A. INTRODUCTION

The Historic Resources chapter considers the potential of the Proposed Project to affect historic resources^ , both archaeological and architectural. The analysis has been prepared in accordance with the New York State Environmental Quality Review Act (SEQRA) and Section 14.09 of the New York State Historic Preservation Act (SHPA).

The Long Island Rail Road (LIRR) was established in 1834, with operations beginning in 1836 and extending to Hicksville by 1837.

Officially recognized historic resources ("known resources") include National Historic Landmarks (NHLs), resources previously listed on the State/National Registers of Historic Places (S/NR) or determined eligible for such listing (S/NR-eligible), and locally designated resources. Potential historic resources, resources that appear to meet the S/NR eligibility criteria, were also identified and considered in the Draft Environmental Impact Statement (DEIS).

B. PRINCIPAL CONCLUSIONS AND IMPACTS

ARCHAEOLOGICAL RESOURCES

No previously identified archaeological sites, New York State (NYS) Museum sites, National Register archaeological listings, or archaeological districts are located within the Project Corridor or within the ¼-mile archaeological resources study area for the LIRR Expansion Project (see **Figure 6-1**).

The LIRR ROW along the 9.8-mile length of the Project Corridor has been determined to possess little to no precontact or historic period archaeological potential. Therefore, the proposed track alignment and station modifications would have no adverse impact on archaeological resources.

The Proposed Project would involve ground disturbance at the seven proposed grade crossing locations. However, research has documented extensive prior disturbance at each of the grade crossing locations through the installation of multiple utility lines, excavation for catch basins and storm drains, construction and demolition of structures, and realignment of streets. Due to the extent of prior subsurface disturbance, it is highly unlikely that the proposed grade crossing modifications would have the potential to impact any intact archaeological resources that may once have been present at the seven grade crossing locations.

The Proposed Project would also involve four full commercial property takings located at or near the grade crossing locations. Due to the extent of prior subsurface disturbance at these locations, these sites do not possess the potential for the presence of intact archaeological deposits. Therefore, the takings of these properties would have no effect on archaeological resources. It is anticipated that the Proposed Project would also include a number of partial

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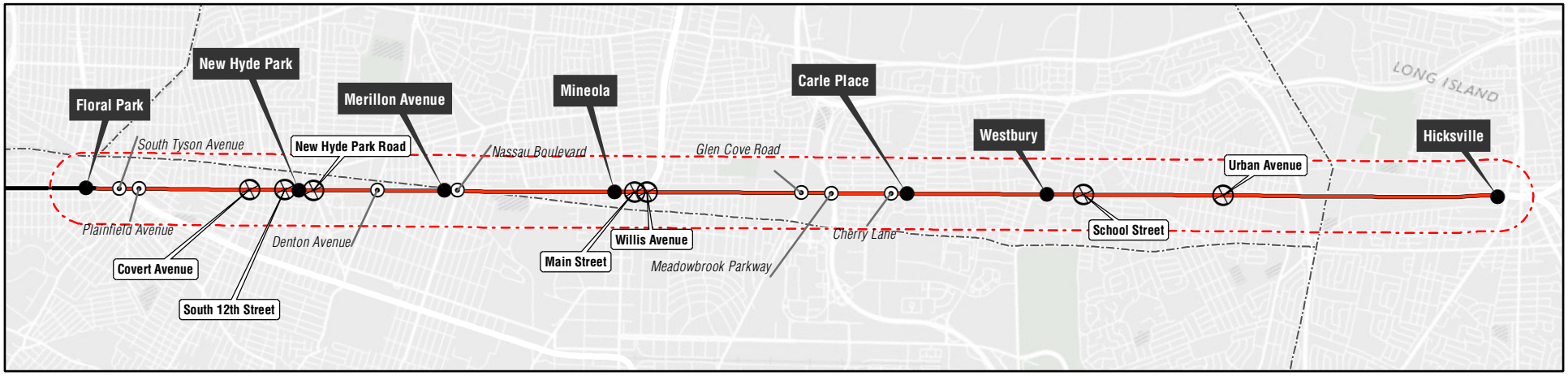

Study Area Boundary—1/4-mile boundary

LIRR Expansion Project
Floral Park to Hicksville

Project Location and Archaeological Study Area
Figure 6-1

acquisitions, or strip takings, from commercial properties for actions associated with the seven grade crossings. Such actions are anticipated to include retaining wall construction, sidewalk widenings, slight shifts in existing roadway configurations and pedestrian bridge construction. None of the strip takings assessed to date possess archaeological potential due to the extent of prior disturbance at these locations. Should additional takings be proposed as project design progresses, an assessment of archaeological potential would be undertaken in consultation with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP).

The preliminary list of construction staging area locations includes existing LIRR substations, commercial properties, station parking lots, existing roads, potential commercial property takings, a wooded area, and certain areas within and adjacent to the LIRR ROW. Most of these areas do not possess precontact or historic period archaeological potential due to the extent of documented prior subsurface disturbance. The wooded area is a recharge basin/sump that has been excavated and therefore does not possess archaeological potential. The remaining staging areas are located at existing parking lots, or on extant streets, and are paved. From an archaeological perspective, paved surfaces serve to protect any buried archaeological resources that may be present. Therefore, the use of the staging areas during construction would have no effect on archaeological resources because all work would occur on the paved surfaces with no subsurface disturbance. Should additional construction staging areas be proposed as project design progresses, an assessment of archaeological potential would be undertaken in consultation with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP).

^ The Proposed Project would provide new surface parking lots in New Hyde Park and Mineola, and construct new parking structures in Mineola, Westbury, and Hicksville near these stations. Each of the six proposed parking structure locations is occupied by an existing paved surface parking lot.

The proposed parking improvement sites in New Hyde Park, Mineola, Westbury, and Hicksville possess very little to no archaeological potential. Cartographic research undertaken for the Proposed Project, detailed in the Final Phase 1A Archaeological Sensitivity Assessment,[1] shows that historic development of these sites was sparse prior to the development of the existing paved parking lots. Further, the extent of prior subsurface disturbance at these locations has, in all likelihood, destroyed the integrity of any potential remains from earlier development.

The proposed new surface parking lots in New Hyde Park and Mineola would not result in new ground disturbance of undisturbed soils. These proposed parking facility locations do not possess archaeological potential. Historic development at the six proposed parking structure locations in Mineola, Westbury, and Hicksville was also extremely limited and none of the documented structures that had occupied these sites had basements. Prior subsurface disturbances at these sites include drainage systems, underground utilities, and grading prior to the existing paving.

In summary, the proposed parking facilities in New Hyde Park, Mineola, Westbury, and Hicksville would not result in any adverse effects on archaeological resources.

[1] Phase 1A Archaeological Sensitivity Assessment for the Metropolitan Transportation Authority's Long Island Railroad Main Line Expansion Project from Floral Park to Hicksville, Nassau County, New York. AECOM. October 2016; revised December 2016; revised February 2017.

ARCHITECTURAL RESOURCES

DIRECT IMPACTS

There are two historic architectural resources within the LIRR ROW. In Mineola, south of the tracks along the Project Corridor^ are the Nassau Tower and the former Mineola LIRR Electrical Substation, both of which are eligible for listing on the State/National Registers of Historic Places (S/NR-eligible). These two historic structures would be demolished and the site would be redeveloped with station area improvements. The demolition of S/NR-listed properties—the Nassau Tower and the former Mineola LIRR Electrical Substation—would constitute an Adverse Impact to historic resources under SEQRA and Section 14.09. Measures to mitigate the adverse impact would be developed in consultation with OPRHP and set forth in a Letter of Resolution (LOR) to be executed among the involved parties^. No other historic architectural resources are located within the LIRR ROW, therefore, no other historic architectural resources would be directly impacted by modifications to the track alignment or parking structures and surface parking lots.

The proposed modifications to the seven Project Corridor train stations and the preliminary construction staging areas also would not directly impact any known or potential architectural resources as none of the affected train stations or preliminary staging area locations include any known or potential architectural resources. Should additional construction staging areas be proposed as project design progresses, an assessment of potential direct impacts to historic architectural resources would be undertaken in consultation with OPRHP. The proposed alterations to the grade crossings and bridges also would not directly impact any known or potential architectural resources within the Project Corridor.

INDIRECT IMPACTS

To ensure that construction activities associated with the Proposed Project that would be undertaken within 100 feet of architectural resources would not cause inadvertent physical impacts to historic architectural resources, LIRR would prepare and implement a construction protection plan (CPP) in consultation with OPRHP for any architectural resources located within 100 feet of the Proposed Project construction. The CPP would set forth the specific measures to be implemented to protect historic architectural resources during construction of the Proposed Project.

The proposed changes to the track alignment would be within the LIRR ROW and the proposed station modifications would be minimal. These project components would not affect the setting, views to, or historic character of historic resources in the study area and therefore, would not indirectly impact any historic architectural resources in the study area. The preliminary construction staging areas would be located at a distance from historic architectural resources, and as such, would not result in indirect impacts. Should additional construction staging areas be proposed as project design progresses, an assessment of potential indirect impacts to historic architectural resources would be undertaken in consultation with OPRHP.

The proposed grade crossings and parking structures would result in new physical features that could affect the setting of historic architectural properties. No historic architectural resources are located within sight of the proposed grade crossings. However, one known architectural resource and one potential architectural resource are located within sight of proposed parking structures in Westbury and Hicksville. In Westbury, the 164 Post Avenue building—a potential architectural resource—is located approximately 50 feet northwest of the Scally Place parking structure site.

Although this potential architectural resource is within sight of the Scally Place parking structure site, the building's primary façade is oriented toward Post Avenue, away from the parking structure site. Further, the 164 Post Avenue building does not have a contextually meaningful relationship with the proposed parking structure site. Therefore, the proposed parking structure would not introduce visual, audible, or atmospheric elements that would be out of character with the 164 Post Avenue building, nor would the proposed parking structure isolate the potential architectural resource from its surroundings or adversely alter its setting. In Hicksville, the proposed parking structures located north and south of West Barclay Street would be within sight of the Hicksville USPS Main Post Office to the west. However, the post office building is oriented away from these parking structure sites and does not have a meaningful visual or contextual relationship to the surface parking lots that would be redeveloped with new parking structures. The two Hicksville parking structures would not introduce visual, audible, or atmospheric elements that would be out of character with the Post Office, nor would the proposed parking structures isolate the Post Office from its surroundings or adversely alter its setting. Therefore, the Proposed Project would not result in any adverse indirect impacts to historic architectural resources.

C. METHODOLOGY

ARCHAEOLOGICAL RESOURCES

STUDY AREA DEFINITION

Archaeological resources are the physical remains of past human activity at a location, usually below ground, and not visible at the surface. Archaeological sites may date to the precontact or the historic periods and significant associated features may include burials, midden deposits, hearths, storage pits, foundation remains, and shaft features such as wells, cisterns, privies, or cesspools. Archaeological resources are considered for projects involving in ground disturbance.

The first step in the Phase 1A archaeological assessment process is to establish the area of potential effect^ (APE), or project impact area. The project impact area consists of horizontal and vertical components. The horizontal component of the project impact area is defined as the footprint of necessary construction activity that would result in ground disturbance. The vertical component of the project impact area is the depth to which the necessary construction activity would extend.

The archaeological resources study area extends ¼-mile from the LIRR ROW centerline along the 9.8-mile LIRR Project Corridor from Floral Park to Hicksville (see **Figure 6-1**). The study area boundary was established in consideration of any potential commercial property takings and construction and staging areas that may be located beyond the LIRR ROW.

IDENTIFICATION OF ARCHAEOLOGICAL RESOURCES

Archaeological resources are subject to direct impacts of project actions. Ground disturbance associated with proposed construction has the potential to impact both identified and as yet unidentified archaeological resources that may be present within the construction footprint. According to SEQRA and Section 14.09, archaeological resources that may be impacted by proposed projects must be identified and evaluated to determine whether they possess historic significance as defined by the National Park Service (NPS). NPS oversees the National Register of Historic Places in conjunction with OPRHP.

In August 2016, AECOM prepared a Draft Phase 1A Archaeological ^ Sensitivity Assessment[2] of the LIRR Expansion Project Corridor to determine the potential of the Project Corridor to contain intact archaeological resources and to assess the likelihood of the proposed project to affect potentially significant archaeological resources. The Phase 1A was prepared in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (36 CFR 61), the Standards for Cultural Resource Investigations and the Curation of Archaeological Collections issued by the New York Archaeological Council (1995), and the Phase 1 Archaeological Report Format Requirements issued by the OPRHP (2005).

The Draft Phase 1A Archaeological Sensitivity Assessment was revised in December 2016 to reflect changes to the Proposed Project, including the addition, modification and elimination of locations within the Project Corridor where construction may occur.

To prepare the Phase 1A, a walkover survey of the Project Corridor was conducted of the seven train stations and seven grade crossings. In addition, a windshield survey of the entire 9.8-mile-long Project Corridor and the ¼-mile study area was conducted. The focus of the walkover and windshield surveys was to assess the extent of prior disturbance across the Project Corridor.

A second walkover and windshield survey was conducted in November 2016. A search for previously identified archaeological resources within or in the vicinity of the Project Corridor was undertaken. OPRHP's Cultural Resources Information System (CRIS) provided information on archaeological sites, NYS Museum sites, cemeteries, National Register archaeological listings, archaeological districts, archaeological surveys, consultation projects, and archaeologically sensitive areas.

Cartographic research on the Project Corridor was conducted at the New York Public Library (NYPL), Map Division and through the online Digital Collections Gallery of the NYPL. Several historic maps dating from the late-18th century through the 19th century were reviewed, including the 1859 Walling Map of Long Island and the 1906 E. Belcher Hyde Map of Long Island. Historic atlases of Long Island were reviewed, including the 1873 Beers Atlas, the 1891 Wolverton Atlas, and the 1914 E. Belcher Hyde Atlas. The Sanborn Map Company fire insurance maps from the ^ late-19th century through the mid-20th century^ were reviewed on microfilm at the NYPL to document changes in land use and development patterns of specific lots within the project impact area over time. Of potential archaeological concern were the proposed locations of parking structures, commercial property takings, and construction staging areas beyond the LIRR ROW, as well as the proposed improvements at the seven grade crossings. Additional lot-specific cartographic research was conducted at the NYPL and online following the second walkover and windshield survey of the additional proposed parking structure locations. Historic aerial photographs of portions of the Project Corridor were also reviewed.

The documentation of the extent of prior subsurface disturbance in the project impact area was a critical component of the research involved in the assessment of archaeological potential. In densely settled urban areas such as the LIRR Expansion Project Corridor, archaeological sensitivity is often very low, because past construction, demolition, and rebuilding activities

[2] Phase 1A Archaeological Sensitivity Assessment for the Metropolitan Transportation Authority's Long Island Railroad Main Line Expansion Project from Floral Park to Hicksville, Nassau County, New York. AECOM. October 2016; revised December 2016; revised March 2017.

have already compromised the integrity of any archaeological resources that may once have been present within the project impact area.

In order to assess the level of prior subsurface disturbance at the seven grade crossing locations, a review of the existing utility maps was also conducted. Underground utility installations, repairs, and upgrades most often involve trenching beneath street and/or sidewalk locations. For example, depths of three to four feet below the surface are commonplace for water lines in the Northeast. Excavation to such depths would, in most cases, preclude the possibility for encountering intact archaeological deposits.

The Final Draft Phase 1A Archaeological Sensitivity Assessment Report was submitted to OPRHP in December 2016. The report recommended that supplemental cartographic research be conducted to assess archaeological potential at parking garage locations. The report concluded that none of the other sites under consideration for the Proposed Project would adversely affect any archaeological resources. In a comment letter dated, January 5, 2017, OPRHP requested additional research for the parking structure locations and that the Phase 1A be revised to reflect the conclusions of the assessment.

The revised Final Phase 1A Archaeological Assessment Report has been submitted to OPRHP. Based on the conclusions of the Phase 1A, a No Effect finding from OPRHP regarding archaeological resources is anticipated.

ARCHITECTURAL RESOURCES

STUDY AREA DEFINITION

In general, potential impacts to historic resources can include both direct physical impacts (e.g., demolition, alteration, or damage from construction on nearby sites) and indirect contextual impacts, such as the isolation of a property from its surrounding environment, or the introduction of visual, audible, or atmospheric elements that are out of character with a property or that alter its setting. Therefore, the study area for historic architectural resources (shown in **Figures 6-2 and 6-3**) has been defined to account for any potential impacts that may occur where proposed construction activities could physically alter architectural resources or be close enough to them to potentially cause physical damage and also to account for potential visual or contextual impacts. The study area for the LIRR Expansion Project includes the area within approximately 100 feet of the LIRR ROW, including adjacent construction staging areas, and is extended to include the area within 500 feet of the seven grade crossings and seven train stations that would be affected by the Proposed Project. In addition, the study area is expanded at two specific locations to account for the proposed parking structures at Harrison and Third Avenues in Mineola and at Scally Place in Westbury. The expanded study area in Mineola includes the remainder of the block and the block fronts facing the proposed parking structure location. The expanded study area in Westbury includes the block fronts on Scally Place facing the proposed parking structure location. The study area has been established to account for potential construction impacts.

IDENTIFICATION OF HISTORIC RESOURCES

OPRHP's CRIS was consulted to identify S/NR-listed and eligible properties in the study area. Information was also gathered on local historic resources officially designated by the Village of Westbury, the Town of Hempstead, the Town of North Hempstead, and the Town of Oyster Bay.

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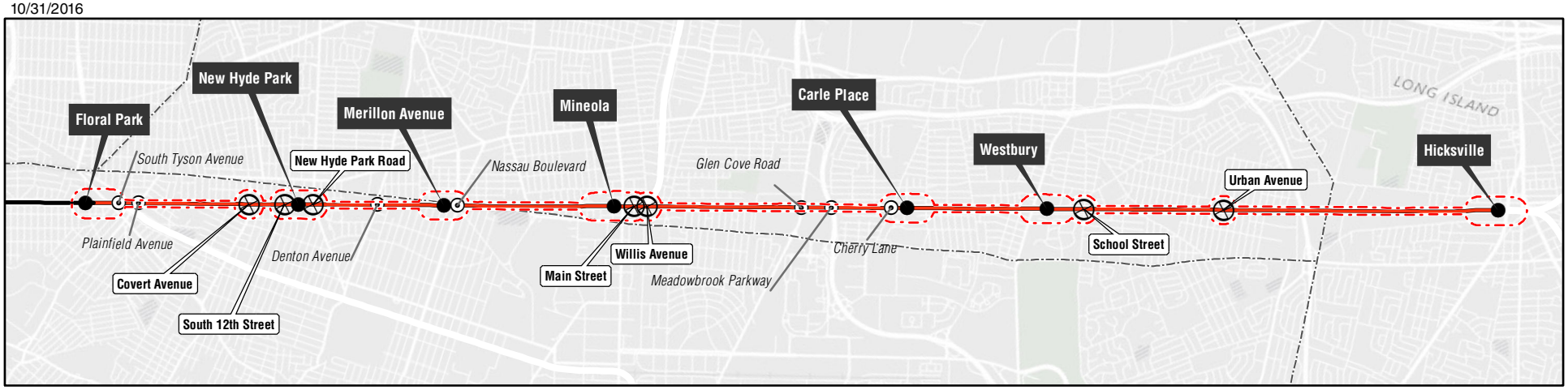
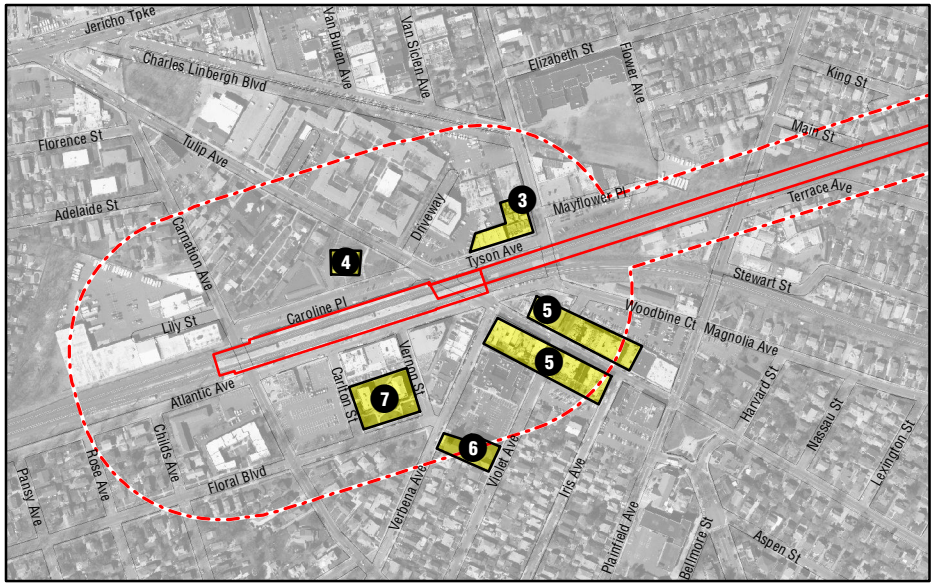


Floral Park



Mineola

Project Site

Known Architectural Resource

Study Area Boundary—100-foot and 500-foot Boundaries

LIRR Expansion Project
Floral Park to Hicksville

Project Location and Architectural Resources Study Area
Floral Park and Mineola

Figure 6-2

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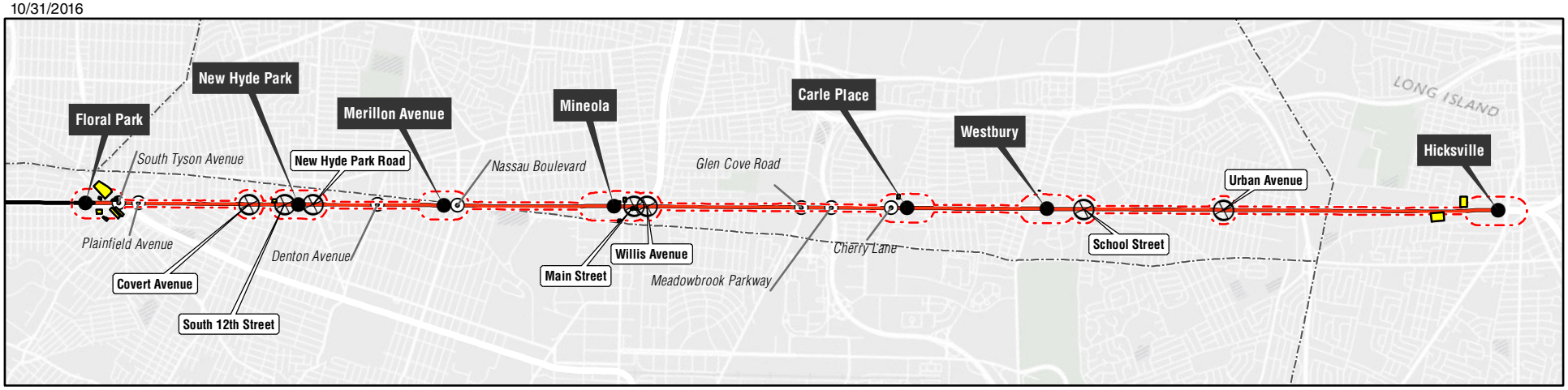
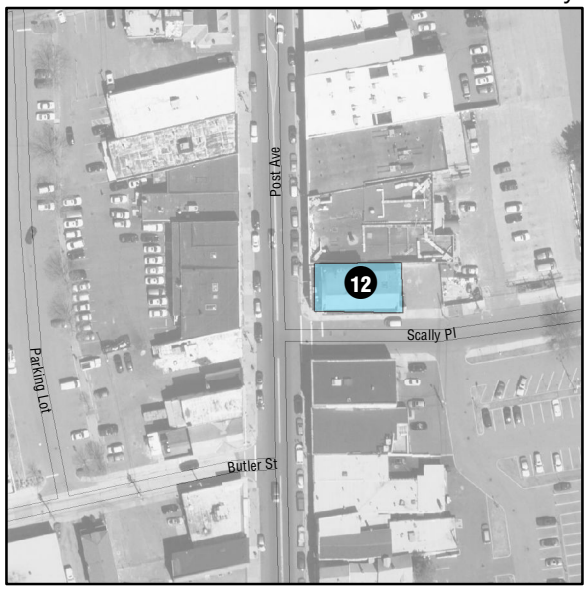


Carle Place

Westbury



Hicksville

Project Site

Study Area Boundary—100-foot and 500-foot Boundaries

Known Architectural Resources *Potential Architectural Resource*

LIRR Expansion Project
Floral Park to Hicksville

Project Location and Architectural Resources Study Area
Carle Place, Westbury, and Hicksville

Figure 6-3

Other communities in the study area do not have historic preservation regulations. However, no locally-designated resources are located within the study area.

In order to provide a context for evaluating historic resources, documentary resources such as historic maps, local histories, newspaper and journal articles, and historic photographs were consulted.

Architectural resources (including individual structures and districts) that appear to meet the S/NR eligibility criteria were identified in the study area. Criteria for inclusion on the National Register are listed in the Code of Federal Regulations, Title 36, Part 63. Districts, sites, buildings, structures, and objects are eligible for the National Register if they possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

A. Are associated with events that have made a significant contribution to the broad patterns of history;

B. Are associated with significant people;

C. Embody distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; or

D. May yield archaeological information important in prehistory or history.

Properties that are less than 50 years of age are ordinarily not eligible, unless they have achieved exceptional significance. Determinations of eligibility are made by the OPRHP.

