as well as residential areas may support these mammals. The only mammal observed during the June 21 wildlife survey was the eastern gray squirrel.

Table 7-2
Mammal Species with the Potential to Occur in the Study Area

Common name	Scientific name
Big brown bat	*Eptesixus fuscus*
Deer mouse	*Peromyscus maniculatus*
Eastern chipmunk	*Tamias striatus*
Eastern cottontail	*Sylvilagus floridanus*
Eastern gray squirrel	*Sciurus carolinensis*
Feral cat	*Felis domesticus*
Opossum	*Didelphis marsupialis*
Raccoon	*Procyon lotor*
White-footed mouse	*Peromyscus leucopus*

BIRDS

The NYSDEC New York Breeding Bird Atlas is a periodic survey of the distribution of bird species breeding in New York State. The most recent atlas (2000-2005) documents 59 species as confirmed or probable breeders in the 5 census blocks that are spanned by the Study Area. Each census block is 3 square miles, and as such, the 15 square miles covered by these 5 blocks includes larger and less disturbed habitats, as well as many other types of habitats than those that are present within the Study Area. Therefore, several species of birds that were documented in these blocks would not have the potential to nest within the Study Area due to a lack of appropriate habitat. As discussed above, the majority of the Study Area consists of impervious surfaces, suburban areas with lawn and shade trees, and stormwater management ponds and habitat for native birds and other wildlife is highly limited. **Table 7-3** lists the 43 of the 59 bird species documented by the Breeding Bird Atlas that would be expected to nest within the Study Area on the basis of their habitat associations and sensitivity to human disturbance and urban development. Of these, only extremely urban-adapted, generalist bird species, such as the non-native house sparrow (*Passer domesticus*) and European starling (*Sternus vulgarus*) have the greatest potential to breed within the limited habitats found within the Project Corridor. Habitat

Table 7-3
Birds Documented by the 2000-2005 New York State Breeding Bird Atlas

Common name	Scientific name
American Crow	*Corvus brachyrhynchos*
American Goldfinch	*Spinus tristis*
American Redstart	*Setophaga ruticilla*
American Robin	*Turdus migratorius*
Baltimore Oriole	*Icterus galbula*
Bank Swallow	*Riparia riparia*
Barn Swallow	*Hirundo rustica*
Black-capped Chickadee	*Poecile atricapillus*
Blue Jay	*Cyanocitta cristata*
Blue-winged Warbler	*Vermivora pinus*
Brown-headed Cowbird	*Molothrus ater*
Canada Goose	*Branta canadensis*
Carolina Wren	*Thryothorus ludovicianus*
Cedar Waxwing	*Bombycilla cedrorum*
Chimney Swift	*Chaetura pelagica*
Chipping Sparrow	*Spizella passerina*
Common Grackle	*Quiscalus quiscula*
Common Yellowthroat	*Geothlypis trichas*
Downy Woodpecker	*Picoides pubescens*
Eastern Kingbird	*Tyrannus tyrannus*
Eastern Phoebe	*Sayornis phoebe*
Eastern Screech-Owl	*Megascops asio*
Eastern Towhee	*Pipilo erythrophthalmus*
European Starling	*Sturnus vulgaris*
Fish Crow	*Corvus ossifragus*
Gray Catbird	*Dumetella carolinensis*
Great Crested Flycatcher	*Myiarchus crinitus*
Great Horned Owl	*Bubo virginianus*
Green Heron	*Butorides virescens*
Hairy Woodpecker	*Picoides villosus*
House Finch	*Carpodacus mexicanus*
House Sparrow	*Passer domesticus*
House Wren	*Troglodytes aedon*
Indigo Bunting	*Passerina cyanea*
Killdeer	*Charadrius vociferus*
Mallard	*Anas platyrhynchos*
Mourning Dove	*Zenaida macroura*
Mute Swan	*Cygnus olor*
Northern Cardinal	*Cardinalis cardinalis*
Northern Flicker	*Colaptes auratus*
Northern Mockingbird	*Mimus polyglottos*
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Orchard Oriole	*Icterus spurius*
Red-bellied Woodpecker	*Melanerpes carolinus*
Red-eyed Vireo	*Vireo olivaceus*
Red-tailed Hawk	*Buteo jamaicensis*
Red-winged Blackbird	*Agelaius phoeniceus*
Ring-necked Pheasant	*Phasianus colchicus*
Rock Pigeon	*Columba livia*
Ruby-throated Hummingbird	*Archilochus colubris*
Song Sparrow	*Melospiza melodia*
Tree Swallow	*Tachycineta bicolor*
Tufted Titmouse	*Baeolophus bicolor*
Warbling Vireo	*Vireo gilvus*
White-breasted Nuthatch	*Sitta carolinensis*
White-eyed Vireo	*Vireo griseus*
Wood Thrush	*Hylocichla mustelina*
Yellow Warbler	*Dendroica petechia*
Yellow-billed Cuckoo	*Coccyzus americanus*