In addition to identifying officially recognized, or "known," historic resources in the study area (S/NR-listed and S/NR-eligible properties, and locally designated historic resources), an inventory was compiled of other buildings that could warrant recognition as architectural resources (i.e., properties that could be eligible for S/NR listing) in compliance with SHPA and SEQRA guidelines ("potential architectural resources"). For this project, potential historic resources were those that appeared to meet one or more of the National Register criteria (described above). Potential architectural resources were identified through a reconnaissance-level field survey of the study area by an architectural historian who meets the Secretary of Interior's Professional Qualification Standards for Architectural Historians (36 CFR Part 61, Appendix A).

EVALUATION OF POTENTIAL IMPACTS ON HISTORIC RESOURCES

Once the historic resources in the study area were identified, the potential impacts of the Proposed Project on those resources were assessed. Project impacts on architectural resources could include direct (i.e., physical) and indirect (i.e., contextual) impacts. Direct effects could include physical destruction, demolition, damage, or alteration of a historic resource. Indirect effects, such as changes in the appearance of a historic resource or in its setting—including introduction of incompatible visual, audible, or atmospheric elements to a resource's setting, or elimination of publicly accessible views to the resource—are also considered.

D. HISTORIC OVERVIEW

PRECONTACT PERIOD

The Project Corridor lies within the central portion of Nassau County, in the Atlantic Coastal physiographic province which is within the Hempstead Plains, which developed as an outwash plain during the retreat of the last Wisconsin glacier from Long Island.

The Hempstead Plains represents an area of native grassland, a true prairie ecosystem that once covered an estimated 40,000 acres of central Nassau County. Although treeless, the Hempstead Plains once supported grasses and varieties of berries, herb species, and wildflowers. Today, as a result of the extensive development of central Nassau County, only a few acres of the Hempstead Plains remain where a small area of the prairie ecosystem is located on the grounds of Nassau Community College, more than one mile south of the Project Corridor.

Prior to European-American contact and settlement, the Hempstead Plains would have supported a variety of plant and animal species that would have been sought by Native American groups of hunter-gatherers for subsistence and perhaps for medicinal purposes. However, relatively little is known about precontact settlement and subsistence patterns for the interior portions of Nassau County, as most archaeological excavation has focused on the coastal regions of the county. Many campsites and village sites have been found where fresh water meets salt water, such as the coast of Long Island Sound. Multiple shell middens have been excavated along the protected shores of coves and bays on both the north and south shores of Long Island.

LIRR DEVELOPMENT

The LIRR was originally conceived during the early 1830s to provide a faster travel route between New York City and Boston, which at that time took as long as 16 hours by ship. The concept was a combined rail-ferry service that provided railroad service from the City of Brooklyn to Jamaica, Queens, and extended to a point on the north shore of Long Island where it connected with a ferry service to Connecticut. From Connecticut, the rail-ferry service then connected with another railroad that provided the last leg of the travel route to Boston. In 1832, Major D.B. Douglass established the Brooklyn and Jamaica Railroad and began building a rail line from downtown Brooklyn through Jamaica, Queens, and into the flat interior of Long Island. In 1834, the LIRR was established and began operations in April 1836 with the LIRR leasing the tracks from the Brooklyn and Jamaica Railroad. By 1837, the LIRR had extended the tracks to Hicksville. This segment of the LIRR is part of the current Main Line Corridor.

By the late-1840s, the New York, New Haven, and Hartford Railroad's Main Line across coastal Connecticut had eclipsed the LIRR's rail-ferry service as the faster and more direct travel route through New England. Subsequently, by 1850, the LIRR had declared bankruptcy. The LIRR slowly recovered over a period of 30 years through a series of mergers and acquisitions of other independent rail lines across Long Island, including the South Side Railroad of Long Island, the New York & Flushing Railroad (formerly the Flushing Railroad), the Central Railroad of Long Island, and the Flushing & North Side Railroad.

In 1861, the LIRR had constructed a new Main Line that extended northwest from Jamaica, Queens to Hunters Point in Long Island City on the East River waterfront. From Hunters Point, passengers transferred to ferries to complete the journey into Manhattan. In 1880, Austin Corbin purchased the LIRR with the intention of transforming the LIRR into a high density carrier. Through a series of innovative programs including modernization of the railroad bed and

equipment, the LIRR substantially expanded its service. In 1891, Corbin and the LIRR management proposed the construction of a set of tunnels under the East River to Manhattan. Around that same time, the Pennsylvania Railroad Company was also formulating plans to construct a set of tunnels under the Hudson River from New Jersey to Manhattan. The Pennsylvania Railroad and the LIRR eventually cooperated on building a Manhattan connection.

In 1900, the Pennsylvania Railroad took ownership and control of the LIRR. This coincided with the plans to build Pennsylvania Station on the west side of Manhattan and its connecting tunnels under the Hudson and East Rivers. Also at that time, a program to upgrade the entire physical plant of the LIRR was initiated. In 1910, Pennsylvania Station opened and LIRR service through the East River tunnels began.

The extensive upgrades to the LIRR physical plant (electrification, track elevation, grade separations) and realignments of the railroad from 1901 to 1916 resulted in an almost wholesale replacement of the LIRR components that dated from the 1890s, including the replacement of nearly all of the earlier railroad stations, water tanks, switches, towers, signals, and tracks. In addition, many of the stations that had been built during the late-19th century were replaced. Track was replaced with heavier, sturdier steel. A third track was installed from Queens Village to Floral Park by 1907. By 1910, almost all of the heavily used tracks on the western end of the LIRR had been double and triple tracked, with an electrified third rail extending to Mineola and beyond by 1925.

In 1965, the Pennsylvania Railroad sold the LIRR to the State of New York. The State established the Metropolitan Commuter Transportation Authority (predecessor to the MTA), and the LIRR became the first government-owned commuter railroad in the United States. Since 1965, continuous upgrades and modernization of the railroad's infrastructure, rolling stock, and systems have been ongoing.

DEVELOPMENT ALONG THE PROJECT CORRIDOR

Historic period development along the Project Corridor began during the 17th century in the areas that now include Mineola, Carle Place, and Westbury. New Cassel was settled during the mid-18th century, while Floral Park, New Hyde Park, Garden City, and Hicksville were settled later, during the 19th century. These settlements, however, were not necessarily adjacent to or in close proximity to the Project Corridor. Although the LIRR Main Line was extended to Hicksville by 1837, not all of the present day Main Line ^ Stations were constructed as early as the Hicksville ^ Station. Further, as described above, many of the existing LIRR Main Line ^ Stations are not the original stations and many are not sited at their original locations.

A review of historic maps and atlases that depict the Project Corridor show sparse residential and commercial development until the turn of the 20th century in the areas along the Project Corridor. By the last quarter of the 19th century development had increased and was generally concentrated in the areas around train stations.

The 1859 Walling *Topographic Map of the Counties of Kings and Queens, New York* depicts the route of what would become the LIRR Main Line corridor from Jamaica to Hicksville. Floral Park, New Hyde Park, and Garden City had not yet been established; sparse development had begun in Mineola and Westbury, while Carle Place and New Cassel were not yet identified on the map. Hicksville had been sparsely developed.

The 1873 *Beers Atlas of Long Island, New York* shows that Floral Park had not yet been established; New Hyde Park and Garden City were labeled and street grids had been laid out;

Mineola and Westbury were depicted, with the LIRR ^ Stations identified; Carle Place was not labeled; New Cassel was depicted with a street grid; and Hicksville is shown with the LIRR ^ Station located between Jerusalem Avenue and Broadway. Scattered development is shown along the Project Corridor, but the majority of the depicted blocks fronting the Main Line tracks had been lotted, but remained undeveloped.

The Wolverton 1891 Atlas depicts Floral Park with a street grid on the north side of the tracks, with a station on the south side, off Tulip Avenue. J. H. Childs (the founder of Floral Park, formerly named East Hinsdale) is noted as owning property on both sides of the tracks close to the station. Garden City is shown with a street grid and labeled as the lands of the A. T. Stewart Estate (Alexander T. Stewart was the founder of the planned community of Garden City). There is a station on the south side of the tracks in the western part of the street grid, but it is not named. The Central Branch of the LIRR also passes through Garden City south of the Main Line. New Hyde Park is depicted with a partial street grid that crosses the tracks, a Post Office, and LIRR ^ Station located on the north side of the tracks. As described above, development in these communities along the Project Corridor remained sparse by 1891, but included scattered structures located away from the Main Line tracks.

As shown on the Wolverton 1891 Atlas, Mineola had more development than other nearby communities along the Project Corridor. A block and lot street grid had been developed for the area on both sides of the Main Line track. The street grid centered on Main Street, where the Oyster Bay Branch diverges from the Main Line to the northeast and the former Hempstead Branch diverges from the Main Line and turns south to run down Main Street. The Mineola depot is depicted on the south side of the Main Line tracks in the triangle formed by the three rail lines. Although the map shows over a dozen blocks that had been lotted, most of the lots were undeveloped.

Carle Place is not labeled in the Wolverton 1891 Atlas. Westbury is shown with a partial street grid and the LIRR ^ Station is shown on the south side of the tracks in Westbury. New Cassel is labeled and includes a street grid but no station or structures are shown. Hicksville is shown with a street grid, but very few of the blocks are lotted. There are blocks flanking the Project Corridor west of New Bridge Road, but all are undeveloped. The LIRR Main Line appears to end at the depot located off Jerusalem Avenue; the Northport Branch diverges to the northeast (later the Port Jefferson Branch), and the Greenpoint Branch (later the continuation of the Main Line) diverges to the southeast.

The 1906 E. Belcher Hyde *Map of Nassau County, New York* shows moderate increases in development with expanded street grids in Floral Park, New Hyde Park, West Garden City, and Mineola. Carle Place is not yet labeled. Westbury, New Cassel, and Hicksville also have expanded street grids, although development along the Project Corridor in these communities remains sparse.

The 1914 E. Belcher Hyde *Atlas of Nassau County, Long Island, New York* depicts increased development, or planned development along much of the Project Corridor. The Floral Park street grid had been expanded; the community of Bellrose is shown on the north side of the Main Line corridor; Floral Park Estates had been laid out east of Floral Park; the street grid of New Hyde Park had been expanded; Garden City Park, Garden City Estates North, and West Garden City had been laid out to the north of the Main Line tracks; the Merillon Avenue ^ Station had been built on the north side of the tracks in Garden City Estates North; the block and lot street grid in Mineola had also been expanded to Jericho Turnpike, north side of the Main Line tracks, and the passenger station in Mineola is shown in Main Street within the triangle formed by the Main

Line and the Oyster Bay and Hempstead Branches; and several previously vacant lots had been developed.

Also by 1914, the planned developments of Mineola Park, Westbury Estates, and Westbury Heights had been laid out on the north side of the Main Line tracks; Carle Place continues not to be shown on maps; the street grid of Westbury has expanded north and south of the Main Line tracks; New Cassel is laid out but remained mostly undeveloped across the Project Corridor; and Hicksville has an expanded street grid east of the Hicksville ^ Station, but area closest to the Project Corridor remained mostly undeveloped.

Overall, the study area along the Project Corridor was sparsely developed until the second quarter of the 20th century, with most development limited to residential, commercial, and light industrial buildings along the LIRR ROW and near the Main Line train stations. More extensive suburban development along the Project Corridor began after World War II.

E. EXISTING CONDITIONS

PROJECT CORRIDOR

ARCHAEOLOGICAL RESOURCES

The Phase 1A Archaeological ^ Sensitivity Assessment[3] of the LIRR Expansion Project Corridor included a contextual overview of the environmental and physical settings of the Project Corridor, an assessment of past disturbance of the affected project area and ¼-mile study area, and identified potential resource types that may be present on the Project Corridor. The conclusions of the Phase 1A prepared for the Project Corridor are summarized below.

Precontact Resources

No previously identified precontact sites are located within the ¼-mile study area around the Project Corridor according to the results of the CRIS database search for archaeological resources. The Nassau County Museum files and the Suffolk County Archaeological Association's Cultural Resources Inventory characterize the interior portion of Long Island as areas of "low activity" or "insufficient data." Sites located away from the coast likely represent short duration camp sites or procurement stations, where limited hunting and gathering activities were performed, resulting in very low diversity and low frequency of artifacts left in the archaeological record. Precontact utilization of the Hempstead Plains was probably focused on seasonal resource procurement, and would not have resulted in long term occupation sites. The likelihood of encountering archaeological evidence of short term occupation sites is very low.

Historic Period Resources

There are no previously identified historic period archaeological resources within the ¼-mile study area around the Project Corridor according to the results of the CRIS search for archaeological resources. The lack of previously identified historic period resources can be

[3] Phase 1A Archaeological Sensitivity Assessment for the Metropolitan Transportation Authority's Long Island Railroad Main Line Expansion Project from Floral Park to Hicksville, Nassau County, New York. AECOM. October 2016; revised December 2016; and February 2017.

understood through review of the background research and cartographic review conducted for the LIRR Expansion Project.

Track Alignment

The LIRR has utilized the corridor since the 1830s and has extensively altered the landscape through track construction, reconstruction, widening, station construction, erection of switching/signal towers, and multiple other support structures. Although the Hempstead Plains would likely have been utilized by Native American groups for hunting, the traces of such activities, often identified in the archaeological record as camp sites, would not have survived the extensive land alterations that have occurred within the Project Corridor.

The Project Corridor has been determined to possess little to no historic period archaeological potential. Map and atlas research has shown that the Project Corridor was sparsely developed until the second quarter of the 20th century. Maps indicate limited residential, commercial, and light industrial development along the Project Corridor ROW and stations along the Project Corridor through World War II, with intensive suburban development not occurring until after the war. Therefore, due to the extensive operations-related improvements undertaken by the LIRR within the ROW, and the intensive 20th century suburban development adjacent to the LIRR ROW, it is highly unlikely that remnants of historic period occupation have survived intact within or adjacent to the LIRR ROW.

Station Modifications

The seven train stations and the area adjacent to both sides of the ROW are located in an area that has experienced extensive prior disturbance, and does not possess the potential for the presence of intact archaeological deposits.

Grade Crossings

Review of existing utility maps for each of the grade crossing locations indicate that substantial prior subsurface disturbance has occurred, as multiple underground services are in place beneath the pavement and flanking sidewalks. Prior soil disturbance has been created by the installation of catch basins; water, sewer, gas, and electric lines; fiber optic cables; sewer and storm sewer manholes; telephone lines; and interconnected catch basins and storm sewer manholes.

The grade crossing locations have also previously been impacted by early 20th century buildings and railroad-related structures that fronted on the Main Line Corridor. It is possible that remains of these structures could be extant; however, the potential for encountering intact deposits is very low.

Commercial Property Takings

The sites of the commercial properties that may be taken as part of the Proposed Project are almost entirely occupied by existing buildings. Due to the extent of prior subsurface disturbance at these sites, it is highly unlikely that the demolition of the existing structures would have the potential to impact any intact archaeological resources that may have been at these locations prior to the construction of the existing buildings. Therefore, these sites do not possess the potential for the presence of intact archaeological deposits. The locations of the partial acquisitions, or strip takings, that may be affected as part of the Proposed Project for such purposes as sidewalk widenings or slight roadway shifts do not possess archaeological potential due to the extent of prior disturbance at these locations.

Staging Areas

Staging areas can be of archaeological concern if located in areas of little to no documented prior ground disturbance. The storage of construction materials and equipment, repeated

crossing by heavy construction vehicles, and parking of heavy construction vehicles have the potential to impact archaeological resources in undisturbed, unpaved areas. These areas include existing LIRR substations, commercial properties, station parking lots, existing roads, potential commercial property takings, a wooded area, and the LIRR ROW on both sides of the existing track.

One staging location under consideration is a wooded area on Atlantic Avenue between the Meadowbrook State Parkway and Silver Lake Boulevard in Carle Place, north of the existing tracks. The wooded area lies between two residential developments, and represents a groundwater recharge basin, or sump. Aerial photographs show that the parcel appears to have been heavily disturbed toward the center with taller vegetation around the perimeter. The CRIS database search depicts this parcel as water. The recharge basin/sump was likely excavated in tandem with the flanking residential development, and therefore, does not possess archaeological potential. Should additional construction staging areas be proposed as project design progresses, an assessment of archaeological potential would be undertaken in consultation with OPRHP.

Parking Structures and Surface Parking Lots

New Hyde Park. The site for the proposed parking lot and Kiss and Ride does not possess archaeological potential due to extensive prior disturbance. In addition, the site for the proposed pedestrian stairway at the southwest corner of New Hyde Park Road and the LIRR tracks has already been impacted by the installation of multiple utility lines on the west side of New Hyde Park Road.

Mineola. The site of the proposed surface parking improvements at the southwest corner of Main Street and the LIRR tracks possesses little to no potential for intact archaeological resources due to the extent of prior subsurface disturbance.

The proposed Option 1 Scenario 1A for the Willis Avenue crossing would require reconstruction of the small parking area at the northwest corner of Second Street and Willis Avenue. Reconstruction of this small lot would not be expected to result in substantial disturbance of previously undisturbed soils and would therefore have no effect on potential archaeological resources. Two parking structure locations are under consideration in Mineola. Option 1 for the Willis Avenue grade crossing would replace ^ Village-owned Mineola Municipal Lot 23 between Main Street and Willis Avenue, Prior to 1914, this site was vacant. ^ Based on limited available cartographic information, this location ^ was initially considered to ^ have moderate potential for historic archaeological resources^ . Subsequent research has determined that the potential for encountering intact, significant archaeological resources at this location is very low to none, due to the documented extent of prior subsurface disturbance across the existing surface parking lot. Construction and demolition of 20th century buildings, as well as the installation of a drainage system and underground utility lines for the existing lot, have compromised the archaeological integrity of any earlier remains that may have been present.

The second parking structure location ^ under consideration near the Mineola ^ Station is on a Village-owned surface parking lot west of Mineola Boulevard, between Harrison Avenue and First Street^ , and east of Third Avenue. The proposed four- to five-level parking structure would have one level below grade. ^ The supplemental cartographic research ^ undertaken for ^ this location determined that the potential for encountering intact, significant archaeological resources beneath the pavement of the existing Village-owned lot is very low to ^ none, based on the extent of prior ^ subsurface disturbance, which included grading and drainage system installation across the lot.

Westbury. Two new four-level parking structures are being considered for the Westbury ^ Station that would replace existing surface parking lots south and north of the LIRR ROW. The site of the proposed parking structure south of the Westbury ^ Station would replace an existing surface parking lot. Holy Rood Cemetery is located on the south side of Railroad Avenue, across from the proposed parking structure location. The cemetery was established in 1930, decades after the LIRR was constructed to Westbury, and would not have historically included land beyond its present northern boundary. The parking structure location south of the Westbury ^ Station does not possess archaeological potential, due to the 20th century development of the area surrounding the station, including the construction of Railroad Avenue.

The site of the proposed parking structure on Scally Place, north of the Westbury ^ Station, would replace an existing Village-owned surface parking lot. ^ The second field view/walkover confirmed that the current surface lot has been landscaped, with installed signage, curbed section dividers with trees, and multiple overhead light poles, some with surveillance cameras in place. The supplemental cartographic research ^ indicated that the northern portion of the proposed ^ parking structure ^ parcel along Scally Place did not experience any historic development, and the few structures that were documented in the southern portion of the parcel were temporary structures with small footprints and no basements. It is highly probable that the construction of the existing Village-owned lot required grading following demolition of the prior structures to ^ make the surface elevations of the consolidated lots comparable. Therefore, the potential ^ for encountering intact, significant archaeological resources ^ beneath the pavement of the existing surface parking ^ lot is very low to none.

Hicksville. In Hicksville, the two proposed parking structures would replace existing surface parking lots north of the LIRR ROW, on sites north and south of West Barclay Street. Both parking structures would have three levels with an additional level below grade and they would be connected by a pedestrian overpass. ^

The parking structure location south of West Barclay Street (west of the pump station) is an existing surface parking lot north of the LIRR tracks and adjacent to the ROW. The surface lot is at street grade, with the adjacent LIRR tracks elevated on an embankment above the surrounding street grade. This parking lot was likely disturbed and subsequently graded and paved when the LIRR tracks were elevated on the embankment that extends through this portion of Hicksville. The potential for encountering intact, significant precontact archaeological resources is very low to none, due to the extent of probable prior subsurface disturbance during the construction of the LIRR embankment and subsequent grading across this area when the parking lot was constructed. In addition, there is no historic period archaeological potential for the proposed parking structure at this location due to the lack of historic period development.

The proposed parking structure location north of West Barclay Street contains an existing surface parking lot that is at also at street grade. The potential for encountering intact, significant precontact archaeological resources is very low to none due to the lack of previously identified resources within a 0.25-mile search radius in similar environmental conditions and the extent of probable prior subsurface disturbance associated with the construction of West Barkley Street and the likely grading associated with the construction of the surface parking lot. Further, there is no historic period archaeological potential for this proposed parking structure location due to the lack of historic period development prior to 1967.

ARCHITECTURAL RESOURCES

As detailed in Chapter 1, "Project Description," the approximately 9.8-mile Project Corridor comprises two tracks with a variety of non-contiguous rail sidings to the north and south that are within the LIRR ROW (see **Figures 6-2 and 6-3**). The LIRR ROW also includes the Nassau Tower and former LIRR Electrical Substation in Mineola, as discussed below. Within the Project Corridor there are seven train stations and platforms, and associated railroad structures including tracks, switching systems, and storage areas. The Project Corridor also includes seven at-grade crossings and grade-separated crossing (bridge) locations; staging areas; and parking structure sites.

Known Architectural Resources

Two known architectural resources are located within the LIRR ROW, south of the tracks, along the Project Corridor in Mineola west of Main Street. These two architectural resources—the Nassau Tower and the LIRR Electrical Substation—are S/NR-eligible. They are listed in **Table 6-1** and illustrated on **Figures 6-2 and 6-4**. As part of OPRHP consultation for the current DEIS, OPRHP issued a comment letter dated October 13, 2016 identifying the S/NR-eligibility of these two properties (see **Appendix 6**).

Potential Architectural Resources

- No potential architectural resources were identified within the Project Corridor. The **Floral Park Station** was constructed in circa 1961 as part of a grade elimination project that removed grade crossings at Tulip, Carnation, South Tyson, and Plainfield Avenues. The elevated station spans above the surrounding streets and sits on concrete columns and has exposed steel platforms. The station has enclosed waiting areas below the elevated structure. At the platform level, the station has concrete siding and brick facing.
- The **New Hyde Park Station** has a small, rectangular station house built in 2002-2003.[4] This small building has a gabled roof, deep overhangs, vinyl siding, and a standing seam metal roof. The station house is located at street level, adjacent to the north side of the north station platform. The New Hyde Park ^ Station has concrete platforms north and south of the ROW that are raised above street level and are accessible by low stairs.
- The **Merillon Avenue Station** has a small, one-story brick shelter with a low pitched roof that is located adjacent to the north side of the north platform. This small structure was built in 1958, replacing an older station house.[5] The Merillon Avenue ^ Station has concrete platforms north and south of the ROW ^ raised above street level and^ accessible by low stairs.
- The **Mineola Station** includes the main station house north of the ROW, a small enclosed shelter south of the ROW, and two station platforms, one on each side of the ROW. The main Mineola ^ Station house, which was built in 1923, is a two-story Dutch Colonial Revival-style building with a gambrel roof with deep overhangs. The main station house has been altered with non-original windows and shutters, asphalt roof shingles, scalloped wood paneling at the second floor on the east and west facades, non-original stucco cladding, and

[4] http://www.trainsarefun.com/lirrphotos/lirrstationshistory.htm, accessed in September 2016.

[5] http://www.lirrhistory.com/mainsta.html, accessed in September 2016.

Former LIRR Electrical Substation, Main Street and Station Road **1**

Nassau Tower, Main Street and Station Road **2a**

Nassau Tower,
Main Street and Station Road **2b**

LIRR Expansion Project
Floral Park to Hicksville

Project Corridor—Mineola Architectural Resources
Figure 6-4

the installation of a pedimented pitched roof on the eastern canopy structure that replaces a widow's walk. The one-story rectangular shelter, also built in 1923, has a pitched roof with wide projecting overhangs, non-original doorways and aluminum doors, and an asphalt-shingled roof. The shelter was substantially altered in 2001.[6]

- The **Carle Place Station** has a pair of metal and plexiglass platform shelters with flat roofs that date from circa 1952. The station has a concrete platform on either side of the ROW and a steel frame overpass and stairs that connect the two platforms.
- The **Westbury Station** has a main station house north of the ROW and a platform shelter south of the ROW. The Westbury Station house was built in 1914 and was substantially remodeled in 1970 and again between 2001 and 2005.[7] The two-story building is faced in brown brick at the first floor and tan stucco at the second floor. The building has non-original windows, altered window openings, and non-original asphalt shingles. An underpass through the building's first floor provides access to the station platform, along with an exterior quarter-turn stair on each end of the building. Because of the elevation change between the street level and the station platform, the building appears as a single-story building at the platform level. The platform shelter is partially enclosed and has a low, pitched standing seam metal roof.
- The elevated **Hicksville Station** was constructed in 1962-1964 and spans above the surrounding streets and sits atop concrete columns and brick embankments. It has exposed steel platforms. The Hicksville ^ Station has enclosed waiting areas below the elevated structure, escalators and elevators, and partially enclosed platform level shelters. Concrete canopies span above the platforms.

Although the Floral Park Station, Merillon Avenue Station, Carle Place Station shelters, Westbury Station main station house, and the Hicksville Station are more than 50 years old, none of these station structures meets S/NR-eligibility criteria as they do not possess integrity of design, materials, and workmanship due to prior alterations. Further, the Hicksville Station has previously been determined not eligible by OPRHP for S/NR-listing. Although the Mineola Station's main station house and shelter are also more than 50 years old, due to prior alterations, they do not possess integrity of design, materials, and workmanship. The New Hyde Park ^ Station house is less than 50 years old and therefore does not meet the age criteria for S/NR-listing.

STUDY AREA

The study area extends 100 feet north and south of the LIRR ROW and expands to 500 feet surrounding the seven affected train stations and platforms and the seven grade crossing locations within the Project Corridor. In addition, the study area is expanded in Mineola and Westbury to account for proposed parking structures. In Mineola, the study area is expanded to include the proposed ^ parking structure location at Harrison and Third Avenues, remainder of the block, and the block fronts facing this proposed parking structure location. In Westbury, the study area is expanded to include the block fronts on Scally Place facing this proposed parking

[6] http://trainsarefun.com/lirr/mineola/mineola.htm, accessed in September 2016.

[7] http://subwaynut.com/lirr/westbury, accessed in September 2016.

structure location. The study area includes small portions of the communities located in close proximity to the Project Corridor.

VILLAGE OF FLORAL PARK

The area of Floral Park located along the Project Corridor is characterized by primarily early 20th century buildings, including two-story commercial buildings on Tulip and Verbena Avenues south of the Floral Park ^ Train Station; two-story older apartment buildings, several of which have large footprints or are oriented around landscaped areas; the Floral Park Library, Floral Park Village Hall; Floral Park United Methodist Church; and a funeral home. Single-family, free-standing older houses are generally located at a greater distance from the Floral Park ^ Train Station and the Project Corridor. Newer buildings in the study area include a service station and a four-story office building. Several paved surface parking lots and small parks containing plantings and seating are also in the study area.

VILLAGE OF NEW HYDE PARK

The portion of New Hyde Park in the study area includes several boxy industrial and warehouse buildings with large footprints, paved surface parking lots, and older 20th century single and detached houses.

VILLAGE OF GARDEN CITY

The portion of Garden City in the study area is densely industrial immediately north of the ROW with mid- to late-20th century large, one-story warehouses with large surface parking lots. To the south, the area is primarily residential with mid-20th century, free-standing houses.

VILLAGE OF MINEOLA

The portion of Mineola in the study area includes early 20th century commercial buildings, an early 20th century bank, several late 20th century office buildings, mid-twentieth century houses and four-story apartment buildings, and numerous paved surface parking lots.

TOWN OF NORTH HEMPSTEAD

The portion of the Town of North Hempstead in the study area includes large mid- and late-20th century warehouses, shopping centers with large buildings, and mid- and late-20th century houses. The areas closest to the Carle Place Station include Our Lady of Hope R.C. Church, late-20th century industrial buildings, and mid-twentieth century houses.

VILLAGE OF WESTBURY

The portion of Westbury in the study area includes newer residential apartments; older houses, commercial buildings on Post Avenue, and industrial buildings; and several paved surface parking lots.

TOWN OF OYSTER BAY, HAMLET OF HICKSVILLE

The portion of Hicksville along the Project Corridor includes several late-20th century commercial office buildings, including Top Hat Uniform and the Hicksville USPS Main Post Office, along with numerous paved surface parking lots.

A field survey of the study area was undertaken in July 2016 that identified three known architectural resources, six potential architectural resources, and five "undetermined" resources (i.e., resources that had been previously reviewed by OPRHP but a determination of S/NR-eligibility had not been issued). Information about these 14 properties was submitted to OPRHP via CRIS on September 9, 2016. In a comment letter dated October 13, 2016, OPRHP determined that eleven of these 14 properties meet eligibility criteria for S/NR-listing and that the remaining three properties do not meet S/NR-eligibility criteria. In October 2016, one additional potential architectural resource—the 164 Post Avenue building—was identified in the expanded study area in Westbury. This potential architectural resource, which has not yet been evaluated by OPRHP, is described in **Table 6-2**. The 11 S/NR-eligible properties and one potential architectural resource are identified and briefly described in **Tables 6-1 and 6-2**, mapped on **Figures 6-2 and 6-3**, and illustrated in **Figures 6-4 through 6-12**.

Table 6-1
Project Corridor—Architectural Resources

Photo No.	USN No.	Property Site/Name	Address	Listing Status	Notes
Mineola					
1	05954.000046	Mineola/LIRR Electrical Substation*	Main Street and Station Road	S/NR-Eligible	Largely intact early 20th century brick building with arched windows and concrete details. The building is south of the LIRR tracks, within the ROW, and has served as an electrical substation to the LIRR. ***NOTE: This building will be demolished with the Proposed Project.**
2	05954.000047	Nassau Tower/LIRR*	Main Street and Station Road	S/NR-Eligible	Rare surviving early- to mid-20th century vernacular style 2-story wood frame building with hipped roof. The small building is south of the LIRR tracks, within the ROW, and has served the LIRR. ***NOTE: This building will be demolished with the Proposed Project.**

Notes: An AKRF site visit was undertaken in July 2016.
Sources: AKRF site visit, July 2016; New York State Office of Parks, Recreation & Historic Preservation's Cultural Resources Information Systems web site, June-July 2016; and additional online research. See References list at the end of this document.

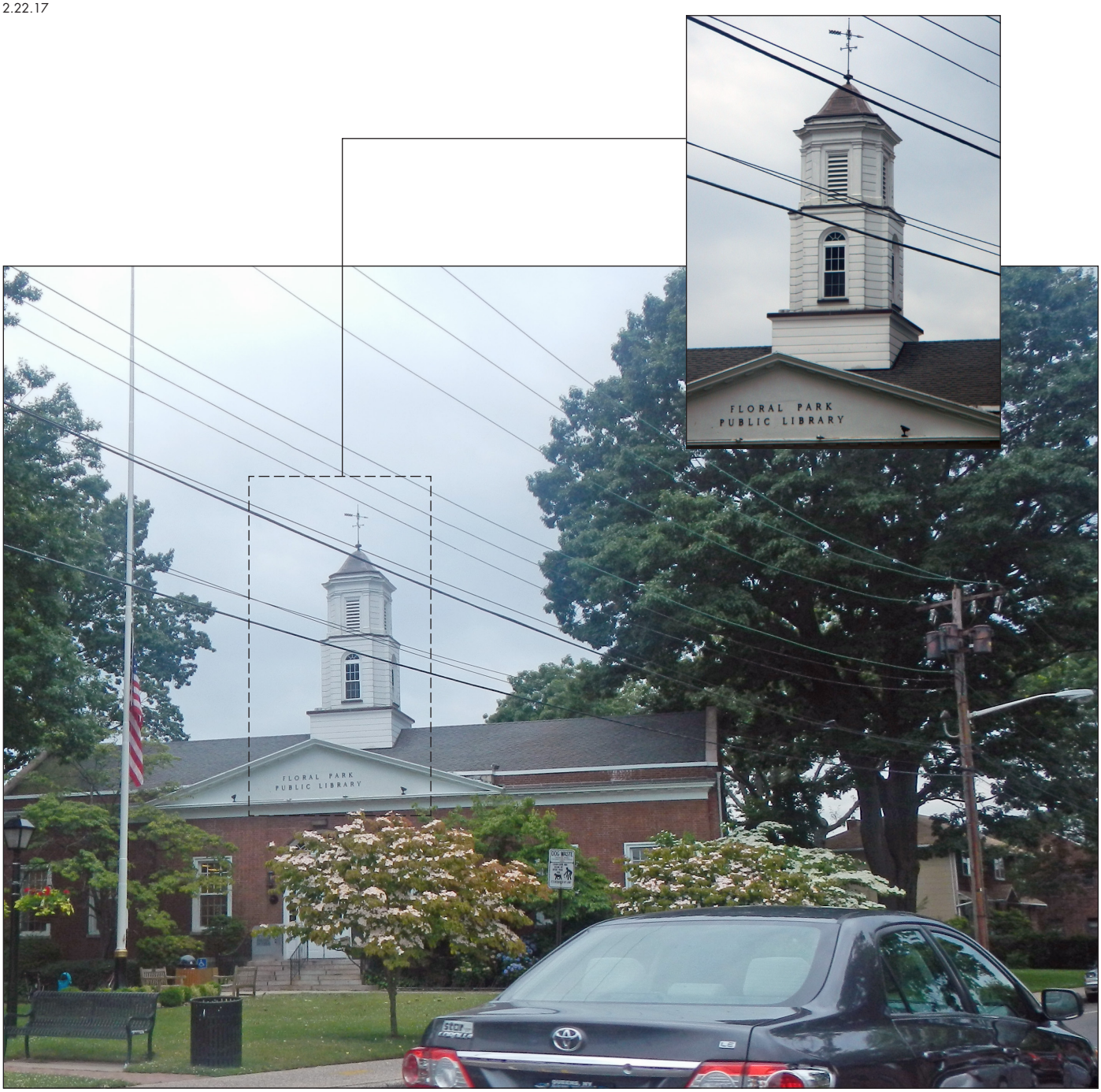
Commercial Buildings,
Northwest View on Tyson Avenue **3a**

Commercial Buildings,
Southwest view on South Tyson Avenue **3b**

Commercial Buildings,
Westward view South Tyson Avenue **3c**

LIRR Expansion Project
Floral Park to Hicksville

Study Area—Floral Park Architectural Resources
Figure 6-5



Public Library, 17 Caroline Place **4**

LIRR Expansion Project
Floral Park to Hicksville

Study Area—Floral Park Architectural Resources

Figure 6-6

Southwest view to commercial buildings on Tulip Avenue **5a**

Southeast view to commercial buildings on Tulip Avenue **5b**

Southeast view to commercial buildings on Tulip Avenue **5c**

Northeast view to commercial buildings on Tulip Avenue **5d**

Northeast view to commercial buildings on Tulip Avenue **5e**

Floral Park Methodist Church, 35 Verbena Avenue **6**

Floral Park Village Hall, Floral Boulevard **7**

LIRR Expansion Project
Floral Park to Hicksville

Study Area—Floral Park Architectural Resources
Figure 6-8

Denton Building, 210 Old Country Road **8**

Citibank (formerly the European-American Bank Company), 199 2nd Street **9**

Commercial Buildings at Station Plaza North & Mineola Boulevard **10**

Our Lady of Hope R.C. Church, 534 Broadway—Carle Place **11**

164 Post Avenue (Former Wheatley Hills National Bank)—Westbury **12**

Study Area—Carle Place and Westbury
Architectural Resources
Figure 6-11

Top Hat Uniform (former Amperex Electronic Corporation), 230 Duffy Avenue **13**

Hicksville USPS Main Post Office, 185 West John Street **14**

Table 6-2
Study Area—Architectural Resources

Photo No.	USN No.	Property Site/Name	Address	Listing Status	Notes
Floral Park					
3	05917.000007	Commercial Buildings	Tyson Avenue and South Tyson Avenue (103, 107, 109, 113 Tyson Avenue and 76 and 86 South Tyson Avenue)	S/NR-Eligible	Group of late 19th and early 20th century largely intact 2- and 3-story commercial buildings. The buildings occupy the northwest corner of Tyson and South Tyson Avenues, with frontages on both avenues. The former Victor Koenig's Bar at 86 South Tyson Avenue occupies a building that dates from 1924.
4	05917.000001	Floral Park Public Library	17 Caroline Place	S/NR-Eligible	A 1.5-story neo-Georgian-style building with a symmetrical facade with a central cupola and a central entrance with sidelights and a fanlight transom. Built in 1936 as a post office, the building was converted to a library in 1965, with interior alterations undertaken by Gibbons & Heidtmann Architects.
5		Commercial Buildings on Tulip Avenue, Downtown Floral Park	Tulip Avenue between Verbena and Iris Streets (135-161 Tulip Avenue and 128-160 Tulip Avenue)	S/NR-Eligible Historic District	Grouping of early 20th century, 2-story commercial buildings on the north and south sides of Tulip Avenue between Verbena and Iris Avenues. The buildings were constructed between 1917 and 1934 and reflect a variety of building styles through the use of materials including brick, stucco, wood, and concrete. Most buildings have ground floor retail uses, some of which have been altered.
6		Floral Park Methodist Church	35 Verbena Avenue	S/NR-Eligible	A Methodist Episcopal Church building has been located on the site of the current United Methodist Church of Floral Park since the early 1900s, though the church traces its origins in Floral Park to 1890. Replacing the early 1900s church building, the current church complex was built between 1917 and 1934. It includes the church which faces Verbena Avenue and two Sunday school buildings that are oriented on Violet Avenue. All three buildings are steel frame structures faced in red brick, with white wood trim. The church has a recessed entrance beyond a portico with white columns. The church has a white wood spire above its Verbena Avenue entrance.
7		Floral Park Village Hall	Floral Boulevard	S/NR-Eligible	The 2-story Georgian Revival-style building was built between 1933 and 1936. It houses the Floral Park village offices, and police and fire departments. The building is faced in red brick and has a wide center pediment, a low side gabled roof, and a white wood cupola.
Mineola					
8	05954.000040	Denton Building	210 Old Country Road	S/NR-Eligible	The 3-story commercial building was built in 1906. It is a neo-Classical style building faced in brick and terra cotta and has a hipped roof.
9	05954.000006	Citibank (formerly the European-American Bank Company)*	199 Second Street	S/NR-Eligible	This 2-story, T-shaped palazzo style building was built in 1915-1920 for the European-American Bank Company. The building is faced in dark red and orange brick in Flemish bond, with a low red brick tile hipped roof. ***NOTE: This building is on the site of a previously approved, unrelated project that will involve the demolition of the bank building and the redevelopment of the site. Subsequent to publication of the DEIS, and unrelated to the Proposed Project, the Citibank building was demolished by others.**
10	05954.00045	Commercial Buildings at Station Plaza North & Mineola Boulevard	204-216 Station Plaza North/ 79-83 Mineola Boulevard	S/NR-Eligible	Grouping of 2-story commercial Gothic buildings with decorative terra cotta parapet and detailing. Above the roof is a large advertising sign with an exposed steel structure. Built in 1926 shortly after the construction of the 1923 Mineola Train Station to the south.
Carle Place					
11		Our Lady of Hope R.C. Church	534 Broadway	S/NR-Eligible	St. Bridget's Chapel in Carle Place was constructed and dedicated in June 1955 as a mission chapel to St. Bridget's in Westbury, on the same day that St. Bridget's Westbury parochial school was dedicated. In 1987 the mission chapel became a new parish - Our Lady of Hope R.C. Church - under the Rockville Diocese as part of the church's efforts to redistribute the congregation from St. Bridget's in Westbury, which was the largest Catholic parish in Nassau County.

Table 6-2 (cont'd)
Study Area—Architectural Resources

Photo No.	USN No.	Property Site/Name	Address	Listing Status	Notes
Floral Park					
Westbury					
12		164 Post Avenue building (former Wheatley Hills National Bank)	164 Post Avenue	Potential Architectural Resource	The former Wheatley Hills National Bank was founded in Westbury in 1920 by S.A. Warner Baltazzi. The bank occupied the 164 Post Avenue building through the late 1940s. The building currently serves as the headquarters for the Nassau County Republican Committee. The two-story building is faced in rusticated red brick. It has a one-story, non-original entrance on Post Avenue that creates a recessed primary entrance. The primary entrance has double wooden doors and with Federal-style fanlight window. At the Post Avenue roofline, the building has an arched front gable with a heavy wooden cornice and a bull's eye window. The building's south and east facades have rectangular, non-original windows.
Hicksville					
13		Top Hat Uniform (former Amperex Electronic Corporation)	230 Duffy Avenue	S/NR-Eligible	The approximately 134,000-sf masonry and glass warehouse at 230 Duffy Avenue was designed by Frank S. Parker & Associates and built in 1951 for the Amperex Electronic Corporation of Brooklyn. The company, a subsidiary of the North American Philips Company, made industrial and military semiconductors, and special purpose tubes. The warehouse was expanded with a 2-story office and entrance area along Duffy Avenue in the 1960s. The warehouse is currently occupied by Top Hat Imagewear, a high-end uniform manufacturing company.
14	05903. 000727	Hicksville USPS Main Post Office	185 West John Street	S/NR-Eligible	The concrete and brick 120,300-sf post office was constructed in 1968 when the Old Bethpage and Plainview branch post offices merged. The building has a tall double-height portion and a 1- and 2-story portion at its perimeter. The building's primary West John Street facade has an undulating concrete canopy and the rear portion of the building has covered loading docks for mail trucks. The post office was built to serve as a clearing house facility for out of state mail. At the time of its construction, the building had air conditioning, locker rooms for the employees (including separate locker rooms for women), and a truck maintenance facility but a very limited parking area for employees.

Notes: An AKRF site visit was undertaken in July 2016.
Sources:
AKRF site visit, July 2016; New York State Office of Parks, Recreation & Historic Preservation's Cultural Resources Information Systems web site, June-July 2016; and online research. See References list at the end of this document.
NOTE: Three additional properties were identified through the July 2016 field survey as potential architectural resources. Based on information provided to OPRHP on September 9, 2016, OPRHP made a determination in an October 13, 2016 comment letter that these properties are not S/NR-eligible. These properties are: Flowerview Gardens Apartments (formerly Child's Garden Apartments) at 91 Tulip Avenue in Floral Park; New Hyde Park USPS Post Office at 1001 Second Avenue in New Hyde Park; and the Davenport Press Building at 70 Main Street in Mineola.

F. FUTURE WITHOUT THE PROPOSED PROJECT

PROJECT CORRIDOR

ARCHAEOLOGICAL RESOURCES

No previously identified archaeological sites, NYS Museum sites, National Register archaeological listings, or archaeological districts are located within the Project Corridor or in the ¼-mile study area. ^ In addition, none of the Proposed Project components is located in an area determined to possess archaeological potential.

ARCHITECTURAL RESOURCES

In the future without the Proposed Project, no new development will occur within the Project Corridor. Absent the proposed project, the LIRR will continue its operations with the existing rail configuration, undertaking routine maintenance and operating procedures. The existing inefficiencies will be maintained and the safety concerns at the grade crossings will continue (see discussion in **Chapter 1**, "Project Description").

STUDY AREA

Several development projects are expected to be built within or adjacent to the 100-foot and 500-foot study areas by 2040 when the full build out of the Proposed Project is expected to be complete. One No Build project located approximately 100 feet north of the Project Corridor is known as Mineola Village Green. This transit-oriented multifamily residential development project will include apartments, retail, and restaurant components. This project will involve the demolition of the Citibank (formerly the European-American Bank Company building) at 199 Second Street in Mineola. The bank building was built in 1915-1920 and has been determined S/NR-eligible by OPRHP. Other No Build projects that are anticipated to be developed in the future absent the Proposed Project are shown in **Table 2-2** of Chapter 2, "Land Use, Community Character, and Public Policy," but these No Build projects would not directly affect historic resources.

In the future without the Proposed Project, the status of architectural resources could change. S/NR-eligible resources could be listed on the Registers.

In the future without the proposed actions, changes to architectural resources or to their settings could occur. For instance, indirect impacts from future projects could include: a change in scale, visual prominence, or visual context of any building, structure, or object or landscape feature; screening or elimination of publicly accessible views; or introduction of significant new shadows or significant lengthening of the duration of existing shadows on a historic landscape or on a historic structure if the features that make the resource significant depend on sunlight. It is also possible that some architectural resources in the study area could deteriorate or experience direct impacts through alteration or demolition, while others could be restored.

Architectural resources that are listed on the S/NR or that have been found eligible for listing are given a measure of protection under Section 106 of the National Historic Preservation Act from the effects of projects sponsored, assisted, or approved by federal agencies. Although preservation is not mandated, federal agencies must attempt to avoid adverse effects on such resources through a notice, review, and consultation process. Properties listed on the Registers are similarly protected against effects resulting from projects sponsored, assisted, or approved by State agencies under the State Historic Preservation Act. However, private owners of properties eligible for, or even listed on, the Registers using private funds can alter or demolish their properties without such a review process.

G. POTENTIAL IMPACTS OF THE PROPOSED PROJECT

ARCHAEOLOGICAL RESOURCES

TRACK ALIGNMENT

The proposed relocation of utilities and the alteration and relocation of certain retaining walls would result in ground disturbance at these locations. However, based on the extent of prior subsurface disturbance of the ROW and the immediately adjacent area, these proposed changes would be unlikely to impact any remaining intact archaeological resources.

STATION MODIFICATIONS

Because of the extent of the prior documented disturbance at these stations within the LIRR ROW and the area adjacent to both sides of the ROW, the proposed station modifications are unlikely to impact any archaeological resources that may once have been present.

GRADE CROSSINGS

The proposed construction associated with the grade crossing modifications would result in ground disturbance at all seven crossing locations. Due to prior ground disturbance within the LIRR ROW and the immediately adjacent area, the grade crossing locations have no archaeological potential.

COMMERCIAL PROPERTY TAKINGS

The potential full property takings and partial acquisitions, or strip takings, under consideration do not possess precontact or historic period archaeological potential due to the extent of documented prior subsurface disturbance.

STAGING AREAS

Most of the potential staging areas under consideration do not possess precontact or historic period archaeological potential due to the extent of documented prior subsurface disturbance. Many of the proposed staging areas are located in existing parking lots, or on extant streets, and are paved. From an archaeological perspective, paved surfaces serve to protect any buried archaeological resources that may be present. Should additional construction staging areas be proposed as project design progresses, an assessment of archaeological potential would be undertaken in consultation with OPRHP.

PARKING STRUCTURES AND SURFACE PARKING LOTS

^ The ^ locations of ^ proposed ^ parking improvements ^ in New Hyde Park, Mineola, Westbury, and ^ Hicksville possess very little to no archaeological potential^ . Cartographic research, as detailed in the Final Phase 1A Archaeological Sensitivity Assessment, indicates that historic development at these locations was limited prior to the development of the existing paved surface parking lots. The extent of prior subsurface disturbance^ at these locations has likely eliminated the integrity of any potential archaeological resources from earlier development periods of these sites. The proposed ^ new surface parking ^ lots in New Hyde Park and Mineola would not ^ result in ^ new ground disturbance of previously undisturbed soils^ . None of the documented structures that had historically been located on any of the

proposed parking structure ^ locations had basements. Evidence for prior subsurface disturbances was also noted during the field view walkovers for some of the existing parking lot sites that had drainage systems in place, underground utilities, and had been graded prior to paving.

The proposed ^ improvements to existing surface parking lots in New Hyde Park and Mineola^ , and the proposed ^ construction of ^ multi-level parking structures ^ on existing surface parking lots ^ in Mineola, Westbury, and Hicksville would therefore result in no adverse effects on archaeological resources at these ^ locations^ .

ARCHITECTURAL RESOURCES

DIRECT IMPACTS

Track Alignment

The track alignment modifications would occur entirely within the LIRR ROW along the Project Corridor. The track alignment modifications would result in a direct adverse impact on one of the two historic architectural resources located within the LIRR ROW—Nassau Tower in Mineola. The other historic architectural resource located within the LIRR ROW—the former Mineola LIRR Electrical Substation—would be demolished as part of station improvements that would be developed at this location, as described below. The demolition of S/NR-listed properties would constitute an Adverse Impact to historic resources under SEQRA and Section 14.09. Measures to mitigate the adverse impact would be developed in consultation with OPRHP and set forth in an LOR to be executed among the involved parties^ .

Station Modifications

The proposed modifications to the seven Project Corridor train stations would be limited to alterations to platforms, modifications to passenger shelters, and enhancements to ADA accessibility, including reconstruction of pedestrian ramps, bridges, and elevators. These proposed changes would not directly impact any known or potential architectural resources as none of the affected train stations is a known or potential architectural resource.

Grade Crossings

The proposed alterations to the grade crossings and bridges would not directly adversely impact any known or potential architectural resources within the Project Corridor.

Staging Areas

None of the staging areas include any known or potential architectural resources, therefore, no such resources would be directly impacted by the proposed activities associated with the staging areas. Should additional construction staging areas be proposed as project design progresses, an assessment of potential direct impacts to historic architectural resources would be undertaken in consultation with OPRHP.

Commercial Property Takings

The potential property takings under consideration do not contain any historic architectural resources. Therefore, no such resources would be directly impacted by the proposed commercial property takings.

Parking Structures and Surface Parking Lots

Only one of the proposed surface parking lots would result in a direct adverse impact on historic architectural resources. The proposed surface parking lot and kiss-and-ride that would be located southwest of the LIRR tracks at Main Street in Mineola would require the demolition of one known historic architectural resource—the former Mineola LIRR Electrical Substation. The adjacent known architectural resource—Nassau Tower—would be demolished as part of the track alignment modifications. As described above, the demolition of S/NR-listed properties would constitute an Adverse Impact to historic resources under SEQRA and Section 14.09. Measures to mitigate the adverse impact would be developed in consultation with OPRHP and set forth in an LOR to be executed among the involved parties^ .