Notes: Includes atlas blocks 6050A, 6050B, 6051D, 6151C, and 6151D

that is capable of supporting the other bird species is limited to the adjacent habitats within the Study Area comprising the Garden City Bird Sanctuary and the stormwater management ponds. The Garden City Bird Sanctuary is a 7-acre preserve that has small areas of woodland, wetland, and meadow, and contains several actively maintained feeders and nest boxes. The stormwater management ponds are also small and primarily consist of emergent wetland and fringes of upland woodland. These green spaces are expected to support some bird species that are common to suburban and urban habitats, such as the American robin, American goldfinch, blue jay, black-capped chickadee, downy woodpecker, and northern cardinal. During spring and fall migration, additional bird species are likely to stop briefly in these habitats to refuel. Examples include common yellowthroat, American redstart, yellow-rumped warbler, and wood thrush.

REPTILES AND AMPHIBIANS

The NYSDEC Herp Atlas Project, a survey was conducted from 1990 to 1999 to document the geographic distribution of New York's reptile and amphibian species. **Table 7-4** lists the 26 species recorded in the census blocks in which the project site is located (Sea Cliff, Hicksville, Lynbrook, and Freeport quadrangles. However, these census blocks cover nearly all of Nassau County and include larger and less disturbed habitats, as well as many other types of habitats than those that are present within the Study Area. However, on the basis of their habitat associations, only a small subset of these species (spotted salamander, red-backed salamander, gray tree frog, spring peeper, bullfrog, green frog, snapping turtle, red-eared slider, Italian wall lizard, northern water snake, northern brown snake, and common garter snake), as indicated in **Table 7-4**, is considered to have the potential to occur within the limited and degraded habitat within the Study Area (Gibbs et al. 2007). These include species that are urban-adapted and tolerant of small, highly disturbed habitats within heavily developed landscapes. No reptiles or amphibians are expected to occur within the portion of the Study Area comprising the Project Corridor. The Italian wall lizard, an introduced species, was the only reptile or amphibian observed within the Study Area during the June 21, 2016 site reconnaissance.

THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES

Federally endangered, threatened, candidate, or proposed species listed by the USFWS IPaC System as occurring in Nassau County include piping plover (*Charadrius melodus*; threatened), roseate tern (*Sterna dougalli*; endangered), red knot (*Calidris canutas rufa*; threatened), northern long-eared bat (*Myotis septentrionalis*; threatened), seabeach amaranth (*Amaranthus pumilus*; threatened), and sandplain gerardia (*Agalinis acuta*; endangered) (**Appendix 7-B**). With the exception of the northern long-eared bat, each of these animals or plants is a coastal species that only occurs on beaches, mudflats, and/or over the open waters of bays and oceans, and therefore does not have the potential to occur within the inland Study Area. The northern long-eared bat is associated with mature, interior, upland forest within heavily forested landscapes. It is sensitive to forest fragmentation and urbanization, and typically avoids roads and other sharp forest edges (Owen et al. 2003, Broders et al. 2006, Henderson et al. 2008, and Johnson et al. 2008). The Study Area is heavily developed and lacks any large tracts of forest that would be capable of supporting northern long-eared bats. Northern long-eared bats are therefore not considered to have the potential to occur within the Study Area.

Table 7-4
Reptiles and Amphibians Documented by the NYSDEC Herp Atlas Project in the Sea Cliff, Hicksville, Lynbrook, and Freeport Census Quadrangles

Common Name	Scientific Name
Spotted salamander	*Ambystoma maculatum*
Eastern tiger salamander	*Ambystoma tigrinum*
Red-backed salamander	*Plethodon cinereus*
Northern two-lined salamander	*Eurycea bislineata*
Eastern spadefoot toad	*Scaphiopus holbrookii*
Fowler's toad	*Bufo fowleri*
Gray tree frog	*Hyla versicolor*
Spring peeper	*Pseudacris crucifer*
Bullfrog	*Rana catesbeiana*
Green frog	*Rana clamitans*
Wood frog	*Rana sylvatica*
Snapping turtle	*Chelydra serpentina*
Spotted turtle	*Clemmys guttata*
Eastern box turtle	*Terrapene carolina*
Northern diamondback terrapin	*Malaclemys terrapin*
Eastern red-bellied turtle	*Pseudemys rubriventris*
Red-eared slider	*Trachemys scripta*
Painted turtle	*Chrysemys picta*
Italian wall lizard	*Podarcis sicula*
Northern water snake	*Nerodia sipedon*
Northern brown snake	*Storeria dekayi*
Common garter snake	*Thamnophis sirtalis*
Milk snake	*Lampropeltis triangulum*
Ribbon snake	*Thamnophis sauritus*
Northern ring-necked snake	*Diadophis punctatus*
Northern black racer	*Coluber constrictor*

Note: **Boldface** indicates the subset of species that are considered to have the potential to occur in the Study Area on the basis of their habitat requirements and status on Long Island (Mitchell et al. 2006, Gibbs et al. 2007).