To ensure that construction activities associated with the Proposed Project that would be undertaken within 100 feet of architectural resources would not cause inadvertent physical impacts to historic architectural resources, LIRR would prepare and implement a CPP in consultation with OPRHP for any architectural resources located within 100 feet of the Proposed Project construction. The CPP would set forth the specific measures to be implemented to protect historic architectural resources during construction of the Proposed Project. The historic architectural resources that would be subject to the CPP are:

- Floral Park—the Floral Park Public Library, the commercial buildings on Tyson Avenue and South Tyson Avenue, and the commercial buildings on Tulip Avenue;
- Mineola—the commercial buildings at Station Plaza North;
- Westbury—the potential architectural resource at 164 Post Avenue; and
- Hicksville—Top Hat Uniform and the Hicksville USPS Main Post Office.

INDIRECT IMPACTS

The proposed changes to the track alignment would be entirely within the LIRR ROW and the station modifications, as described above, would be minimal. These project components would not affect the setting, views to, or historic character of historic resources in the study area and therefore, would not indirectly affect any historic architectural resources in the study area. The preliminary construction staging areas would be located at a distance from historic architectural resources, and as such, would not result in indirect impacts. Should additional construction staging areas be proposed as project design progresses, an assessment of potential indirect impacts to historic architectural resources would be undertaken in consultation with OPRHP.

The proposed grade crossings and parking structures would result in new physical features that could affect the setting of historic architectural properties in the study area. No historic architectural resources are located within sight of the proposed grade crossings. However, one known architectural resource and one potential architectural resource are located within sight of proposed parking structures in Westbury and Hicksville. In Westbury, the 164 Post Avenue building—a potential architectural resource—is located approximately 50 feet northwest of the Scally Place parking structure site. Although this potential architectural resource is within sight of the Scally Place parking structure site, the building's primary facade is oriented toward Post Avenue, away from the parking structure site. Further, the 164 Post Avenue building does not have a contextually meaningful relationship with the site. The proposed parking structure would not introduce visual, audible, or atmospheric elements that would be out of character with the 164 Post Avenue building, nor would the proposed structure isolate the building from its surroundings or adversely alter its setting. In Hicksville, the proposed parking structures located

north and south of West Barclay Street would be within sight of the Hicksville USPS Main Post Office to the west. The post office building is also oriented away from these parking structure sites and does not have a meaningful visual or contextual relationship to the surface parking lots that would be redeveloped with new parking structures. The two Hicksville parking structures would not introduce visual, audible, or atmospheric elements that would be out of character with the Post Office, nor would the proposed parking structures isolate the Post Office from its surroundings or adversely alter its setting. Therefore, the Proposed Project would not result in any adverse indirect impacts to historic architectural resources.

H. MEASURES TO AVOID, MINIMIZE, AND MITIGATE POTENTIAL IMPACTS

^ The Final Phase 1A Archaeological Assessment (March 2017) summarizes the findings of research ^ that indicates that the proposed parking structure ^ locations do not possess archaeological ^ sensitivity. Therefore, the Proposed Project would have no adverse ^ effects on archaeological resources.

^ To ensure that construction activities associated with the Proposed Project that would be undertaken within 100 feet of architectural resources would not cause inadvertent physical impacts to historic architectural resources, LIRR would prepare and implement a CPP in consultation with OPRHP for any architectural resources located within 100 feet of the Proposed Project construction. The CPP would set forth the specific measures to be implemented to protect historic architectural resources during construction of the Proposed Project.

As described above, the demolition of S/NR-listed properties—the Nassau Tower and the former Mineola LIRR Electrical Substation—would constitute an Adverse Impact to historic resources under SEQRA and Section 14.09. Measures to mitigate the adverse impact would be developed in consultation with OPRHP and set forth in an LOR to be executed among the involved parties.

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✷

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

Meadowbrook Parkway

Nassau Boulevard

Denton Avenue

Plainfield Avenue

South Tyson Avenue

Floral Park

New Hyde Park

Mineola

Carle Place

Westbury

Hicksville

Urban Avenue

School Street

Cherry Lane

Glen Cove Road

Willis Avenue

Merillon Avenue

New Hyde Park Road

South 12th Street

Covert Avenue

Main Street

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

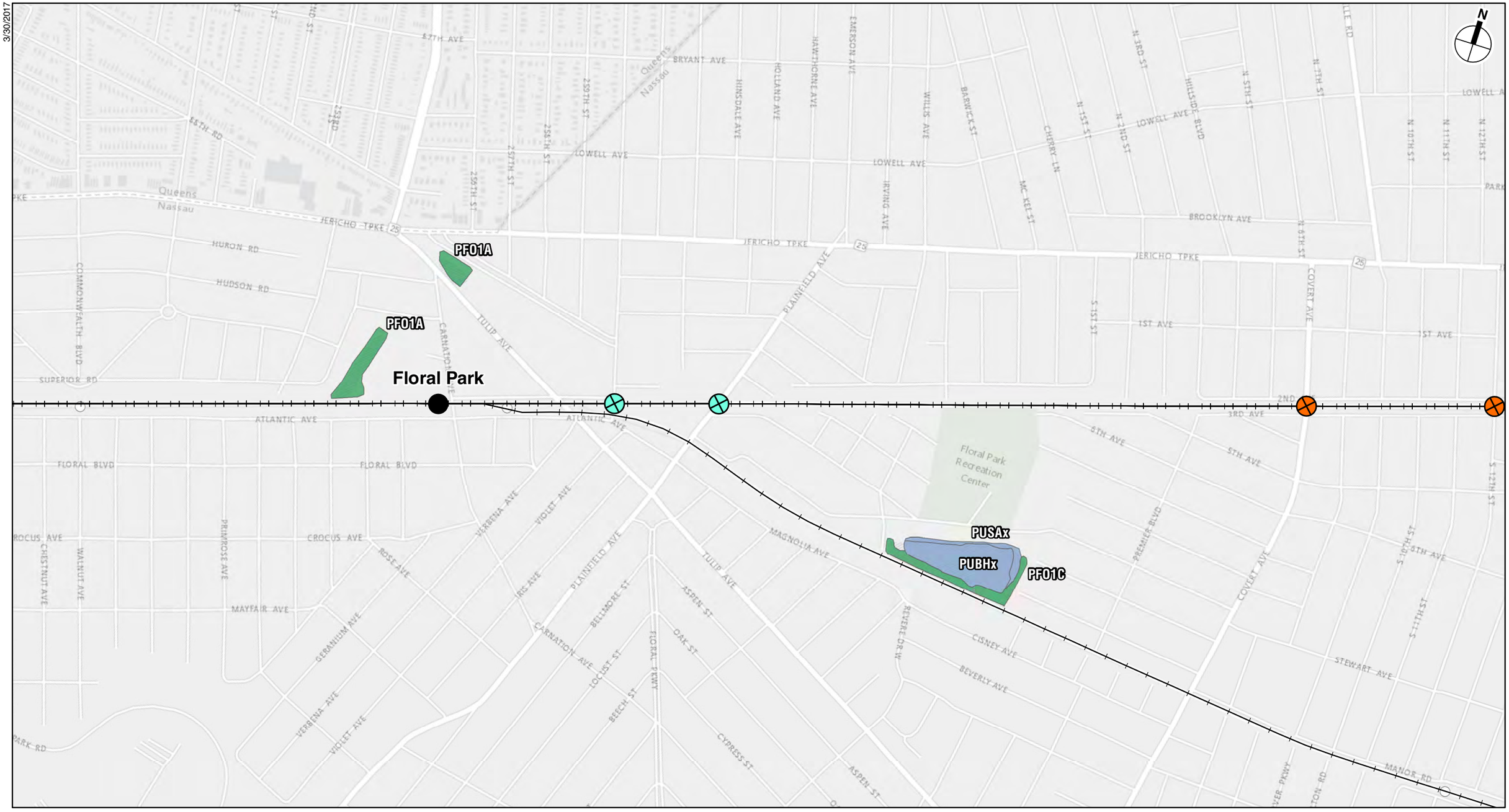
The majority of the Study Area is characterized as heavily developed portions of Nassau County. Natural resources are limited throughout much of the Study Area, but some areas are vegetated and contain natural features, or are immediately adjacent to areas with sensitive natural resources (e.g., the 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



Grade Crossings

Grade Separated Crossings (Bridges)

LIRR Stations

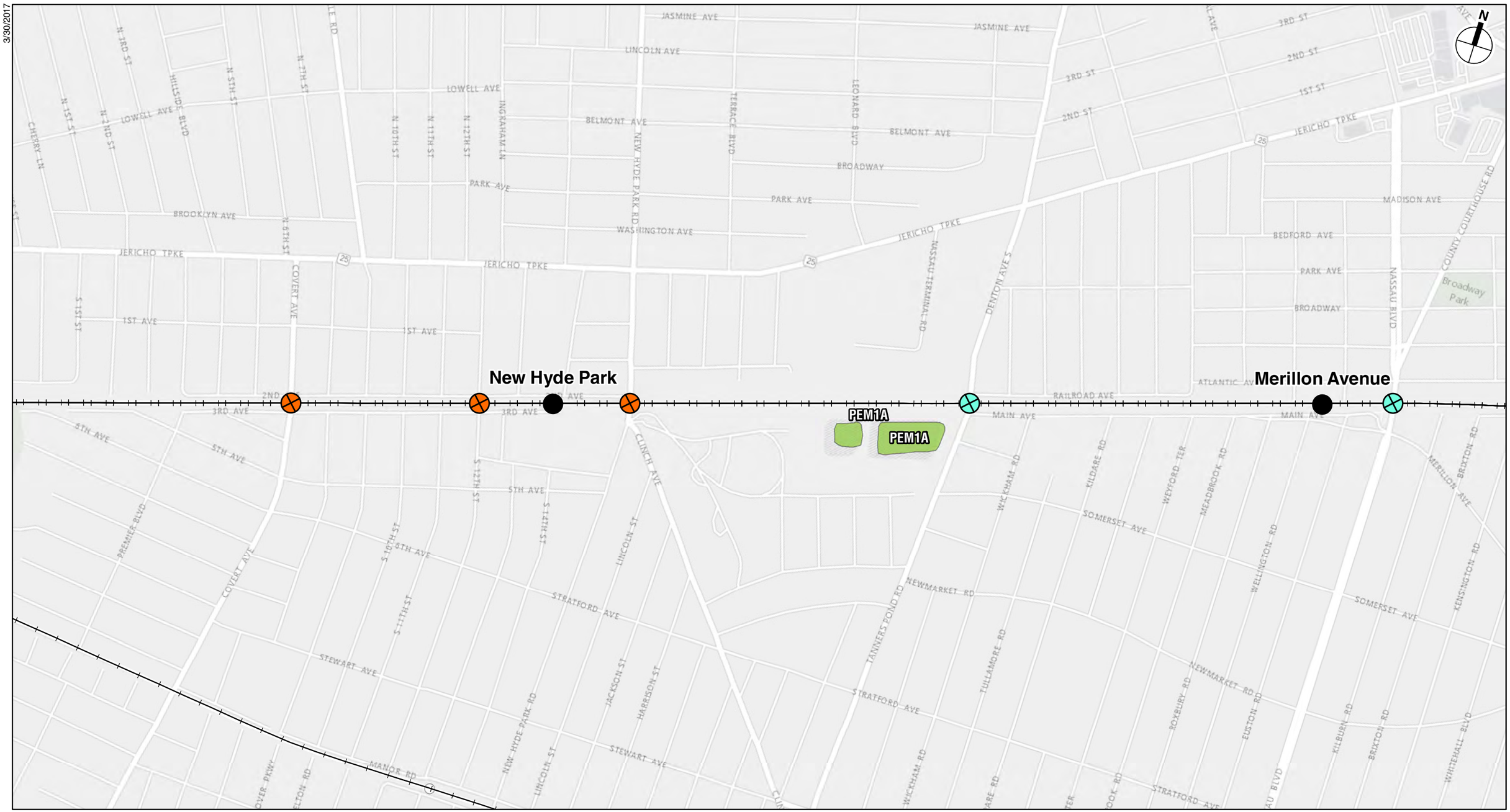
Freshwater Forested/Shrub Wetland (PFO, PSS)

Freshwater Pond (PUB, PAB)

LIRR Expansion Project
Floral Park to Hicksville

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

3/30/2017



Grade Crossings

Grade Separated Crossings (Bridges)

LIRR Stations

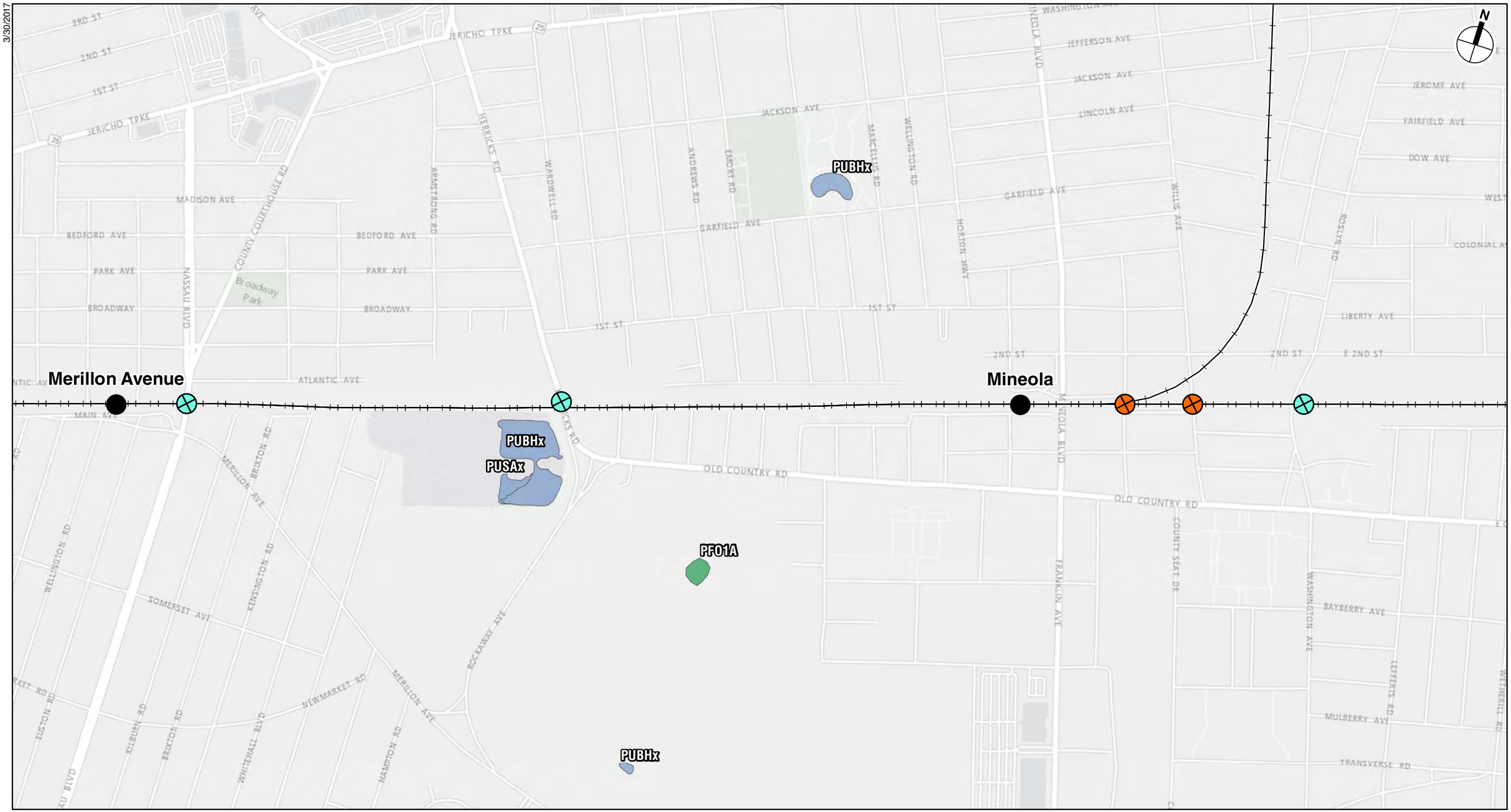
Freshwater Emergent Wetland (PEM)

0 2,000 FEET

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)

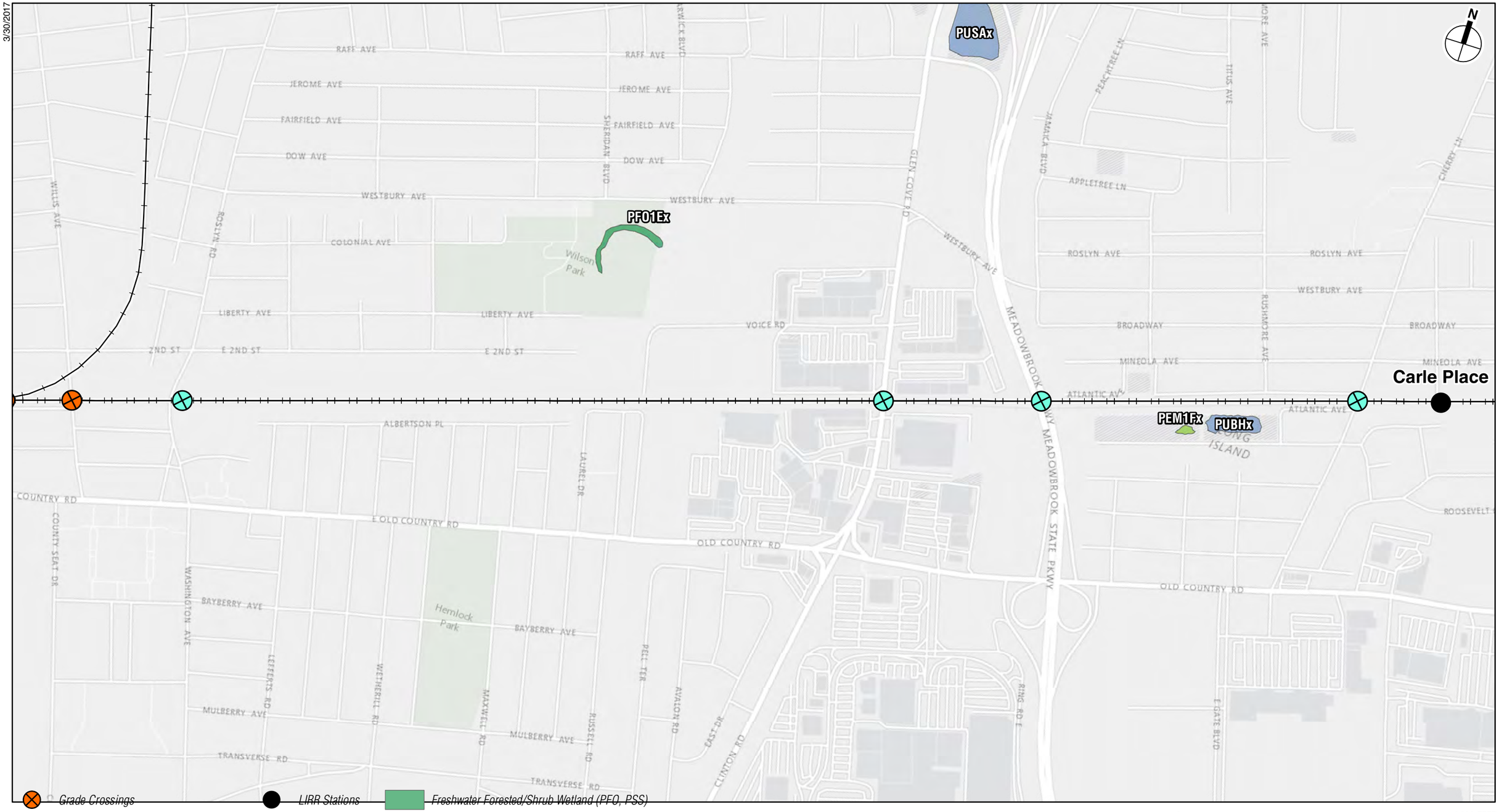
Freshwater Pond (PUB, PAB)

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)

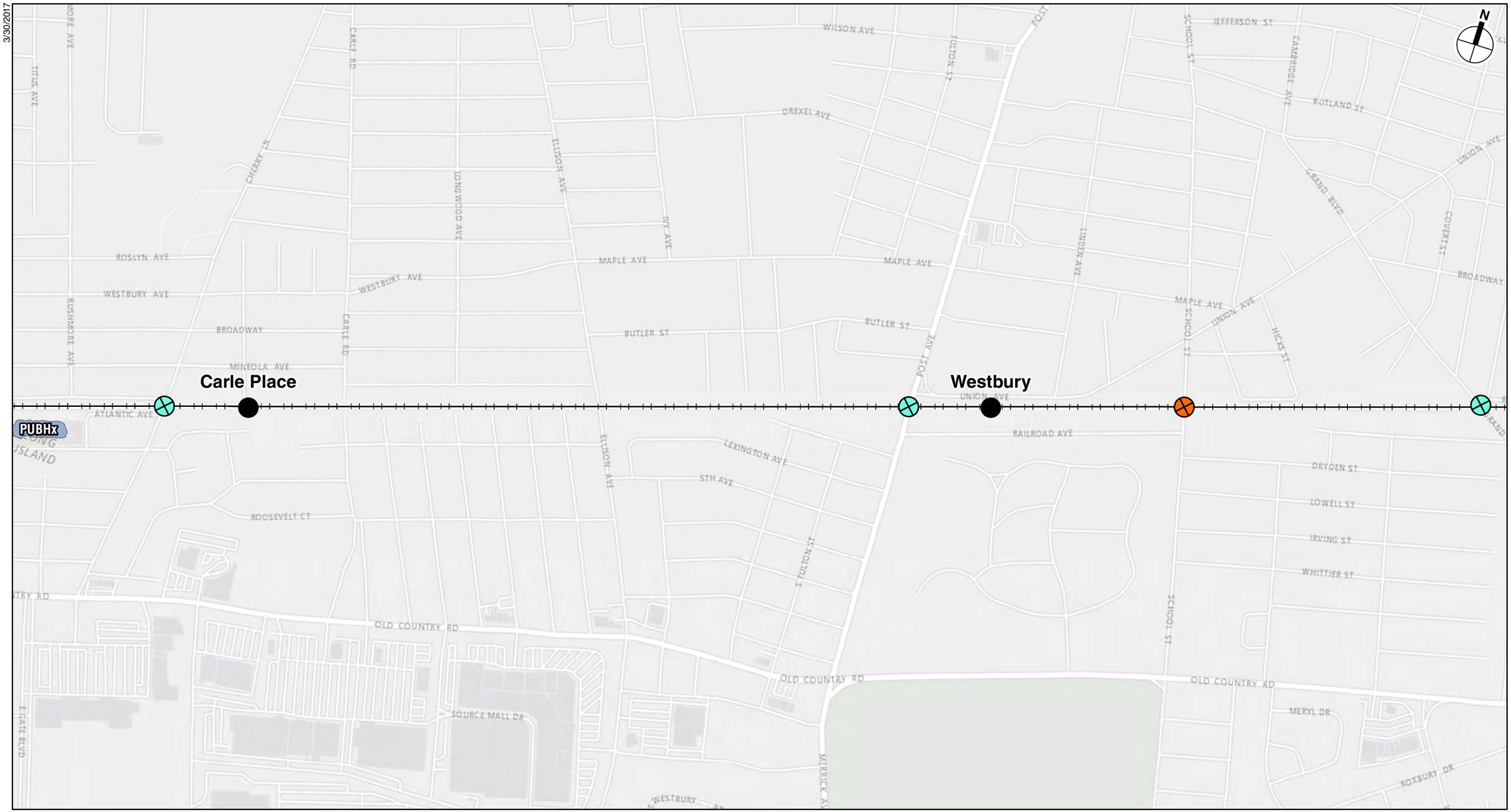
Freshwater Emergent Wetland (PEM)

Freshwater Pond (PUB, PAB)

LIRR Expansion Project
Floral Park to Hicksville

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

3/30/2017



Grade Crossings

Grade Separated Crossings (Bridges)

LIRR Stations

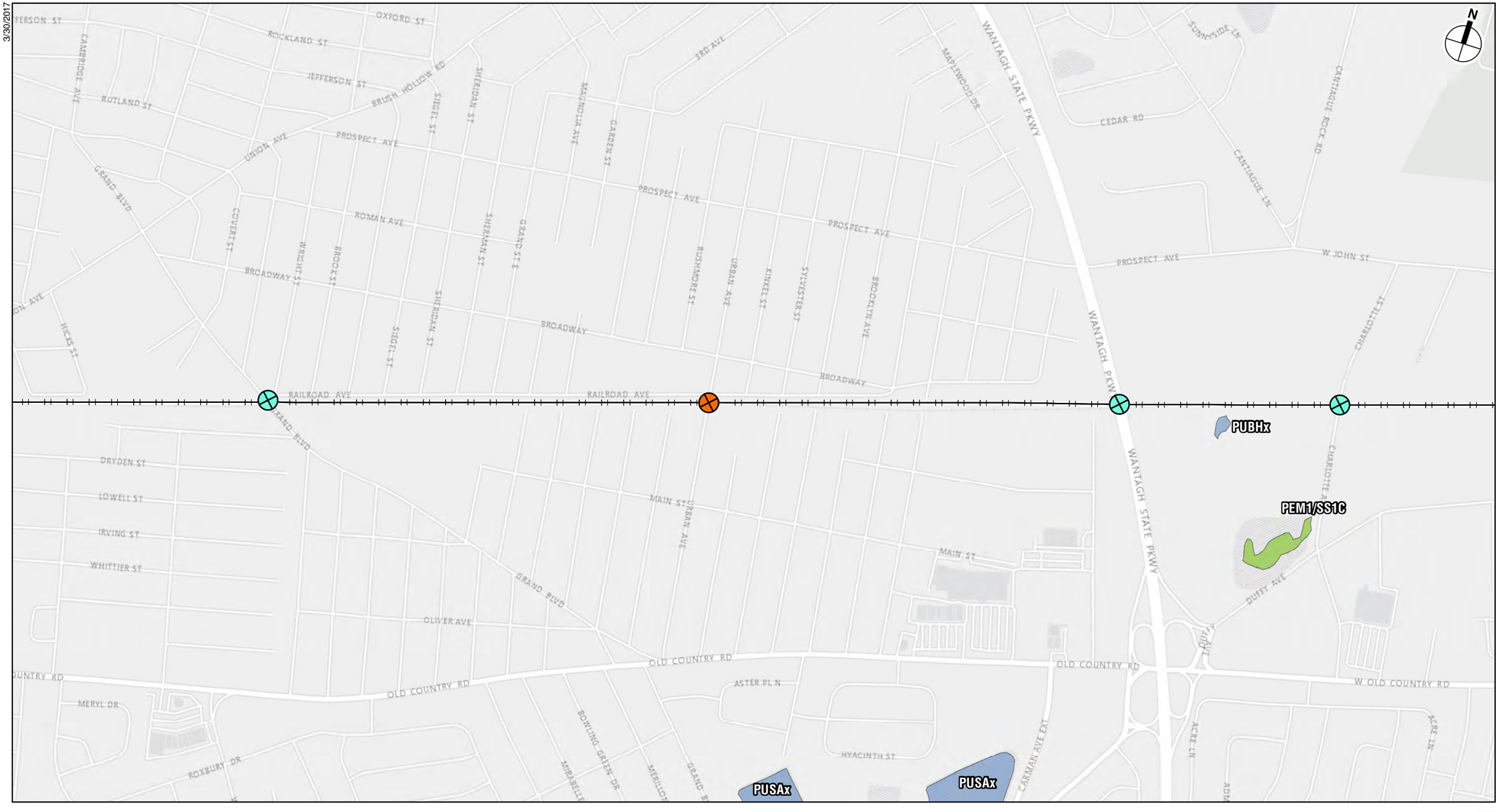
Freshwater Pond (PUB, PAB)

0 2,000 FEET

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)

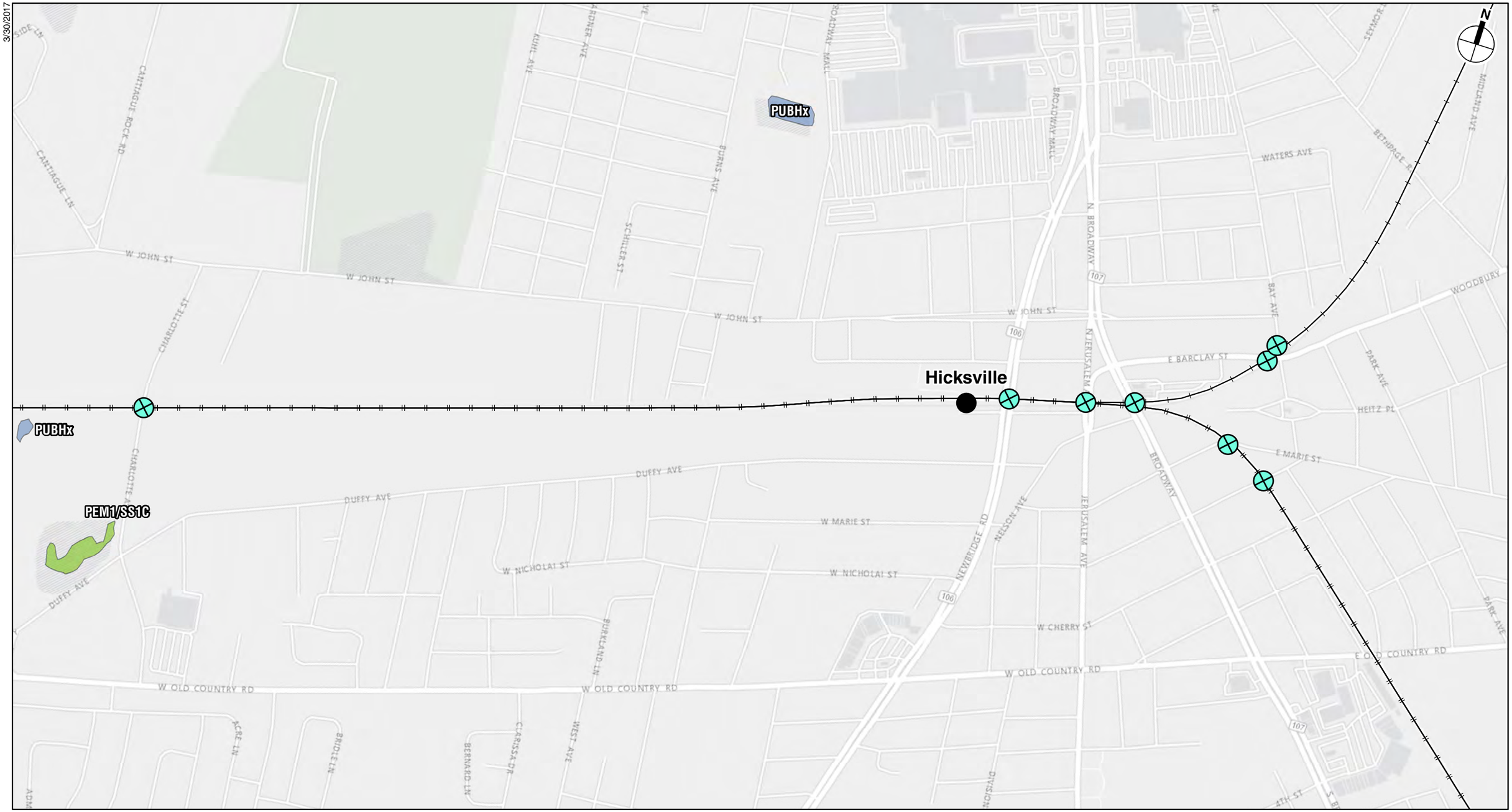
Freshwater Pond (PUB, PAB)

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. ✷

Chapter 8: Contaminated Materials

A. INTRODUCTION

This chapter evaluates the potential for contaminated materials to exist within or near the Study Area for the Proposed Project. Construction activities associated with the Proposed Project would involve soil disturbance at various locations throughout the study area. The Study Area, for the purposes of this ^ chapter, includes the LIRR ROW^ and the area within 100 feet on either side of the right-of-way along the 9.8-mile project length, locations of proposed parking garages, and the area within 200 feet of where changes to grade crossings, including areas to be disturbed for utility installations/relocations, or potential property acquisitions, are proposed. This chapter presents and interprets available information on potentially contaminated sites within the Study Area.

An analysis was conducted to evaluate whether construction or operation of the Proposed Project could potentially increase exposure of people or the environment to contaminated materials, and whether the Proposed Project may result in potential significant adverse impacts to public health and/or the environment. The potential for significant adverse impacts depends on the type of materials present and their location relative to or within the Study Area, their levels, and whether exposure to the contaminated materials would be associated with the Proposed Project, either during construction or during subsequent operations. The potential for significant adverse impacts from contaminated materials can occur when: a) contaminated materials exist on a site, and b) an action would increase pathways to their exposure; or c) an action would introduce new activities or processes involving contaminated materials.

Contaminated materials are substances that pose a threat to human health or the environment. They can include hazardous wastes, which are explicitly defined by regulations promulgated under the Federal Resource Conservation and Recovery Act (RCRA), the regulatory framework for the proper management of both hazardous and non-hazardous waste. The responsibility for regulating contaminated materials falls on the various federal, state and local agencies, including the New York City Department of Health and Mental Hygiene (DOHMH), New York State Department of Health (NYSDOH), New York State Department of Environmental Conservation (NYSDEC), the Department of Transportation (DOT), and the United States Environmental Protection Agency (USEPA). The regulatory obligation is typically dependent upon the nature and occurrence of the specific contaminant.

Many contaminated materials cause physical harm following exposure, either by direct contact, inhalation as vapor or particles in the air, and/or ingestion of contaminated soil/agriculture or groundwater. The effect of these materials on human health is dependent upon the nature and toxicity of the contaminant and the amount of exposure. Public health may also be compromised when contaminated vapors from such materials migrate through the subsurface soil and/or along preferential pathways (e.g., building foundation structures, utility conduits, etc.) and accumulate beneath concrete slabs or infiltrate into buildings through cracks and openings, thereby creating hazardous breathing conditions.

B. PRINCIPAL CONCLUSIONS AND IMPACTS

Soil, soil gas and groundwater beneath a site can become contaminated as a result of past or present uses within the Study Area or on nearby properties. Portions of the Study Area are and/or were used historically for railroad operations and other industrial activities. Common contaminants found in the subsurface at railroad properties include creosote, petroleum products, solvents, volatile and semi-volatile organic compounds, heavy metals, polychlorinated ^ byphenyls (PCBs), pesticides, and herbicides.

Based on the methodology described in the following section, 153 "Category B" sites were identified within the Study Area. As further discussed below, a Category B site is defined as ^ a site that ^ has some reasonable potential to have been impacted by the presence of contaminated materials and thus additional analysis is prudent. As noted below, the identification of a site as "Category B" does not necessarily indicate that the site is contaminated. Subsurface investigations, which would only be performed at the sites within or close to an area where subsurface disturbance would be required for the Proposed Project, would be required to determine that contamination actually exists. No further analysis is recommended for "Category A sites" (defined in the following section).

Several properties that are part of the Proposed Project were identified, either in whole or in part, as Category B sites (see below).

The locations of all Category A and B sites are shown on **Figures 8-1 through 8-22** and correspond to the database summary table included in **Appendix 8-A**.

Soil sampling was conducted within the Project Corridor where soil disturbance is expected. All analytical results were well below the applicable standards except for one soil boring location that exceeded the standard for one contaminant. Soil sampling was also conducted at six additional sites where construction of parking garages is now proposed. All analytical results at those locations were also well below applicable standards, with the exception of two samples that exceeded the commercial Soil Cleanup Objectives for two contaminants, consistent with the nature of the fill material present at those locations. With the control measures identified below, no significant adverse impacts from contaminated materials would result from the construction or operation of the Proposed Project.

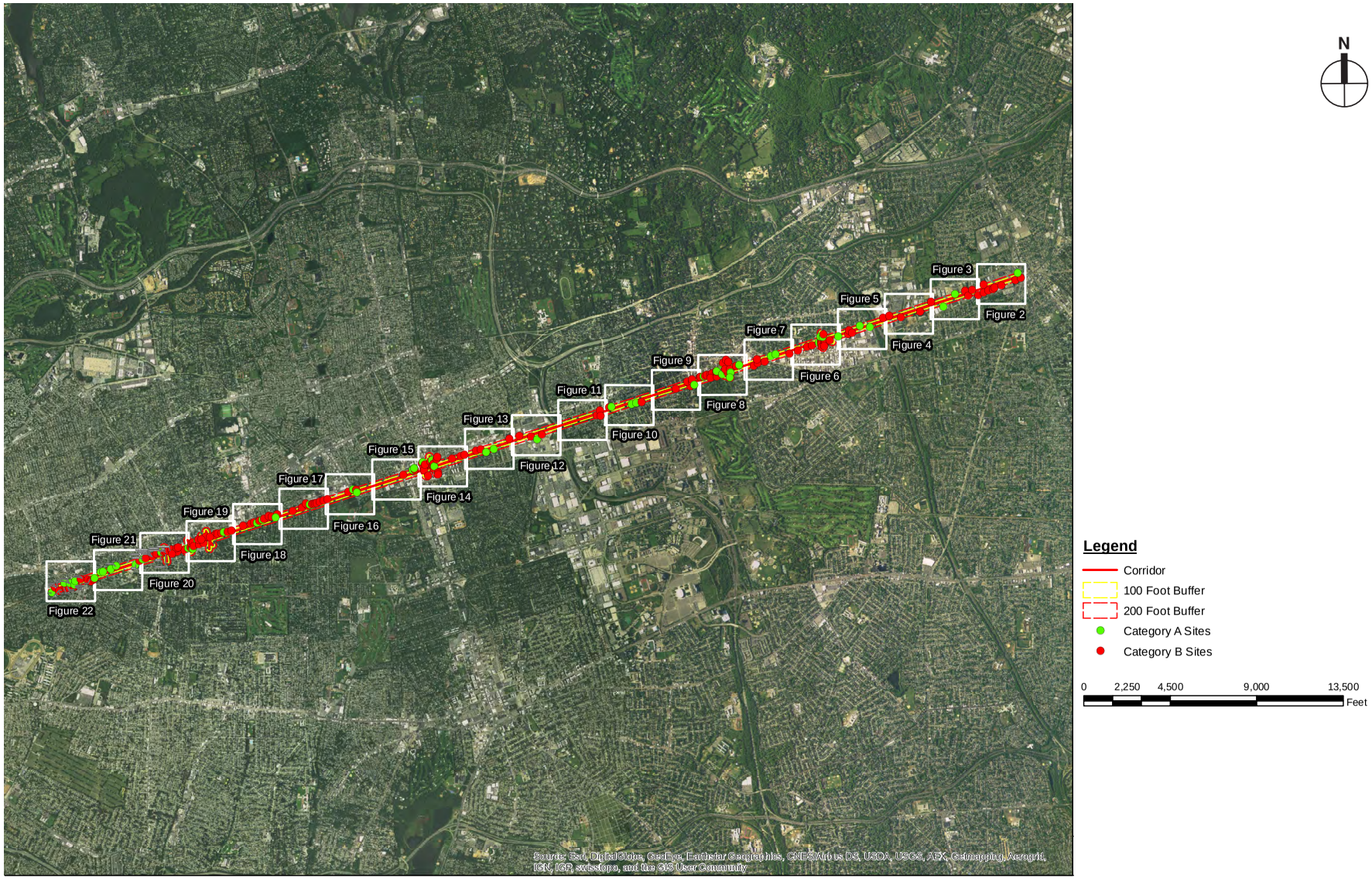
C. METHODOLOGY

A review of the environmental history of the Study Area was conducted. Resources consulted in this review are:

- Historical aerial photographs and Sanborn Fire Insurance Maps;
- Federal and state database records for contaminated sites and sites potentially containing hazardous substances; and
- A site reconnaissance limited to publicly accessible portions of the Study Area, focusing on contaminated sites, potentially contaminated sites, and readily identifiable Recognized Environmental Conditions (RECs).

The review portion of this analysis was used to focus the reconnaissance efforts in an attempt to confirm the presence of specific potential issues identified by the regulatory and historical data.

The analysis was conducted in general accordance with the American Society for Testing and Materials (ASTM) Designation E 1527-13 *Standard Practice for Environmental Site*



Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-1

Source: *Matrix New World*

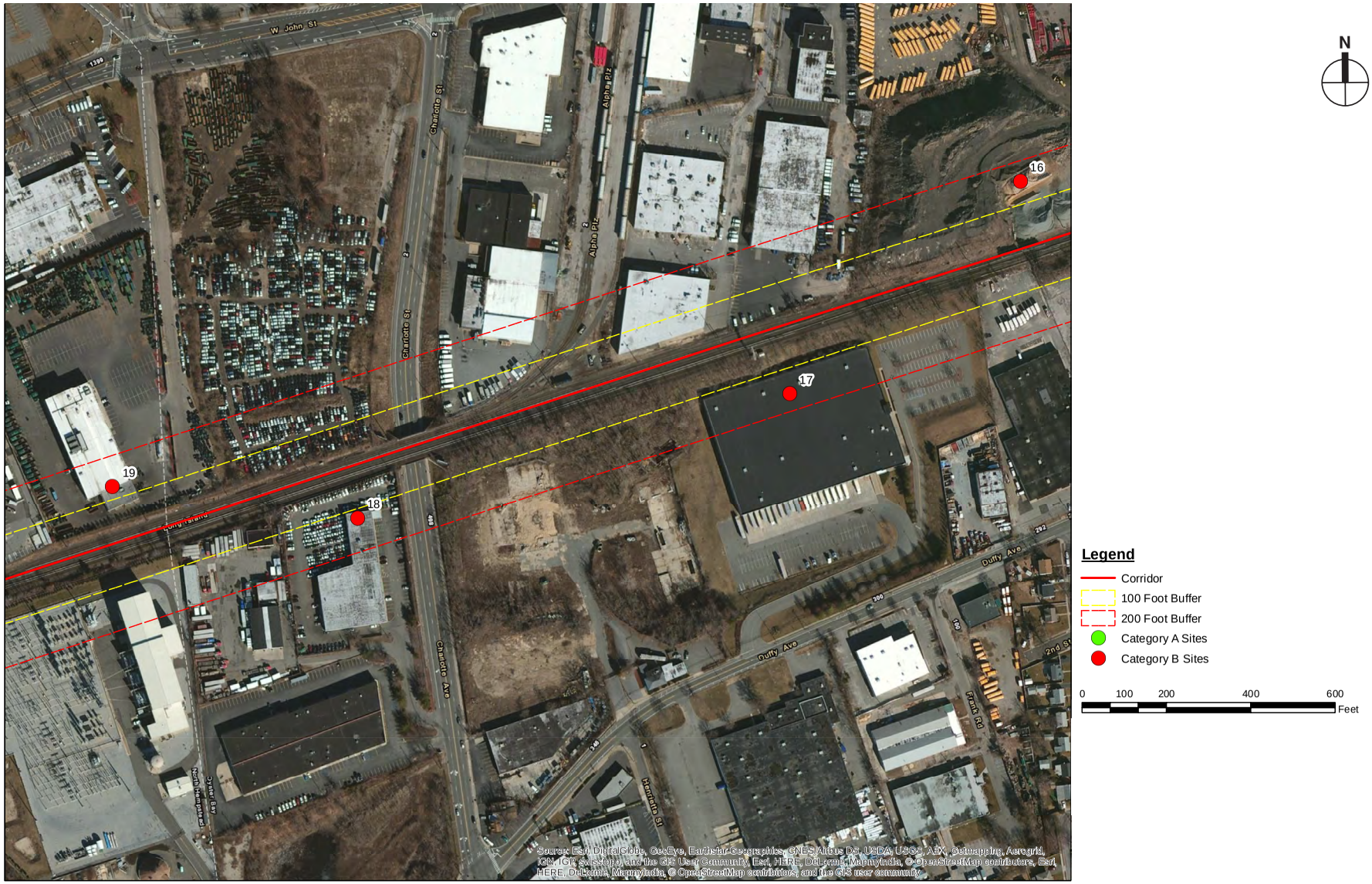
LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-2

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-3



Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-4

Source: *Matrix New World*

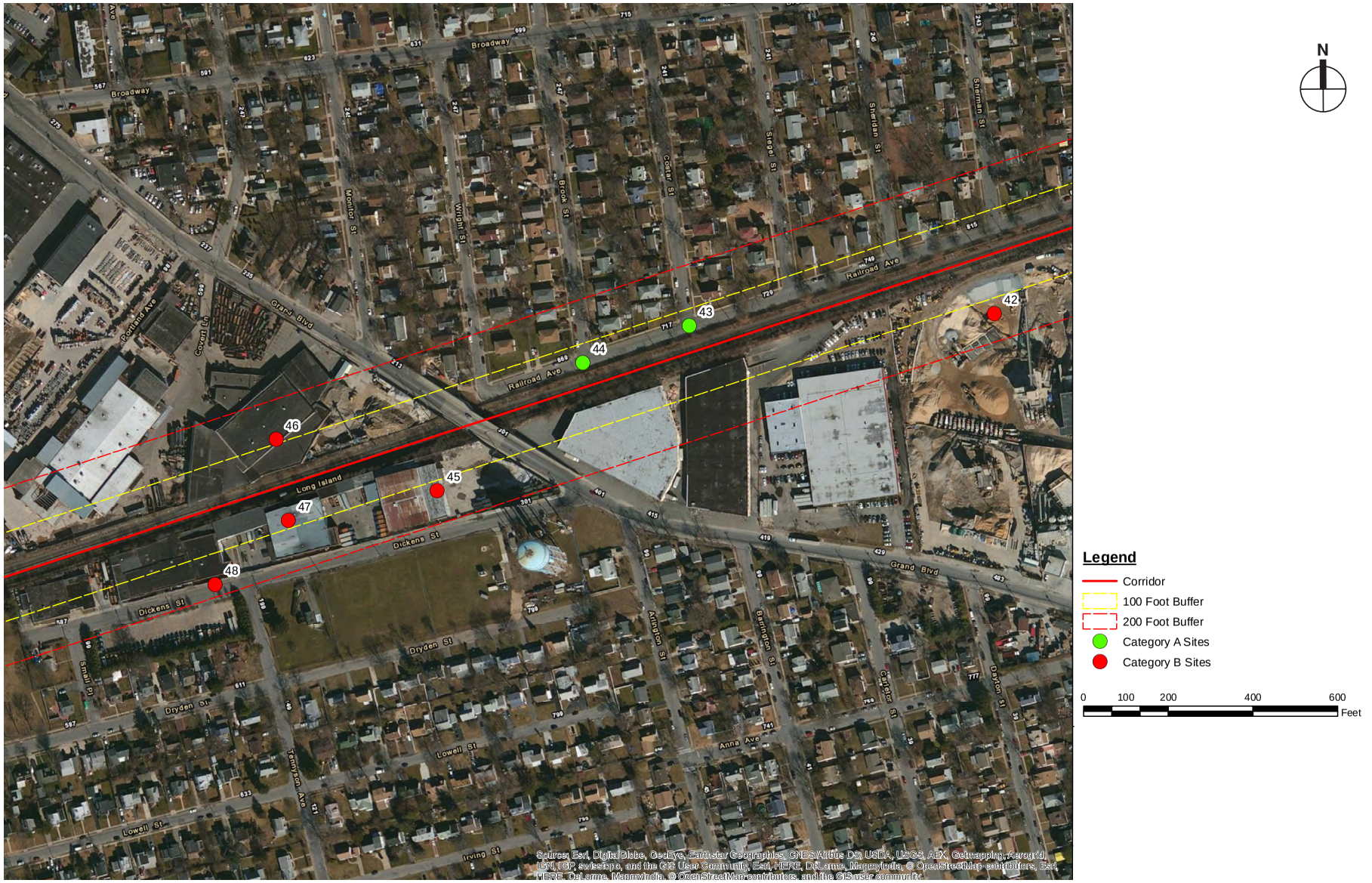
LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-5

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

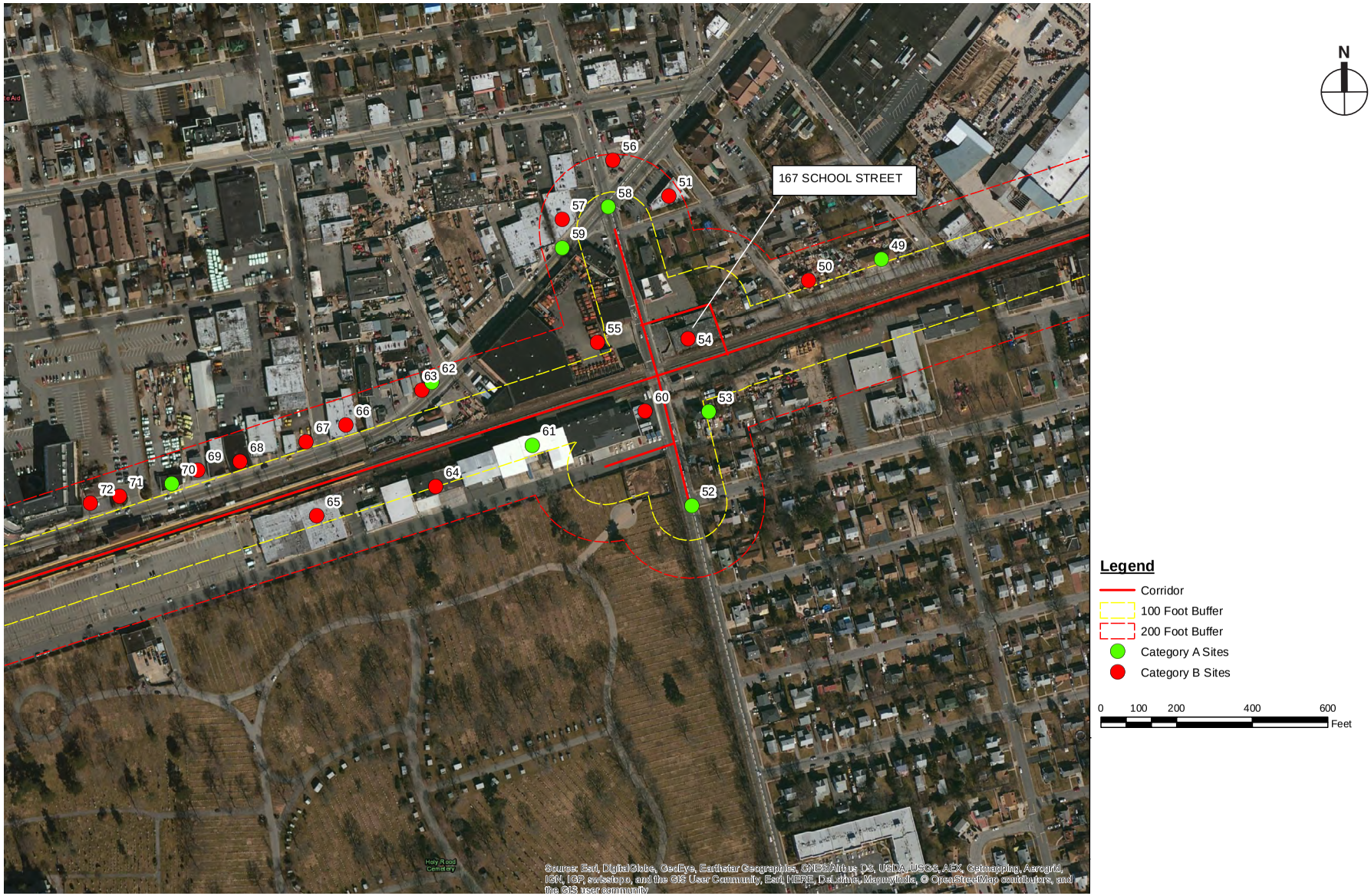
Contaminated Materials Study Sites
Figure 8-6



Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

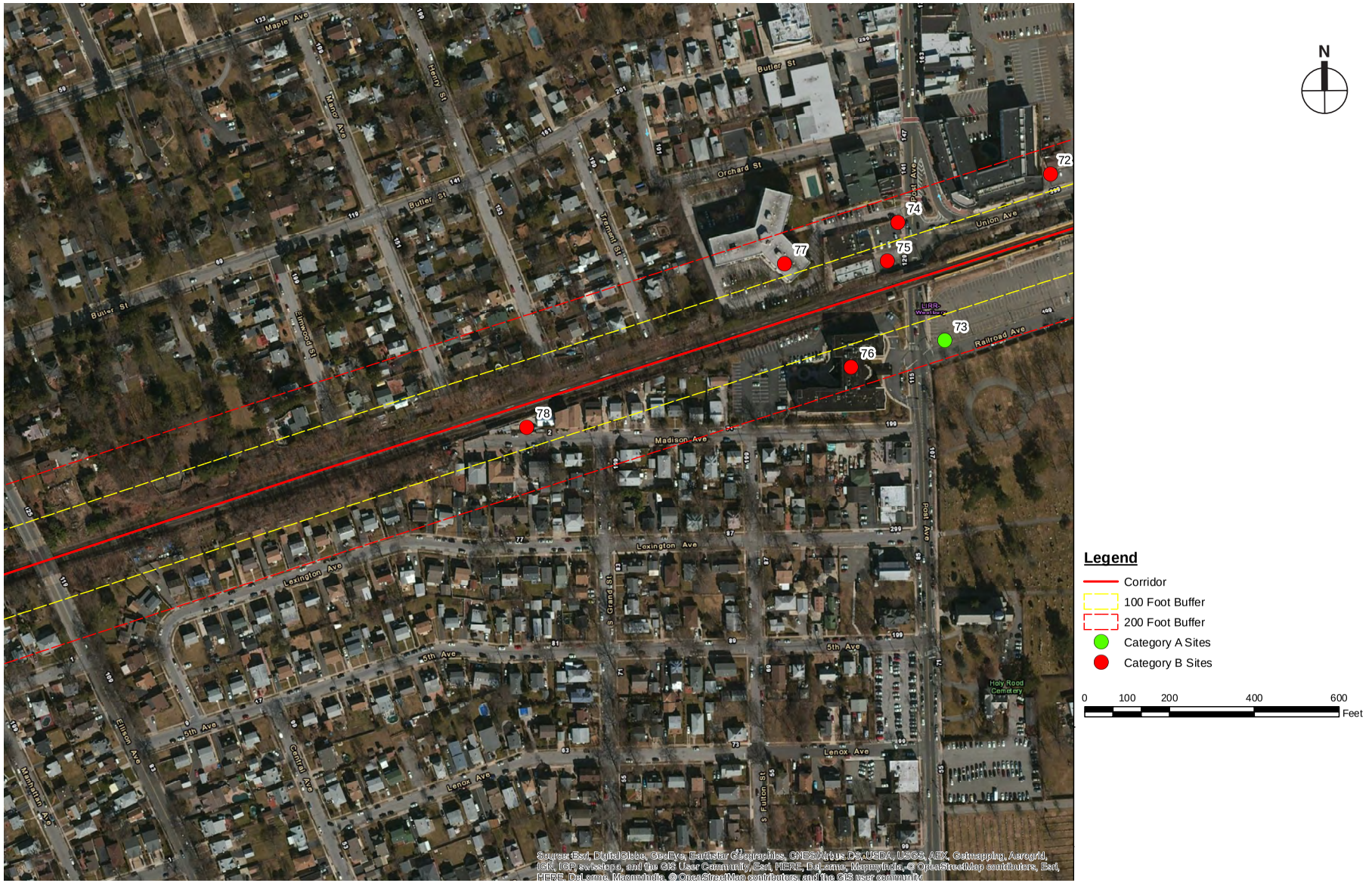
Contaminated Materials Study Sites
Figure 8-7



Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-8



Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-9

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-10

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-11

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-12

Source: *Matrix New World*

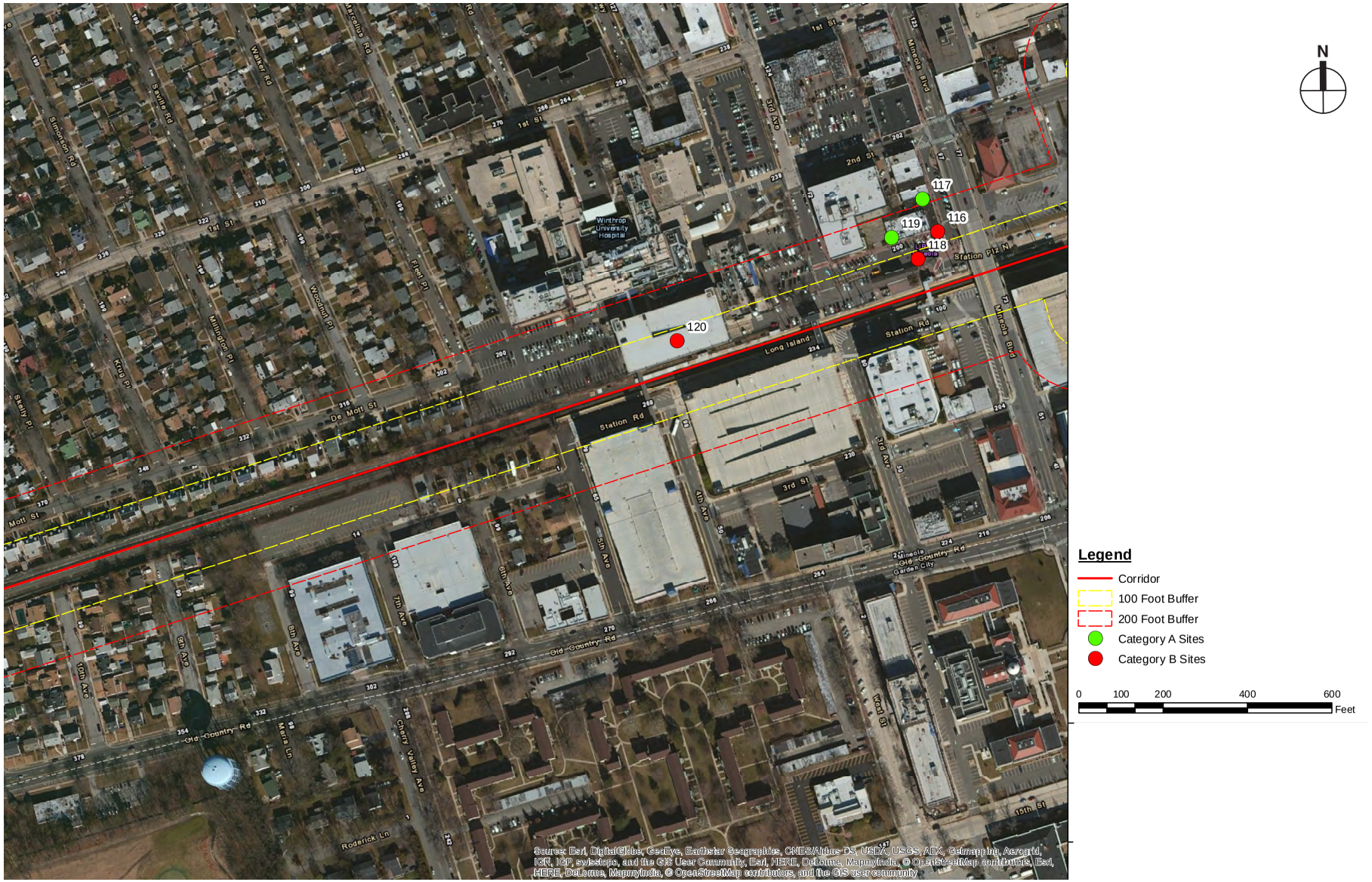
LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-13

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-14



Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-15

Source: *Matrix New World*

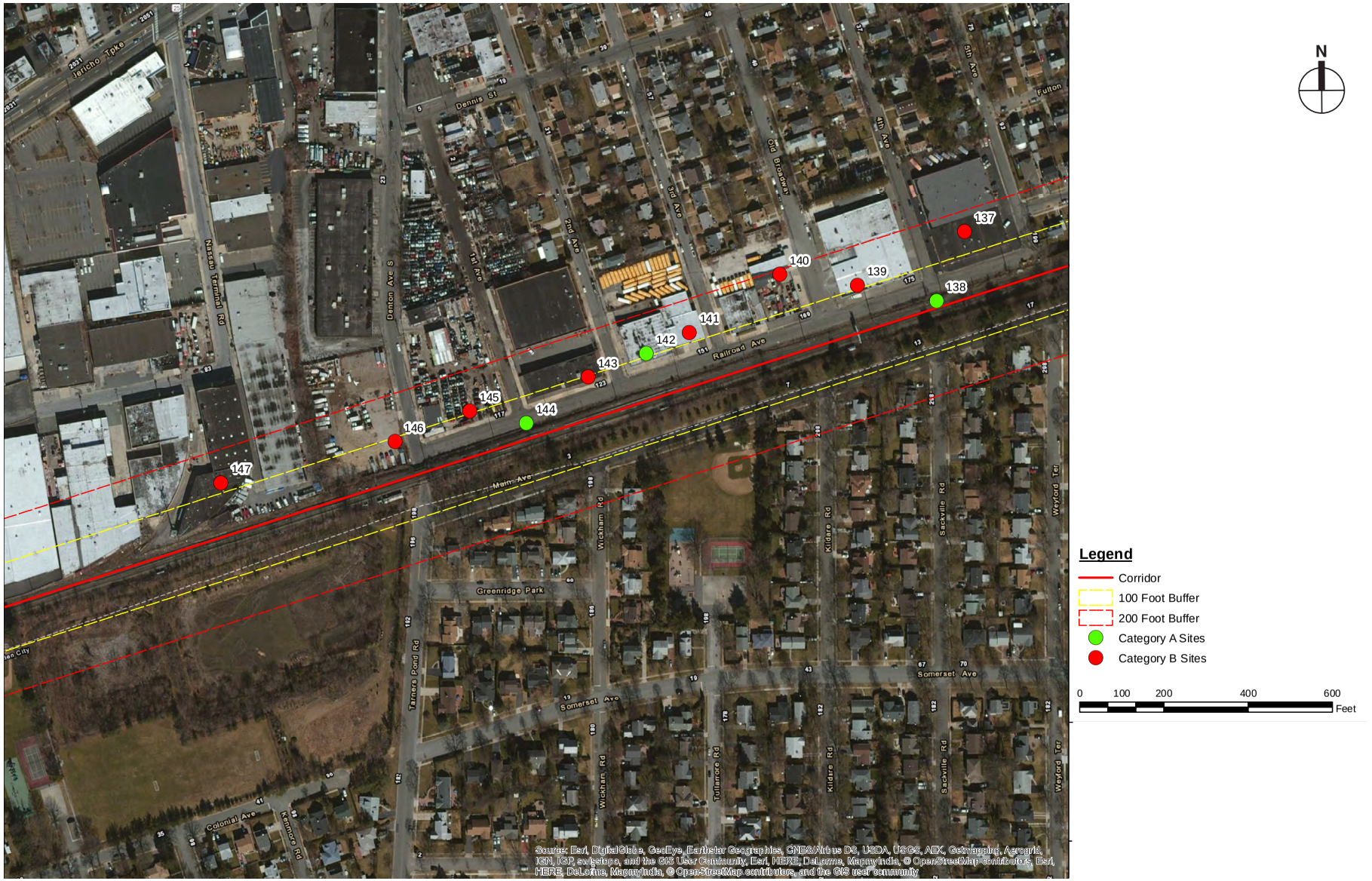
LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-16

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-17



Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-18

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-19

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-20

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-21

Source: *Matrix New World*

LIRR Expansion Project
Floral Park to Hicksville

Contaminated Materials Study Sites
Figure 8-22

Assessments: Phase I Environmental Site Assessment Process (ASTM E1527-13). However, the search radius for off-site properties was modified to 100 feet from the right-of-way, which is appropriate for a corridor project. The term REC is defined in E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." Data collection ^ associated with this analysis ^ was also performed in general accordance with the New York State Department of Environmental Conservation (NYSDEC) Records Search Requirements included in Appendix 3A of Draft DER-10, *Technical Guidance for Site Investigation and Remediation*.

Following data acquisition, sites were divided into two groups (Categories A and B) depending upon the likelihood of potential contamination, based on the professional judgment of geologists, engineers, and environmental health and safety professionals. Category A included sites that did not appear reasonably likely to have been affected such that on-site soil, soil gas, or groundwater would have been contaminated, and therefore did not warrant additional analysis. Category B included sites that had some reasonable potential to have been contaminated and where additional analysis is prudent. Examples of the types of sites identified and their categorization include the following:

- Category A: Small quantity hazardous waste generators, fuel oil tanks with no known spills, electrical vaults with no known spills, closed status spills, closed status petroleum bulk storage sites, spills confined to manholes or vaults, and spills on surface streets.
- Category B: Active status spills, large quantity hazardous waste generators^, auto wreckers^, auto repair shops^, machine shops^, metalworks^, paint shops^, dry cleaners^, gas stations^, underground petroleum storage tanks^, rail yards^, bulk petroleum and chemical storage facilities^, known contaminated soil and groundwater^, electric substations^, and miscellaneous manufacturers.

The selection of Category B sites was exercised conservatively so as to reduce the possibility of eliminating a potentially contaminated site from further investigation. As noted previously, the identification as "Category B" does not necessarily indicate that contamination is present at the parcel, but rather that additional investigation is warranted to determine if contamination is present and whether construction activity associated with the Proposed Project could expose workers or residents to contaminated materials.

Information interpreted from Sanborn Maps and aerial photographs included potential RECs (e.g., filling stations, gas tanks, etc.) was incorporated into the database summary table included in **Appendix 8-A**. Copies of Sanborn Maps and aerial photographs are also included as **Appendix 8-B**.

Based on comments received, Phase I Environmental Site Assessments (ESAs) compliant with ASTM 1527-13 were also conducted at four additional locations where property acquisition would occur, as well as at six locations where parking structures have been proposed. In conducting these analyses, efforts were taken to assess the RECs associated with each site, determining whether additional subsurface investigations were warranted.

Based upon the analysis of the historic use of the Project Corridor, an investigation of subsurface soil conditions was performed at 39 locations where soil disturbance is likely and which represented likely typical conditions throughout the Project Corridor. Additional subsurface soil investigations were also conducted at the six locations where parking structures have been

proposed. All subsurface investigations were completed in accordance with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) document *Technical Guidance for Site Investigation and Remediation* (DER-10). The corridor soil borings were advanced to depths varying from approximately three feet to 25 feet below grade surface (bgs), dependent upon anticipated construction depths and the limitations of drilling equipment. The proposed parking structure soil borings were advanced to 20 ft-bgs, although the proposed construction depth is anticipated to be 15 ft-bgs. Multiple sample locations were not accessible by a drill rig and at those locations samples were advanced with hand tools to refusal, which generally was less than 10 feet bgs. Soil borings were visually inspected and screened with a photo-ionization detector (PID) and continuously logged for lithology.

For the corridor study samples, composite soil samples were collected at two-foot intervals and analyzed for: Toxicity Characteristics Leaching Procedure (TCLP) list; RCRA characteristics, including ignitibility and reactivity; USEPA Target Compound List (TCL) semi-volatile organic compounds (SVOCs); TCL polychlorinated biphenyls (PCBs); Target Analyte List (TAL) metals; TCL pesticides; TCL herbicides; and dioxin. One grab sample from each boring was analyzed for TCL volatile organic compounds (VOCs) and was taken from the discrete six-inch interval with the greatest evidence of contamination determined visually or with readings from the PID. If there was no indication of contamination, the VOC grab sample was collected from the 0.5 to two-foot bgs interval.

For the proposed parking structures samples, one grab sample from each boring was analyzed for TCL VOCs; TCL SVOCs; TCL PCBs; TAL metals; TCL pesticides; and TCL herbicides; and was taken from the discrete 6-inch interval with the greatest evidence of contamination determined visually or with readings from a PID. If there was no indication of contamination, the sample was collected from the 0.5-2.0 ft. bgs interval. Additionally, composite soil samples were collected from soil from the surface to 15 ft-bgs interval and analyzed for the full TCLP list and RCRA Characteristics, including ignitability and reactivity.

D. EXISTING CONDITIONS

LONG ISLAND RAIL ROAD RIGHT-OF-WAY, LIRR STATIONS & GRADE CROSSINGS

The review of documents (historical maps, aerial photograph review, database review and study area reconnaissance) utilized to establish existing conditions identified the following general history:

- During the 1940s, the eastern portion of the Study Area between New Cassel and Hicksville contained primarily undeveloped and/or agricultural land, based on available aerial photographs. The remainder of the eastern end of the study area contained a mixture of sparse residential and commercial uses. Aerial photographs and Sanborn Map coverage ^ were not available for this time period for the western portion of the study area.
- During the 1950s, the eastern end of the study area in the vicinity of Hicksville appeared to remain primarily agricultural land, with the early development of some industrial areas, identified as primarily automotive and manufacturing. Moving west from New Cassel towards Carle Place, usage was increasingly residential in nature, with a cemetery in Westbury, south of the railroad. Additional commercial/industrial development was identified in the vicinity of Carle Place, including dry cleaners, automotive and

manufacturing facilities. From Carle Place west towards Mineola the development appeared more residential, with a Garden City Golf Club to the south of the railroad between Mineola and Garden City. From Garden City west to Floral Park, the development was primarily residential with some interspersed commercial and automotive uses, including gasoline stations and dry cleaners.

- By the 1960s the majority of the agricultural land had been developed with residential, commercial, or industrial uses, including those uses previously noted as well as truck rental, equipment manufacturing, oil refining, etc., with some concentrated industrial uses along the railroad including the New Cassel Industrial Area (NCIA) located south of Railroad Avenue between Grand Boulevard and Frost Street, which included various manufacturing and industrial uses, including electronic equipment manufacturing, metal furniture manufacturing, machine shops, plastics manufacturing, tool and die shops, transformer yards, pharmaceutical manufacturers, medical equipment sterilization facilities, and gravel and stone yards. The majority^ of the study area was developed by the 1960s and no significant changes were identified since that time.

Electrified railways require the operation of substations to convert electrical power to a form suitable for providing power to a rail system. Electrical equipment in substations (e.g., transformers, batteries, capacitors, switches, and voltage regulators) is known to contain hazardous materials, including mercury, PCB-containing oils and dielectric fluids, acids, and asbestos within associated insulating materials. Eight substations were identified within the Study Area, two of which, the Mineola and Floral Park substations, were remediated for mercury-related contamination in 2012, with no further investigation warranted. Solvents, oils and/or other chemicals used as part of former substation maintenance activities also have the potential to affect environmental conditions.

Structural elements of rail line operations often contain hazardous substances in the building materials, including lead-based paint and asbestos. Suspected structures include bridges, pedestrian tunnels, overpasses, station buildings, and signal huts.

Based on the above historical uses, some of the potential contaminants of concern are described below. The list is a summary only and not a comprehensive list of all contaminants that could be encountered:

- *Creosote- and Arsenic-Treated Railroad Ties.* Wooden railroad ties are treated with creosote as a wood preservative. Railroad ties were also historically treated with an arsenic-based preservative.
- *Herbicides, solvents, diesel and other petroleum products.* Railroad tracks and rights-of way are often treated with herbicides to limit vegetation growth. Impacts from rail yards may also include spills from herbicides, solvents, diesel and other petroleum products associated with cargo loading and unloading, train car maintenance, fueling, etc.
- *Volatile organic compounds (VOCs).* Petroleum-related compounds including benzene, toluene, ethylbenzene, and xylene (BTEX), are common, as are a variety of chlorinated compounds including tetrachloroethene (also known as perchloroethylene, or "perc") and tricholoroethene, which are common ingredients in solvents, degreasers, and cleansers, and in chemicals commonly used in dry cleaners. VOCs present the greatest potential for concern, since they can generate vapors, as well as contaminate soil and groundwater. Former or current gasoline stations, auto body shops, dry cleaners, and other industrial land uses are the most likely sources for substantial VOC contamination.

- *Semivolatile organic compounds (SVOCs)*. The most common SVOCs in developed areas are polycyclic aromatic hydrocarbons (PAHs), which are constituents of partially combusted coal or petroleum-derived products, such as coal ash and fuel oil. PAHs are commonly found in urban fill material, which likely underlies some of the more developed urban portions of the study area. In addition, petroleum-related SVOCs could be present, associated with tanks currently or formerly located in or near the study area.
- *Polychlorinated biphenyls (PCBs)*. Commonly used as a dielectric fluid in stationary or train-mounted transformers, some underground high-voltage electric pipelines, and hydraulically-operated machinery, PCBs are of special concern at electrical transformers and railyard/train maintenance locations where leakage into soil may have occurred. PCBs and/or PCB-containing materials were once widely used in manufacturing and industrial applications (e.g., hydraulic lifts, transformers, and plastic manufacturing^). PCBs generally travel only short distances in soil.
- *Metals (including lead, arsenic, cadmium, chromium, and mercury)*. Metals contamination is frequently associated with smelters, platers, foundries, and metalworks, and heavy metals are found in paint, ink, petroleum products, and coal ash. These metals tend not to migrate far in soil and, therefore, they are of greatest concern at the site where they are generated. Metals at levels above natural background levels are frequently present in fill material. Mercury contamination is often attributed to releases from faulty electrical equipment, including thermometers, switches, meters, gauges, and batteries, which are found at electrical substations.
- *Pesticides, herbicides, and rodenticides*. These are commonly used to control rodents, insects, and/or vegetation along railroad tracks, in vacant structures and/or at vegetated lots. Although the toxic elements of these chemicals can vary greatly depending upon the type, the toxins can include dioxins, organochlorines, phosphates/phosphides and other contaminants that can accumulate in the fatty tissues of humans and cause organ damage, cancer and various cardiovascular, metabolic and neurological disorders. LIRR has used a variety of pesticides, herbicides, and rodenticides along the right-of-way. Data regarding herbicide use are available for the years 2011 to 2015; only anecdotal information is available for the preceding time period. At this time, the history of pesticide and rodenticide use is not available. All chemicals are applied by licensed applicators and in accordance with USEPA approved label instructions. LIRR Yards and its ROW are typically sprayed once per year. Yards are sprayed manually by the vendor. Chemicals are sprayed by machine along the ROW from a maintenance-of-way hi-rail vehicle by a New York State licensed applicator contracted by the LIRR. Only pesticides and herbicides legally allowed for use are sprayed on LIRR property.

  Current herbicide use in the entire LIRR system comprises the following brands of chemicals:

  - Accord XRT II
  - Dimension 2EW
  - Oust Extra
  - Westar

  A new herbicide application contract that has not yet been implemented has proposed the following chemicals:

  - Accord XRT II

- Arsenal Powerline
- Velpar DF
- Proclipse 65 WDG

Federal regulation under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires that all pesticides distributed or sold in the United States be licensed by the USEPA. Licensing requires stringent testing in accordance with 40 CFR Part 158 to show that the use of such chemicals will not cause "unreasonable adverse effects on the environment" [7 U.S.C. §136 et seq. (1996)]. USEPA has found that they are not persistent in the environment and therefore do not pose a long-term risk to human or wildlife health, and would result in no significant adverse impacts.