NYNHP (2016) has no records of any federally or state-listed species or significant ecological communities within ½ mile of the Study Area. None of the birds documented by the 2000-2005 Breeding Bird Atlas are federally or state-listed. No species documented by the Herp Atlas Project that has the potential to occur within the Study Area is federally or state-listed. No federally or state-listed species of plants or wildlife were observed within the Study Area during the June 21, 2016 site reconnaissance.

F. FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the Proposed Project, natural resources in the Study Area are expected to remain essentially the same, with habitat value remaining poor within the Project Corridor, and limited within the portion of the Study Area adjacent to the Project Corridor. Due to the already high level of development within and surrounding the Project Corridor, no significant change to vegetation or wildlife is expected in the future without the Proposed Project. Species identified as utilizing the habitat of the Study Area are primarily habitat generalists that are able to adapt to

a variety of conditions and are highly tolerant of human disturbances. The Project Corridor would continue to be used by the LIRR and existing levels of noise and traffic disturbance would persist. The habitats present within the portion of the Study Area adjacent to the Project Corridor would also continue to provide habitat for the wildlife species identified as having the potential to occur in these areas.

G. POTENTIAL IMPACTS OF THE PROPOSED PROJECT

As discussed in Chapter 1, "Project Description," the Proposed Project comprises an additional track to complete a continuous third Main Line track between the Floral Park and Hicksville ^ Stations; retaining walls and/or sound attenuation walls; and relocated utilities along portions of the LIRR ROW^ ; five grade-separated crossings ^ and two^ full closures to vehicular traffic; various station improvements and modifications to accommodate a third track (e.g., ADA accessibility, enhanced pedestrian access, and improved platform and passenger waiting areas), six parking garages, and other related railroad infrastructure improvements. Most of these activities would be within the Project Corridor within the footprint of existing impervious structures such as roadways, parking lots, and buildings. Potential impacts from the operation of the Proposed Project were assessed by considering the effects to vegetation, groundwater, and wildlife (including federally- and state-listed species) from noise and human activity generated during operation. The analysis years of 2020 and 2040 were consolidated for the purpose of assessing natural resources given the assumption that natural resources will remain largely unchanged twenty years following complete build out in 2020. Potential impacts to natural resources due to construction of the Proposed Project are assessed in Chapter 13, "Construction."

GROUNDWATER AND WETLANDS

The proposed track alignment would be constructed within the LIRR ROW and would predominantly follow the existing ground topography, with certain sections of track raised to accommodate clearance at the proposed grade crossings. In most cases, the proposed third track would occupy the existing infiltration ditch south or north of the existing tracks and/or would displace the station platform areas, resulting in the need to relocate and upgrade the existing infiltration ditches to accommodate the new alignment. The Proposed Project would ^ rely upon gravity flow of stormwater ^ to Nassau County recharge basins as well as swales within the LIRR ROW. Since these practices would rely upon infiltration, and since the soils in the Study Area generally have high percolation rates, the practices would result in groundwater recharge consistent with NYSDEC guidelines. Soil exposed by loss of vegetation would be stabilized by ballast. Water quality enhancement devices (e.g., oil-water separator) would be installed at locations where surface runoff could collect oils and greases. ^

With regard to proposed station improvements, the use of water quality enhancement devices and the conveyance of stormwater to stormwater detention basins would prevent substantial infiltration of runoff contaminants into groundwater, as discussed in Chapter 9, "Utilities & Infrastructure."

Drainage improvements proposed for the grade crossings ^ and parking garages would rely upon gravity flow to ^ Nassau County recharge ^ basins. Pretreatment water quality devices would be located within each underpass. ^

^ With implementation of stormwater quantity and quality practices, the Proposed Project would not result in significant adverse impacts on groundwater quality, or water quality within the recharge basins due to the management of stormwater.

ECOLOGICAL COMMUNITIES

As discussed under "Existing Conditions," ecological communities within the portion of the Study Area within the LIRR ROW are limited to railroad, paved road/path, parking lot, and urban structure exterior communities. These communities are sparsely vegetated by ruderal[5] species and have limited ecological value. Periodic maintenance of any remaining grass-lined infiltration ditches within the track alignment would not result in significant adverse impacts to this ecological community. The water quality BMPs installed as part of the stormwater management system within the track alignment would minimize impacts to ecological communities present within recharge basins within the Study Area. No other aspects of track alignment operation would have the potential to affect ecological communities within the Study Area outside of the track alignment. Therefore, operation of the proposed third track would not cause significant adverse impacts on terrestrial ecological communities within the Study Area.