- *Fuel oil and gasoline storage tanks*. Numerous properties within and adjacent to the Study Area currently have, or once had, above-ground storage tanks (ASTs) or underground storage tanks (USTs) for fuels, including heating oil and gasoline. Some of these tanks may have been removed, and others, although no longer in use, may remain buried in place or within basements. **S**ome of the tanks are known to have leaked, and others may have leaked, though the leaks have not been discovered or documented. Some spills have been remediated in accordance with New York State regulations, and others are in the process of being remediated.
- *Historic coal yards*. Coal yards were present historically on both sides of the LIRR. Coal contains VOCs (including BTEX) and SVOCs (including PAHs).
- *Fill materials of unknown origin*. In the past, waste materials, including ash, demolition debris, and industrial wastes, were commonly used as fill material. Even fill material consisting primarily of soil may exhibit elevated levels of contamination.
- *Asbestos*. Asbestos is a common component of building materials, especially insulation, fireproofing, tile flooring, plaster, sheetrock, ceiling tile, mastic, and roofing materials. In addition to materials within existing structures, subsurface utility lines may be coated with asbestos or encased in "transite," an asbestos-containing material (ACM). Asbestos was widely used before 1980. There are well-defined regulatory programs to manage asbestos during demolition and construction work.
- *Lead-based paint*. Lead-based paint (LBP), when released as dust or otherwise, is potentially hazardous, especially to children. The use of LBP was restricted by the Consumer Products Safety Commission in 1978, but the restriction does not apply to industrial paint. LIRR structures (e.g., bridges) have LBP. When LIRR renovates structures containing LBP, all precautions are taken to remove LBP, which is then disposed of as hazardous waste in accordance with the protocols for such disposal. LBP that is released (as dust or otherwise) is potentially hazardous, especially to children.

Based on regulatory databases, aerial photographs, Sanborn maps and a site reconnaissance, a total of 208 individual properties were identified within the Study Area. Of these, 153 were classified as "Category B" sites. These locations are included on **Figures 8-1 through 8-22**, and the data is summarized in **Appendix 8-A**. The following properties ^ that may require disturbance as part of the Proposed Project were classified as "Category B" sites:

- 117 Urban Avenue (site #36) had a NY Aboveground Storage Tank (AST) listing for a 240-gallon aboveground waste oil tank, was historically identified as an auto facility, and is currently Hicksville Auto.

- 167 School Street (site #54) was shown as a coal yard on historical Sanborn maps.
- 165 East Second Street (site #95) has closed spills and closed leaking underground storage tanks and the potential on-site use of oils and chemicals. Great Neck Saw Manufacturers Inc. was identified as the current tenant.
- ^ Fox's Store (site #111), 70-80 Main Street has a closed leaking underground storage tank and was historically identified as a print shop.
- 115 New Hyde Park Road (site #156) was shown as a Metal Works on historical Sanborn maps.
- 1403 Fourth Avenue (site #157) has closed spills and the potential on-site use of oils and chemicals.
- 124 Covert Avenue (site #178) has an LTANKS (leaking underground storage tank) listing associated with New York Telephone Co. and a leaking No. 2 fuel oil tank. Additionally, Verizon-New Hyde Park was identified as having an in- service aboveground waste oil tank.

PARKING GARAGE PROPERTIES AND ACQUISITION PARCELS

Phase I site assessments were conducted at ten properties that would potentially be disturbed in connection with the Proposed Project: six sites where parking structures would be constructed and four other commercial parcels that would be acquired in connection with other project elements; these reports are included in Appendix 8. Currently, each of the sites that will be utilized for the construction of parking structures serve as surface parking lots; the additional acquisition sites are occupied by commercial uses. A review of historic data for each of the sites revealed a history of commercial and industrial use consistent with the surrounding land uses.

Each of the Phase I reports identified RECs at their applicable properties. The extensive history of surrounding industrial or commercial uses—including dry cleaning facilities—presented a risk of off-site contaminant migrating onto the sites; these areas also presented a risk of potential vapor encroachment conditions in the event of new construction. Additionally, on-site and adjacent ASTs and USTs were identified at seven of the sites. As a result of the identified RECs, additional subsurface testing was performed at the six publicly-owned parcels where access could be obtained, discussed below. Phase 2 testing at the remaining properties would be conducted after acquisition, in advance of any site disturbance.

TRANSPORT OF HAZARDOUS MATERIALS BY FREIGHT TRAINS

All of NY&A's freight train operations are subject to strict federal, state, and local safety regulations that cover both operating conditions and the methods of handling of cargo; this holds particularly true for the transportation of hazardous materials by rail. Like all rail carriers in the United States, NY&A is subject to the regulatory requirements imposed by the Federal Railway Administration (FRA), including rules specifically relating to the handling of hazardous materials. These rules—contained in 49 CFR 174—outline requirements specific to the type of hazardous material being transported, including specifications for car design and documentation. In addition, hazardous materials transporters are regulated by the Pipeline and Hazardous Materials Safety Administration (PHMSA) of the United States Department of Transportation, which promulgates registration and safety requirements in connection with the transportation of hazardous materials. All entities that transport hazardous waste are also regulated by the Environmental Protection Agency pursuant to the Resource Conservation and Recovery Act

(RCRA), which requires substantial documentation and places safety-based restrictions on the means and manner of transport.

At the state level, NY&A must comply with all requirements set forth by the Rail Safety Bureau of the Office of Modal Safety & Security of NYSDOT and comply with any requests for inspection. Additionally, in the event that NY&A is transporting any hazardous waste, they must comply with inspection requests and oversight from the NYSDEC, which oversees New York's hazardous waste regulatory regime. In Nassau County, any activity that involves the storage of toxic or hazardous materials, including both fresh and waste materials, are also regulated by the Nassau County Health Department (NCHD); under Article XI of the Nassau County Public Health Ordinance and its attendant regulations, NCHD provides substantial guidance relating to the methods of storage, the requirements for safe transfer, and necessary registrations and permits. NY&A is also limited to operating within the general parameters set by LIRR with regard to corridor safety.

^ E. FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the Proposed Project, it is assumed that changes in the use of the Study Area, including changes that require construction or soil excavation, would likely continue and there would still be a potential for disturbance of contaminated materials that could increase exposure. However, unlike the conditions in the future with the Proposed Project, regulatory oversight of any required remediation and/or the implementation of proper environmental health and safety protocols would not necessarily be conducted. Nonetheless, sites currently undergoing remediation under a regulatory program, such as the Floral Park substations, would continue their efforts in those programs.

F. POTENTIAL IMPACTS OF THE PROPOSED PROJECT

Construction of the Proposed Project would require subsurface disturbance along the alignment, at LIRR ^ Stations, at parking garage locations, at properties that would be acquired as part of the Proposed Project and within areas that would require alterations to grade crossings including drainage system installation (see Chapter 13, "Construction"). Given the history of this area, described above, contaminated soil and/or groundwater may be encountered. Excavation and construction activities could disturb these contaminated materials and increase pathways for human exposure if not performed with appropriate safety procedures, air monitoring, and engineering controls (see Section G).

In addition to subsurface disturbance, construction of the Proposed Project would likely require demolition or renovation of existing buildings, structures or equipment, which, based on their ages could include asbestos containing materials (ACM), lead-based paint (LBP), mercury or PCBs, which would also be conducted in accordance with an approved health and safety programs.

LONG ISLAND RAIL ROAD RIGHT-OF-WAY, LIRR STATIONS & GRADE CROSSINGS

RESULTS OF SOIL SAMPLING INVESTIGATION

A subsurface soil sampling program was conducted at 39 locations within the LIRR ROW and near station platforms. **Appendix 8-B** contains the technical report with the sampling results.

Soil analytical results were compared to the 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs). The Project Corridor is a railroad right-of-way and thus the applicable SCOs are the Industrial SCOs, or ISCOs. Any site cleanup in this area, to the extent required by law, would be subject to the ISCOs. For informational purposes, and to provide information on the nature of the soil present within the portions of the Project Corridor where there will be site disturbance, results are also compared to the unrestricted use Soil Cleanup Objectives (UUSCOs), which are the most stringent SCOs set forth under Part 375, and the restricted residential Soil Cleanup Objectives (RRSCOs) and commercial Soil Cleanup Objectives (CSCOs). Exceedances of the UUSCOs and ISCOs are summarized below.

Volatile Organic Compounds

Other than acetone, a common laboratory contaminant, there were no detections of any VOCs in excess of any of the SCOs. Acetone was detected at 0.0805 mg/kg at boring SB-24, which is above the UUSCO of 0.05 mg/kg but well below all other Part 375 criteria.

Semi-Volatile Organic Compounds

Two semi-volatile organic compounds (SVOCs), benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene, were detected above the UUSCOs and RRSCOs but below the CSCOs and applicable ISCOs. One or both of these polycyclic aromatic hydrocarbon (PAH) compounds were found in borings SB-21, SB-22, SB-28 and SB-34. The highest concentration of PAHs was present in the sample from boring SB-21, where benzo(b)flouranthene was detected at 1.07 mg/kg, above the UUSCO and RRSCO of 1 mg/kg. These compounds are frequently found in urban fill materials and are common in railroad sites, where PAHs typically average between 1 and 2 mg/kg, but can be found at concentrations greater than 100 mg/kg. No SVOCs exceeded any CSCO or ISCO. A summary of SVOC exceedances is shown in Table 8-1.

Table 8-1

SVOC Exceedance Summary Table

Sample ID:	SB21	SB22	SB28	SB34				
Date Sampled	11/9/2016	11/9/2016	11/4/2016	11/7/2016	UUSCO	RRSCO	CSCO	ISCO
Benzo(b)fluoranthene	**1.07**	**1.02**	**1.01**	**1.03**	1	1	5.6	11
Indeno(1,2,3-cd)pyrene	0.358	**0.604**	**0.508**	0.433	0.5	0.5	5.6	11

Notes:
Concentrations shown are mg/kg
Bolded values indicate exceedance of the UUSCO and RSCO

Polychlorinated Biphenyls

PCB compounds are analyzed as a series of Aroclor mixtures, which were the trade names used for the various PCB products. Two Aroclor mixtures were detected in samples at concentrations exceeding the UUSCOs of 0.1 mg/kg for each compound: Aroclor 1254 was detected at SB-05 (0.302 mg/kg), SB-19 (0.191 mg/kg), and SB-20 (0.251 mg/kg); and Aroclor 1260 was detected at SB-01 (0.200 mg/kg). The RRSCOs, CSCOs and ISCOs were not exceeded for any PCB compound. A summary of exceedances is shown in Table 8-2.

Table 8-2
PCB Exceedance Summary Table

Sample ID:	SB01	SB05	SB19	SB20				
Date Sampled	11/11/2016	11/11/2016	11/9/2016	11/9/2016	UUSCO	RRSCO	CSCO	ISCO
Aroclor 1254	<0.034	**0.302**	**0.191**	**0.251**	0.1	1	1	25
Aroclor 1260	**0.2**	0.08	<0.034	<0.035	0.1	1	1	25

Notes:
Concentrations shown are mg/kg
Bolded values indicate exceedance of the UUSCO

Pesticides

Pesticides were detected at concentrations above the UUSCOs, but multiple orders of magnitude below RRSCOs, CSCOs and ISCOs, in 25 of the 39 samples throughout the corridor. In the remaining 14 samples, pesticides were either not detected or detected at concentrations below the UUSCOs. 4,4'-DDD exceeded the UUSCO at SB-12, SB-21 and SB-22 with a maximum concentration of 0.0109 mg/kg in sample SB-12. 4,4'-DDE exceeded the UUSCO at SB-05, SB-07, SB-11, SB-12, SB-13, SB-19, SB-20, SB-21, SB-22, SB-32, SB-38, SB-39 and SB-40, with the maximum concentration of 0.0486 mg/kg in sample SB-12. 4,4'-DDT was found exceeding the UUSCO at 24 borings across the corridor, with a maximum concentration of 0.0582 mg/kg in sample SB-07. Dieldrin was detected at SB-19, SB-23 and SB-34 at levels exceeding the UUSCO of 0.005 mg/kg, with a maximum concentration of 0.0402 mg/kg in the sample from SB-34. A summary of the sample results where the UUSCOs were exceeded is shown in Table 8-3

Metals

A number of different metals were detected in 16 of the 39 soil samples at levels that were above the UUSCOs. Arsenic, copper, lead, mercury, and zinc were all detected at levels exceeding the UUSCOs in multiple soil borings. All detections were below RRSCOs, CSCOs and ISCOs except arsenic, which was detected at a concentration of 23.8 mg/kg in sample SB-12, exceeding the RRSCO, CSCO and ISCO of 16 mg/kg. Elevated metals compounds are frequently encountered in urban fill materials. A summary of metals exceedances is shown in Table 8-4.

Table 8-3
Pesticides Exceedance Summary Table

Sample ID:	SB01	SB02	SB03	SB05	SB07				
Date Sampled	11/11/2016	11/11/2016	10/31/2016	11/11/2016	10/31/2016	UUSCO	RRSCO	CSCO	ISCO
4,4'-DDD	≤0.00065	≤0.00066	≤0.00070	≤0.00067	0.0028	0.0033	13	92	180
4,4'-DDE	≤0.00065	≤0.00066	0.0026	**0.0159**	**0.0089**	0.0033	8.9	62	120
4,4'-DDT	**0.0279**	**0.0074**	**0.0181**	**0.015**	**0.0582**	0.0033	7.9	47	94
Dieldrin	≤0.00065	≤0.00066	≤0.00070	≤0.00067	≤0.00068	0.005	0.2	1.4	2.8
Sample ID:	**SB11**	**SB12**	**SB13**	**SB17**	**SB19**				
Date Sampled	**11/1/2016**	**11/2/2016**	**11/2/2016**	**11/3/2016**	**11/9/2016**	**UUSCO**	**RRSCO**	**CSCO**	**ISCO**
4,4'-DDD	≤0.00089	**0.0109**	≤0.00073	≤0.00069	≤0.00068	0.0033	13	92	180
4,4'-DDE	**0.0047**	**0.0486**	**0.0284**	≤0.00069	**0.0039**	0.0033	8.9	62	120
4,4'-DDT	**0.0082**	**0.0281**	**0.0313**	**0.007**	**0.0132**	0.0033	7.9	47	94
Dieldrin	≤0.00089	≤0.00071	≤0.00073	≤0.00069	**0.0094**	0.005	0.2	1.4	2.8
Sample ID:	**SB20**	**SB21**	**SB22**	**SB23**	**SB28**				
Date Sampled	**11/9/2016**	**11/9/2016**	**11/9/2016**	**11/10/2016**	**11/4/2016**	**UUSCO**	**RRSCO**	**CSCO**	**ISCO**
4,4'-DDD	≤0.00071	**0.0076**	**0.004**	≤0.00065	≤0.00065	0.0033	13	92	180
4,4'-DDE	**0.0204**	**0.0235**	**0.0063**	≤0.00065	0.0026	0.0033	8.9	62	120
4,4'-DDT	≤0.00071	**0.0418**	**0.0475**	**0.0085**	**0.0133**	0.0033	7.9	47	94
Dieldrin	≤0.00071	≤0.00072	≤0.00070	**0.007**	≤0.00065	0.005	0.2	1.4	2.8
Sample ID:	**SB30**	**SB31**	**SB32**	**SB33**	**SB34**				
Date Sampled	**11/7/2016**	**11/4/2016**	**11/7/2016**	**11/4/2016**	**11/7/2016**	**UUSCO**	**RRSCO**	**CSCO**	**ISCO**
4,4'-DDD	≤0.00068	≤0.00064	≤0.00069	≤0.00069	≤0.00070	0.0033	13	92	180
4,4'-DDE	≤0.00068	0.00058 J	**0.0139**	0.0011	≤0.00070	0.0033	8.9	62	120
4,4'-DDT	**0.0058**	**0.0036**	**0.0291**	**0.0109**	**0.0138**	0.0033	7.9	47	94
Dieldrin	≤0.00068	0.0033	≤0.00069	≤0.00069	**0.0402**	0.005	0.2	1.4	2.8
Sample ID:	**SB35**	**SB36**	**SB38**	**SB39**	**SB40**				
Date Sampled	**11/7/2016**	**11/8/2016**	**11/8/2016**	**11/8/2016**	**11/10/2016**	**UUSCO**	**RRSCO**	**CSCO**	**ISCO**
4,4'-DDD	≤0.00063	≤0.00063	≤0.00068	≤0.00080	≤0.00071	0.0033	13	92	180
4,4'-DDE	≤0.00063	0.002	**0.007**	**0.0069**	**0.0035**	0.0033	8.9	62	120
4,4'-DDT	**0.0104**	**0.0035**	**0.0214**	**0.0138**	**0.0044**	0.0033	7.9	47	94
Dieldrin	≤0.00063	≤0.00063	≤0.00068	≤0.00080	≤0.00071	0.005	0.2	1.4	2.8

Notes:
Concentrations shown are mg/kg
Bolded values indicate exceedance of the UUSCO

Table 8-4
Metals Exceedance Summary Table

Sample ID:	SB03	SB07	SB12	SB15	SB17	SB19				
Date Sampled	10/31/2016	10/31/2016	11/2/2016	11/3/2016	11/3/2016	11/9/2016	UUSCO	RRSCO	CSCO	ISCO
Arsenic	5.6	4.9	**23.8****	2.1	2.5	6.5	13	16	16	16
Copper	37	20.4	32.9	20	25	**83.1***	50	270	270	10000
Lead	**95.1***	**82.7***	56.1	**70.1***	**75***	53.5	63	400	1000	3900
Mercury	0.058	<0.035	0.044	<0.032	0.062	0.079	0.18	0.81	2.8	5.7
Zinc	81.5	69.6	37.2	79.8	63.4	32.5	109	10000	10000	10000
Sample ID:	**SB21**	**SB22**	**SB27**	**SB28**	**SB30**					
Date Sampled	**11/9/2016**	**11/9/2016**	**11/3/2016**	**11/4/2016**	**11/7/2016**		**UUSCO**	**RRSCO**	**CSCO**	**ISCO**
Arsenic	**13.9***	7.3	4.4	5.5	3.2		13	16	16	16
Copper	38.2	**66.3***	**52.7***	31.1	36		50	270	270	10000
Lead	**125***	**378***	42.9	**110***	**111***		63	400	1000	3900
Mercury	**0.21***	0.12	<0.034	0.099	0.046		0.18	0.81	2.8	5.7
Zinc	92.2	**223***	**205***	**149***	91.8		109	10000	10000	10000
Sample ID:	**SB34**	**SB35**	**SB36**	**SB38**	**SB39**					
Date Sampled	**11/7/2016**	**11/7/2016**	**11/8/2016**	**11/8/2016**	**11/8/2016**		**UUSCO**	**RRSCO**	**CSCO**	**ISCO**
Arsenic	3.9	4.2	<2.0	4.8	2.5		13	16	16	16
Copper	**72.7***	**70.6***	5.7	**70.5***	30.6		50	270	270	10000
Lead	55.7	**88***	10.3	**196***	31.3		63	400	1000	3900
Mercury	0.1	0.13	**0.75***	0.077	<0.033		0.18	0.81	2.8	5.7
Zinc	95.7	47.8	**955***	**330***	**224***		109	10000	10000	10000

Notes:
Concentrations shown are mg/kg
Bolded values indicate exceedance of any SCO
* next to a value indicates exceedance of the UUSCO
** next to a value indicates exceedance of the UUSCO, RRSCO, CSCO and ISCO

Cyanide

Cyanide was not detected above SCOs in any of the 39 samples.

Herbicides

Two herbicide compounds, 2,4,5-TP (Silvex) and pentachlorophenol are regulated by NYSDEC and were not detected in any soil samples. Herbicides 2,4-D and dichloroprop were either not detected, or detected at very low concentrations at several sample locations; there are no SCOs for these compounds. The remaining herbicides analyzed were not detected in any of the soil samples. Herbicides 2,4-D and 2,4,5-T are the components that made up the mixture for Agent Orange. 2,4-D, a common herbicide found in many products, was detected at very low concentrations in several locations and has low toxicity for humans, according to the National Pesticide Information Center[1] and USEPA[2]. 2,4,5-T, while known to be toxic, was not detected in any soil samples.

Dioxin

Dioxin, specifically 2,3,7,8-Tetrachlorodibenzodioxin (TCDD), was a by-product of the production of the herbicide 2,4,5-T as well as many other compounds and processes. TCDD does not degrade readily in soil and is known to be toxic over a long period of time. Due to its persistence in soil, TCDD was analyzed in soil samples. TCDD was detected at very low

[1] http://npic.orst.edu/factsheets/archive/2,4-DTech.html

[2] https://www.epa.gov/ingredients-used-pesticide-products/24-d

concentrations at several sample locations. There are no SCOs for dioxin compounds, so results were compared to the US Environmental Protection Agency (EPA) regional screening levels (RSLs) for dioxin mixtures, which are 0.0001 mg/kg (100 picograms per gram [pg/g]) for residential soils and 0.00047 mg/kg (470 pg/g) for industrial soils. Dioxin (TCDD) concentrations ranged from non-detect to 4.18 pg/g in sample SB-02. All detections were far below the more stringent RSL of 100 pg/g, and the majority of detections were less than 2 pg/g.

RCRA Characteristics and TCLP Analyses

Sample results were evaluated for RCRA characteristics and full TCLP (see **Appendix 8-B**). The results of these analyses were compared to the EPA's Maximum Concentration of Contaminants for Toxicity Characteristic (CFR 40, Part 261, Table 1) indicating that the soils sampled would not be considered as a hazardous material.

CONCLUSIONS

The results of the soil sampling did not indicate evidence of a petroleum discharge or other potential chemical release along the Project Corridor, LIRR Stations and grade crossings. Accordingly, the analytical results do not require any spill reporting to NYSDEC.

Fill material appears to have been used to raise and level the LIRR ROW when it was developed and that material contains levels of certain metals, pesticides, PCBs, and PAHs that are in excess of NYSDEC's most stringent UUSCOs, indicating that this soil cannot be deemed "clean fill" or uncontaminated native soil. However, all analytical results were well below all applicable standards except for one soil boring location that exceeded the industrial SCO for arsenic (23.8 mg/kg versus 16 mg/kg).

Prior to disturbing soils within the Project Corridor, LIRR Stations or at grade crossings, a Construction Health and Safety Plan (CHASP) and Community Air Monitoring Plan (CAMP) will be developed for implementation during construction activities. Such measures should ensure that soil is handled appropriately to minimize human contact, and to reduce airborne dust, in order to protect construction workers, site employees and neighborhood residents. During construction, it is anticipated that excess soil will be exported from the site for disposal at a facility licensed to accept fill material under 6 NYCRR Part 360 Regulations.

ASBESTOS AND LEAD-BASED PAINT SAMPLING

Sampling of buildings and structures within the LIRR ROW was also performed for ACM and LBP. As expected, these materials are present in a number of buildings and structures and would be remediated during the construction period in accordance with all applicable laws and regulations.

PARKING GARAGE LOCATIONS

Subsurface testing was also conducted at six sites where parking garages have been proposed; testing was not undertaken at the four other acquisition properties that are required as part of the Proposed Project because they are privately owned and access for testing could not be obtained. Summaries of the sampling results are included as Appendix 8-X.

The subsurface sampling did not reveal the presence of VOCs, SVOCs, PAHs, or PCBs exceeding Unrestricted Use soil Soil Cleanup Objectives (SCOs). While pesticides were detected at levels exceeding Unrestricted Use SCOs in four soil samples (SB-03 and SB-04 at Barclay

Street lot, SB-03 at Scally Place lot and SB-02 at John Street lot), none of the samples exceeded the applicable Commercial Use SCOs or other SCOs for restricted residential or industrial uses.

Elevated metals compounds, which are frequently encountered in urban fill materials, were detected in a limited number of locations. Arsenic exceedances of the Unrestricted Use SCO were detected in two samples at two locations, with one sample exceeding the Commercial SCO as well. Lead exceedances of the most stringent Unrestricted Use SCO were also detected at two locations, but these samples did not exceed any other SCOs. The testing revealed one exceedence of the Unrestricted Use SCOs for zinc and copper, and one sample exceeded the Commercial Use SCO for mercury but was below the Industrial Use SCO. Prior to disturbing soils in connection with the construction of the additional parking structures, a Construction Health and Safety Plan (CHASP) and Community Air Monitoring Plan (CAMP) would be developed for implementation during construction activities. Such measures would ensure that soil is handled appropriately to minimize human contact, and to reduce airborne dust, in order to protect construction workers, site employees and neighborhood residents from the minor contamination identified by the Phase 2 testing. During construction, it is anticipated that excess soil will be exported from the site for disposal at a facility licensed to accept fill material under 6 NYCRR Part 360 Regulations.

G. MITIGATION FOR THE PROPOSED PROJECT

The potential for adverse impacts would be avoided by ensuring that construction activities at all locations are performed in accordance with the following protocols:

- ^ Based on the results of the subsurface investigations, a Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) would be prepared for implementation during project construction. These plans would address both the remediation of known or potential unknown environmental conditions that may be encountered during subsurface disturbance associated with project construction. The purpose of the RAP is to present measures for managing contaminated on-site soil and groundwater and USTs, removing any potentially unknown underground petroleum storage tanks in accordance with applicable federal, state, and local regulations. Contaminated soil management protocols would include guidelines for temporary on-site stockpiling and off-site transportation and disposal. The plans would incorporate safety and other measures to minimize the potential for impacts to the community and construction workers. The RAP also would specify the need for engineering controls as warranted based on the testing, such as the incorporation of vapor mitigation systems into the project design.
- To minimize the potential for impacts to the community and construction workers, all demolition, excavation, and construction work involving soil disturbance would be performed under a site-specific environmental ^ Construction Health and ^ Safety Plan (CHASP). The CHASP would also be based on the results of the Phase II study and would specify appropriate testing and/or monitoring, and detail appropriate measures to be implemented (including notification of regulatory agencies, dust suppression techniques, appropriate air monitoring action levels and responses, etc.) if underground storage tanks, soil and groundwater contamination, or other unforeseen environmental conditions are encountered.
- If dewatering is required for construction, testing would be performed to ensure compliance with applicable discharge regulatory requirements. If necessary, pre-treatment would be conducted prior to discharge.