With regard to station modifications, ecological communities within the portion of the Study Area where these modifications would occur are limited to railroad, paved road/path, and urban structure exterior communities. These communities are sparsely vegetated by ruderal species and have limited ecological value. The proposed station modifications would not have the potential to adversely affect these already limited resources.

Ecological communities within the grade crossing portion of the Study Area are limited to railroad, paved road/path, urban structure exterior communities, and landscaped plants and trees. These communities are sparsely vegetated by ruderal species and street trees and have limited ecological value. The operation of the grade crossings would not adversely affect ecological communities in the portion of the Study Area adjacent to the crossings. Additionally, as discussed above, the installation of water quality BMPs as part of the drainage improvements installed at the grade crossings would minimize any potential impact to ecological communities present within recharge basins within the Study Area receiving stormwater runoff from the crossings. Therefore, operation of the proposed grade crossings would not result in significant adverse impacts to terrestrial ecological communities within the Study Area.

The locations of the proposed six parking garages are all existing LIRR or municipal parking lots with no significant vegetation.

WILDLIFE

Lack of habitat and chronic disturbances from passing trains and other human activity in the heavily developed surrounding area limit the wildlife community within the LIRR ROW to only the most urban-adapted species, such as the Eastern gray squirrel. Given the typical urban levels of noise and other disturbances within the LIRR ROW under existing conditions, operation of the proposed third track would not further degrade habitat quality for or displace any of the disturbance-tolerant wildlife inhabiting this portion of the Study Area. For the portion of the Study Area adjacent to the LIRR ROW, including wildlife in the Garden City Bird Sanctuary and recharge basins, the incremental increase in train activity that may be closer to these habitats

[5] Ruderal is defined as: growing where the natural vegetation cover has been disturbed by humans.

would not be expected to adversely affect wildlife use of these areas. As discussed above, any potential discharge of runoff from the track alignment to recharge basins would not adversely affect the ecological communities that occupy these basins or the habitat they provide to wildlife. Overall, the proposed third track would not have significant adverse effects on wildlife at the individual, population, or community level within the Study Area.

Wildlife occurring within the portion of the Study Area comprising the station modifications is limited to extremely abundant, urban-adapted, and mostly non-native wildlife species, such as the Eastern gray squirrel, house sparrow, and European starling. Operation of the proposed station modifications would not result in a change in the available habitats or the species using these areas. The same suite of urban-adapted, mostly non-native wildlife species would be expected to occur in the vicinity of the stations, and in the same abundance, following the proposed station modifications. Overall, the proposed station modifications would not adversely affect wildlife.

The grade crossings do not offer any habitat that is of ecological value or of use to native wildlife. The crossings, which are intersections of major roadways, are mostly impervious surfaces, with vegetation limited to roadside weeds, grass, and mostly non-native, invasive species. The same suite of mostly non-native wildlife species would be expected to occur in the vicinity of the grade crossings and any landscaping added at these crossings following the proposed modifications. Operation of the grade crossings would not alter conditions for wildlife, and the same urban-adapted, mostly non-native species would continue to occur in the area. With the installation of water quality BMPs as part of the drainage improvements installed at grade crossings, discharge of runoff from the grade crossings to recharge basins would minimize any potential impacts to ecological communities within the basins and the habitat they provide to wildlife. Overall, the proposed grade crossing modifications would not result in significant adverse impacts to wildlife.

The proposed parking garage locations are all existing surface parking lots and offer limited habitat for wildlife.

THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES

As discussed above, no federally or state-listed species are expected to occur within the heavily developed Study Area due to a lack of suitable habitat and the heavy levels of human disturbance. As such, no significant adverse impacts to any endangered, threatened, or special concern species would occur from the operation of the proposed third track.

No federally or state-listed species are expected to occur near the stations or elsewhere within the heavily developed Study Area. Therefore, the operation of the proposed station modifications would not cause a significant adverse impact on any endangered, threatened, or special concern species.

No federally or state-listed species are expected to occur at the grade crossings or elsewhere within the heavily developed Study Area, and therefore, operation of the proposed grade crossing modifications would not result in any significant adverse impacts to any endangered, threatened, or special concern species.

H. MITIGATION FOR THE PROPOSED PROJECT

The Proposed Project would not result in significant adverse impacts to any natural resources. Incorporated drainage measures that treat runoff and promote infiltration to reduce runoff^ would minimize adverse impacts to the Nassau/Suffolk Aquifer System, and to ecological communities present within recharge basins and the habitat these communities provide to wildlife. Therefore, no mitigation measures are necessary to address potential significant adverse impacts to natural resources. ✷