- Unless there is labeling or test data that indicated that electrical equipment, including transformers, is not mercury- and/or PCB-containing, removal and disposal would be performed in accordance with applicable federal, state and local regulations.
- Prior to any activities required as part of the Proposed Project that could disturb potential ACM, a comprehensive asbestos survey of areas (including underground utility vaults) to be disturbed by the Proposed Project would be conducted that included the sampling of all suspect materials to confirm the presence or absence of asbestos. All identified ACM would be removed and disposed of prior to construction in accordance with all federal, state, and local regulations. Asbestos abatement procedures and containment requirements will be based on the type and quantities of ACM to be removed.
- Any demolition activities with the potential to disturb LBP would be performed in accordance with applicable Occupational Safety and Health Administration regulations including OSHA 29 CFR 1926.62^ –Lead Exposure in Construction. Methods for lead abatement will comply with LIRR abatement procedures and containment requirements.
- All material that needed to be disposed of (e.g., miscellaneous debris, tires, contaminated soil and any excess fill) would be characterized and disposed of off-site in accordance with applicable federal, state, and local requirements.

With the implementation of these protocols, no significant adverse impacts related to contaminated materials would result from demolition and/or construction activities related to the Proposed Project. Following construction, there would be no further potential for significant adverse impacts. ✷

Chapter 9: Utilities and Related Infrastructure

A. INTRODUCTION

This chapter discusses the existing utilities and related infrastructure in the Study Area that may be affected by the Proposed Project. Utilities considered include gas and electric lines, fiber optic and telephone lines, cable television lines, water and sanitary sewer lines, and stormwater drainage. Both publically- and privately-owned utilities were included, as well as specific LIRR-related utilities, including signal, electric power, and communications.

The Proposed Project would require new LIRR-specific utility infrastructure and the relocation of some existing utilities both within the LIRR right-of-way and grade crossings where improvements are proposed. As these improvements are made, in close coordination with the respective utility companies, LIRR will explore opportunities to improve the existing infrastructure or upgrade it to current design standards. For example, in the case of utility poles carrying overhead electric power lines, design standards were modified after Hurricane Sandy to avoid or minimize impacts that may occur from similar storms in the future. As a result, all overhead electric power lines running longitudinally in the Project Corridor that would be relocated for the Proposed Project would be installed on new, approximately 90-foot-tall steel poles.

Since all existing utilities would be replaced in-kind or redundant utilities removed during construction of the Proposed Project, and since no long-term disruptions in service to Study Area customers would result, there would be no significant adverse impacts to utilities within the Study Area.

B. EXISTING CONDITIONS

A number of utilities run longitudinally along the Project Corridor such as LIRR signal and communications lines and PSEG-LI electric lines. Other utilities cross the Project Corridor in a number of different locations in order to continue service from one side to the other. Due to the historical development pattern in Nassau County and the fact that the Main Line has existed for a long time, these crossing utilities have, for the most part, been installed at grade crossings along the Project Corridor. As a result, in addition to discussion of utilities running longitudinally in the Project Corridor, much of the following discussion and the data provided in tables will focus on the utilities located within the grade crossings.

An inventory of utilities and related infrastructure was compiled for a Study Area encompassing 100 feet on either side of the LIRR right-of-way[1]. The inventory shows type, location, condition,

[1] At stations, substations, and other ancillary facilities, such as parking lots, the Study Area boundary was expanded to encompass 100 feet around these elements.

and ownership of utilities and related infrastructure within the Study Area, including at grade crossings, adjacent roadways, and other adjacent areas in which Proposed Project elements might be constructed. This inventory was based on information and record plans obtained from local utility companies and public agencies, including municipalities located within the Study Area. At grade crossings, field verification was performed either by conventional surveying for surface utility features or by using an electronic tone-out detector to identify horizontal location of underground utility facilities. **Table 9-1** provides a list of utility providers in the Study Area by type of utility. The following is a summary of these utilities and related infrastructure based on the preliminary inventory.

Table 9-1
Study Area Utility Providers by Type

Utility Type	Utility Provider
Signals and Communication Lines	LIRR
Gas Lines	National Grid
Electric Power Lines	PSEG-LI (LIPA)
	LIRR
Fiber Optic and Telephone Lines	Verizon
	Verizon Business Solutions
	AT&T
	Lightower
	Crown Castle
	Level 3
Cable Television Lines	Altice
Water and Sanitary Sewer Lines	Nassau County Department of Public Works (NCDPW)
	Village of Garden City
	Village of Mineola
	Water Authority of Western Nassau County (WAWNC)
	Westbury Water District
	Hicksville Water District

SIGNALS AND COMMUNICATION LINES

Between Floral Park and New Hyde Park, LIRR overhead signal and communication lines hang on utility poles along the north side of the LIRR right-of-way. In New Hyde Park, between Baer Place and Millers Lane, the signal and communication lines switch to the south side of the right-of-way and remain there to Hicksville.

GAS LINES

National Grid 60-psi gas lines (gas pressure inside lines equals 60 pounds per square inch) are present in various locations throughout the Project Corridor. Gas lines traverse the LIRR right-of-way, station platforms, and the adjoining roadways. (see **Appendix 1-A**). Aside from standard commercial and residential service connections, gas lines are typically between two and eight inches in diameter and made of steel, polyethylene, or plastic. Gas lines are generally within roadway limits, although one two-inch line crosses the right-of-way at Millers Lane, inside a four-inch steel sleeve.

ELECTRIC POWER LINES

Longitudinal overhead electric lines on utility poles, generally 50-80 feet in height, run east-west through the Study Area consisting of power lines for commercial and residential service along the north and south sides of the right-of-way and dedicated rectifier feeds for LIRR substations. Utility poles along the LIRR ROW are between 70 and 80 feet in height; at grade crossings they are approximately 55 feet in height. A direct-burial underground electric power line also runs through the Study Area, along a portion of the north side of the LIRR right-of-way. Voltages for these electric utilities range from 13.2 kV and 69 kV AC transmission lines to 120/240 volts for service to commercial and residential properties within the Study Area.

PSEG-LI

PSEG-LI (Public Service Enterprise Group-Long Island), by leasing arrangement with the LIRR, operates and maintains utility poles with overhead power lines and underground lines in conduit within LIRR right-of-way (see **Table 9-2**). PSEG-LI operates five transmission districts within the Study Area from which it provides transmission and distribution services along local streets to the LIRR and its other customers. While PSEG-LI operates and maintains these electric utilities under contract, Long Island Power Authority (LIPA) owns the equipment and pays for annual capital and maintenance expenditures.

Within the Study Area, utility poles carrying overhead power lines typically range from 50 to 80 feet in height. Utility poles 50 or more feet tall are considered high tension utility poles. Both high tension utility poles and high tension utility towers (truss systems) run along the LIRR right-of-way, in addition to utility poles less than 50 feet in height ^ used for distribution lines to customers.

LIRR SUBSTATIONS

LIRR has eight traction power substations within the Project Corridor:

- Substation G13 in Floral Park, on Plainfield Avenue opposite 111 Plainfield Avenue.
- Substation G14 in New Hyde Park, at Third Avenue and South 9th Street on the south side of the Project Corridor.
- Substation G15, the Merillon Avenue substation, at Atlantic Avenue and Hilton Avenue.
- Substation G16 in Mineola, at the southwest corner of Main Street and Front Street.
- Substation G17 in Carle Place, in the southeast quadrant of Meadowbrook State Parkway and the LIRR just north of Mallard Road.
- Substation G18 in Westbury, southeast of Union Avenue and Sullivan Street on the north side of the Project Corridor.
- Substation G19 in New Cassel, at Broadway and Bond Street on the north side of the Project Corridor. Substation G20 in Hicksville, on the northwest corner of West Barclay Street and Wyckoff Street.

With the exception of the recent replacement of G13 Substation in Floral Park in 2010, the remaining seven substations are approximately 40 years old, nearing the end of their expected operating service life.

Table 9-2
PSEG-LI Electric Utilities

Type	Location/Side	Side of ROW or Approx. Length in Feet (within footprint of roadway)
Longitudinal in the Project Corridor		
Overhead	Floral Park Station to Covert Avenue	No PSEG-LI transmission lines in this segment. LIRR utility poles and electric lines along the north and south sides of the ROW.
Overhead	Covert Avenue to New Hyde Park Station	PSEG-LI utility poles and transmission lines on the south side of the ROW.
Overhead	Whitehall Boulevard to Mineola Station	PSEG-LI utility poles and transmission lines along the south side of the tracks outside the ROW beyond the station limits. Within the Mineola Station, PSEG-LI utility poles on the north side of the station.
Underground	Whitehall Boulevard to Mineola Station	PSEG-LI transmission lines along the south side of the tracks outside the ROW beyond the station limits.
Overhead	Mineola Station to Russell Drive	PSEG-LI utility poles and transmission lines on the north outside ROW along East 2nd Street.
Overhead	Russell Drive to Swalm Street	PSEG-LI utility poles and transmission lines on the north side of the ROW.
Overhead	Swalm Street to Wantagh Parkway	PSEG-LI utility poles and transmission lines on the north side of the ROW.
Overhead	Wantagh Parkway to Hicksville Station	Poles and transmission lines on the north side of the ROW, adjacent to East 2nd Street
^ Grade Crossings		
Covert Avenue Grade Crossing		
Overhead	East and west sidewalks crossing and north and south of tracks	1,870
South 12th Street Grade Crossing		
Overhead	East and west sidewalks crossing and north and south of tracks	680
Overhead	Northeast corner at 3rd Avenue intersection	60
New Hyde Park Road Grade Crossing		
Overhead	West sidewalk south of tracks	250
Overhead	Along Greenridge Ave and crossing New Hyde Park Rd	250
Overhead	West sidewalk crossing and north of tracks and crossing New Hyde Park Road	550
Overhead	Plaza Avenue north sidewalk	40
Main Street Grade Crossing		
	West sidewalk and crossing roadway south of tracks	210
	East sidewalk south of tracks	60
	Along 3rd Street	60
Overhead	Along east and west sidewalks south of tracks	310
Overhead	Crossing roadway south of tracks	90
Overhead	East sidewalk north of tracks	330
	East sidewalk north of tracks	70
Overhead	Crossing sidewalks and roadway north of tracks (3)	130
	SB lane north of tracks	160
Willis Avenue Grade Crossing		
Overhead	West sidewalk south of tracks and crossing roadway north and south of tracks	450
Overhead	East sidewalk crosses and at north and south of tracks	900
Overhead	East sidewalk crosses and at north of tracks	510
Overhead	East sidewalk crosses and at south of tracks	390
Overhead	East sidewalk crosses and at north and south of tracks	900
School Street Grade Crossing		
Overhead	North and south sidewalks and crossings	670
Urban Avenue Grade Crossing		
Overhead	West sidewalk crosses and at north and south of tracks	740

Note: (1) Most of the existing utilities are within the roadway limits. Length measured within the footprint of the roadway construction.

FIBER OPTIC CABLE AND TELEPHONE LINES

Several companies maintain underground and overhead fiber optic cable and telephone lines throughout the Study Area, including Verizon, Verizon Business Solutions, and AT&T. In addition, Lightower, Crown Castle, and Level 3 each maintain a limited number of cables or lines. Lightower maintains overhead fiber optic lines at two crossings of the LIRR right-of-way: one at Covert Avenue and the other at School Street. Crown Castle leases fiber optic lines from Lightower at Covert Street and School Street. Level 3 has fiber optic lines crossing Covert Avenue and New Hyde Park Road.

VERIZON

Verizon maintains overhead telephone lines on both its own utility poles and on PSEG-LI utility poles along streets immediately adjacent to the LIRR right-of-way throughout the Study Area. Service connections also enter LIRR right-of-way from 3rd Avenue at South 10th Street and from 2nd Avenue east of Herkomer Street. In addition, Verizon has underground fiber optic lines in conduit at several locations crossing the LIRR right-of-way (see **Appendix 1-A** for additional detail). Most of the existing utilities are within the roadway limits.

VERIZON BUSINESS SOLUTIONS (VBS)

VBS (formerly MCI) has both underground and overhead fiber optic lines within the LIRR right-of-way. Underground VBS lines run along the south side of the right-of-way from the eastern end of Greenridge Road to 4th Avenue, along the north side of the right-of-way from Kilburn Avenue to the vicinity of Whitehall Boulevard, along the south side of the right-of-way from Glen Cove Road to the vicinity of Hollis Place, and for a short distance along the south side of the right-of-way at Ellison Avenue.

Overhead VBS fiber optic lines run along the south side of the right-of-way from Plainfield Avenue to the eastern end of Greenridge Road, along the north side of the right-of-way from 4th Avenue to Kilburn Road and from Whitehall Boulevard to Russell Drive and along the south side of the right-of-way from Russell Drive to Glen Cove Road and from the vicinity of Hollis Place to Jerusalem Avenue.

VBS fiber optic lines traverse the LIRR Main Line at:

- South Tyson at Tulip Avenue and Plainfield Avenue in Floral Park – underground.
- Mineola Boulevard and Willis Avenue in Mineola – underground.
- Glen Cove Road – overhead.
- Ellison Avenue – underground and overhead.
- Post Avenue – underground.
- School Street – underground.
- Urban Avenue – underground.
- East of Charlotte Street – overhead.

AT&T

AT&T maintains overhead and underground fiber optic lines at seven locations along and across the LIRR right-of-way carrying local network service (LNS):

- Crossing along South Tyson Avenue – LNS lines are carried in both AT&T conduit and Verizon conduit.
- Crossing along Herricks Road – LNS lines are carried in both AT&T conduit and in Verizon conduit.
- Crossing along Washington Avenue – LNS lines are carried in both AT&T conduit and in Verizon conduit.
- Crossing along Quentin Roosevelt Boulevard NB – LNS lines are carried in both AT&T conduit and in Verizon conduit.
- Crossing along Cherry Lane – LNS lines are carried in Verizon conduit.
- Along the south side on Railroad Avenue between Post Avenue and School Street – LNS lines are carried overhead on utility poles.
- Crossing along Charlotte Avenue – LNS lines are carried overhead together with Lightower lines.

CABLE TELEVISION LINES

Altice (formerly Cablevision-NC) provides cable television to the various municipalities surrounding the Study Area. Cable lines generally follow the alignments of local overhead and underground power (PSEG-LI) and telephone (Verizon) lines. In addition, Altice facilities are tied to VBS fiber optic lines on utility poles in the LIRR right-of-way.

WATER AND SANITARY SEWER LINES

Several municipalities and regional agencies own water and sanitary sewer lines paralleling or crossing the LIRR right-of-way: Nassau County Department of Public Works (NCDPW), Village of Garden City, Village of Mineola, Water Authority of Western Nassau County (WAWNC), Westbury Water District, and Hicksville Water District. Water lines, also called mains, generally are between six and 16 inches in diameter. Sanitary sewer lines generally are between eight and 24 inches in diameter. There is also a sewer manhole in Covert Avenue, where it is intersected by Wayne Avenue (see **Appendix 1-A** for additional detail).

DRAINAGE FACILITIES

LIRR is a Municipal Separate Storm Sewer System (MS4) and has developed and implemented a Stormwater Management Program under the requirements of the SPDES General Permit for MS4s (GP-0-15-003).

There is very little stormwater drainage infrastructure within the ^ LIRR ROW. As confirmed by information received from local utilities and review of publicly available topographical mapping, virtually no drainage structures exist within the ^ LIRR ROW, i.e., neither perforated storm pipe, leaching pits or basins, nor buried storm pipe. However, based on review of valuation maps, sporadic drainage pipe systems exist paralleling the right-of-way to both the north and south; the functionality of these systems has not been verified at this time. There may also be some under-drain pipe installed, but not shown on existing topographical and utility survey information.

Stormwater infrastructure serving the surrounding residential, commercial, and industrial properties is provided by a combination of village, town, and county conveyance lines to Nassau County recharge basins.

Stormwater from the LIRR right-of-way predominantly discharges directly into soil consisting mostly of sand and gravel with little silt through ditches and channels on either side of the LIRR right-of-way. The existing ditches or channels on either side of the right-of-way appear to handle the drainage runoff during typical storm events. Since groundwater table elevations are approximately 45 to 50 feet deep below the surface, sufficient room for the surface runoff to percolate deep into the sub soil layers exists.

It should be noted that in some fill sections along the Project Corridor, drainage runoff appears to flow outside of the LIRR right-of-way to adjacent properties. In a few cut sections, the reverse also occurs, storm water runoff from adjacent properties appears to flow into and contribute to Project Corridor drainage discharge. There are at least six drainage culverts crossing the LIRR right-of-way with pipe diameters ranging from 12-inches to 48-inches. Some of these crossings may be inactive or plugged, since they were built prior to 1916. If functional, these culvert crossings allow water to pass through the LIRR right-of-way, but do not contribute to the Project Corridor drainage runoff. At each cross street intersection along the LIRR right-of-way, a separate nearby roadway storm drainage system exists, owned and maintained by Nassau County, which eventually discharges into recharge basins well off the LIRR right-of-way. It appears that no stormwater runoff from LIRR property contributes to the Nassau County drainage system.

FEMA Flood Insurance Rate maps (FIRMs) indicate that the Project Corridor lies above the 100-year flood elevation.

C. FUTURE WITHOUT THE PROPOSED PROJECT

The utility inventory compiled for the Study Area, including grade crossings and adjacent roadways, also requested utility companies to provide information on any planned utility and related infrastructure work in the Study Area within the next five years (through 2020). One project was identified that would require close coordination with the Proposed Project:

- A 13kV feeder, maintained by PSEG-LI, which supplies power to three substations along the LIRR right-of-way in the Study Area, has been planned for relocation. Relocating this feeder during construction of the Proposed Project will require extensive coordination between LIRR and PSEG-LI, especially in locations where right-of-way is restricted, in particular, immediately east of Roslyn Road and east of the Carle Place Station. One segment of the feeder (Mineola Feeder Replacement) has been scheduled for replacement in the near future. PSEG-LI may consider delaying implementation of this initial feeder segment replacement in order to better coordinate it with the Proposed Project.

In addition, as discussed in Section A, Existing Conditions, under Electric Power Lines, all but one of the LIRR substations within the Project Corridor, have reached the end of their design life. With or without the Proposed Project, these substations will require replacement in the near future.

D. POTENTIAL IMPACTS OF THE PROPOSED PROJECT

The following subsections describe potential impacts of the Proposed Project to utilities and related infrastructure in the Study Area and measures to mitigate these potential impacts. The Proposed Project would not result in a significant increase in demand for any utilities serving the Study Area. Since all existing utilities would be replaced in-kind, or redundant utilities removed during construction of the Proposed Project, and since no long-term disruptions in service to

Study Area customers would result there would be no significant adverse impacts to utilities within the Study Area. Potential visual impacts of new poles carrying overhead utilities are addressed in Chapter 6, "Visual Impacts." Potential construction-period impacts to utilities are addressed in Chapter 13, "Construction."

SIGNALS AND COMMUNICATION LINES

As a result of the Proposed Project, all signal equipment in the Study Area would be replaced and/or updated. In many cases, existing signal equipment lies in the path of the Proposed Project, either the track itself or ancillary facilities, such as retaining walls. Equipment that could remain would still be updated, since existing signal houses have insufficient space for new equipment, cases, and cables and cable trays. New signal equipment would be installed and made active before the Proposed Project would be constructed.

New signal houses and cases would be procured via pre-wired signal enclosure specification package built and delivered by a contractor. Design of the new signal system would include hardware and software to accommodate all staging for construction of new track and interlockings. Remaining signal equipment, such as signals, switches, switch heaters, cables, cable tray, and all applicable equipment required for a complete working signal system, would be procured by the LIRR. Installation of all signal equipment would be paid for by LIRR signal force account.

GAS LINES

With the Proposed Project, relocation of gas lines would be required at each of the seven grade crossings. Some gas line relocations might also be required at the seven bridge widening locations. During the design process for each grade crossing and bridge widening, the number and extent of gas line relocations would be further detailed and quantified. The Preliminary Engineering Technical Memorandum (October 2016) (**Appendix 1-A**) summarizes gas utility conflicts and potential relocations.

ELECTRIC POWER LINES

PSEG-LI

The Proposed Project would require the relocation of PSEG-LI utility poles and overhead and underground power lines in certain locations. For the replacement of existing timber utility poles, and for the addition of more load on existing timber utility poles, PSEG-LI policy requires the use of composite steel and concrete utility poles approximately 90 feet high. These utility poles are considered more resilient to severe storm events, as the material is stronger than wood and power lines are at a height above most trees. Specific relocation requirements for PSEG-LI utility poles and overhead and underground power lines would be determined on a case-by-case basis during the final design phase of the Proposed Project. It is generally expected that utilities poles would be replaced ^ at increased spacing ranging from 200 to 220 feet. It also is expected that the ^ hybrid concrete-steel utility poles would be used for transmission lines along the LIRR ROW, while wood poles approximately 55 feet in height would be used ^ for distribution lines crossing the ^ LIRR ROW.

It is anticipated that the proposed construction in the LIRR ROW will require adjustments to PSEG-LI's pole-mounted aerial and underground transmission lines at the following locations:

- *From Covert Avenue to South Denton Avenue:*

  The existing north side poles will be upgraded to PSEG-LI hybrid concrete-steel poles, placed within LIRR ROW, and their aerial lines relocated to the new poles. The existing south side utilities will be relocated to the north side poles and south side poles will be removed.

- *From West of Glen Cove Road to East of Elmwood Street:*

  In this segment, the south side poles will be upgraded to PSEG-LI hybrid concrete-steel poles placed further south within LIRR ROW. Existing south side aerial lines that are located within and outside the LIRR ROW, aerial lines that leave the ROW, and underground transmission lines inside the ROW will all be relocated to the new poles. Existing aerial lines inside the north side of the LIRR ROW as well as north side lines that leave the ROW will also be relocated to the south side poles.

- *East of Elmwood Street to West of Post Avenue:*

  At this location, the south side pole line will switch to the north side of the tracks and their aerial lines will be relocated to PSEG-LI hybrid concrete-steel poles placed within the north side of the LIRR ROW.

- *West of School Street to West of Swalm Street:*

  The existing north side poles will be upgraded to PSEG-LI hybrid concrete-steel poles placed within LIRR ROW, and their aerial lines relocated to the new poles. Existing underground lines along the north side of the ROW will also be relocated to the new poles.

- *Swalm Street to West of Wantagh Parkway:*

  The existing north side poles will be upgraded to PSEG-LI hybrid concrete-steel poles, placed within LIRR ROW, and their aerial lines relocated to the new poles. Existing underground lines along the north side of the ROW will also be relocated to the new poles.

Overhead and underground power lines cross each of the seven bridge locations proposed for widening and the seven at-grade crossings proposed for elimination. Relocations may be required to accommodate proposed construction.

Relocations resulting from Proposed Project construction are detailed in ^ **Appendix 1-A**^ . Potential construction-period impacts to PSEG-LI utility poles and overhead power lines are addressed in Chapter 13, "Construction."

The increased use of efficient electrical fixtures along the LIRR ROW may offset any increased electricity use attributable to the Proposed Project.

LIRR SUBSTATIONS

The Proposed Project would require the relocation or protection of PSEG-LI underground power lines in certain locations, summarized in the following list (see also Figure 9-13):

- A 13kV feeder, maintained by PSEG-LI, which supplies power to three substations along the corridor, would require relocation. The feeder must be maintained at all times to each of three substations in order to avoid compromising the power supply to the LIRR. Relocating this feeder during construction of the Proposed Project will require extensive coordination between LIRR and PSEG-LI, especially in locations where right-of-way is restricted, in

particular, immediately east of Roslyn Road and east of the Carle Place Station. One segment of the feeder (Mineola Feeder Replacement) is scheduled for replacement in the near future. PSEG-LI is considering delaying implementation of this initial feeder segment replacement to coordinate with the Proposed Project.

- 345kV underground duct bank at Roslyn Road – This major feed for PSEG-LI cannot be relocated. It will require protection during Proposed Project construction.
- LIRR Power Preservation at Floral Park near Plainfield Avenue – LIRR's underground power lines between the PSEG-LI and LIRR substations on opposite sides of the LIRR right-of-way may need to be protected or relocated due to construction of retaining walls for the Proposed Project in this area.

As discussed in Section A, Existing Conditions, under Electric Power Lines, all but one of the LIRR substations within the Project Corridor, have reached the end of their design life. Replacement substations would occupy the same parcels as the present equipment. To accomplish this, prefabricated substation equipment would be used to expedite the implementation of the new units. This strategy would allow the continued functioning of existing substations, while the prefabricated buildings would be constructed and factory tested offsite, until it is deemed necessary to de-energize the existing equipment.

The existing traction power system in the Project Corridor was designed to accommodate one of the full service substations being out of service, so this approach is assumed viable. ^ In addition, proposed replacement of the existing steel contact rail with a composite-type aluminum contact rail will help to limit voltage drop throughout the system, which would also support the proposed replacement strategy. While the conceptual size of each prefabricated substation is roughly 36 feet wide, 92 feet long, and 12 feet in height, each substation could be configured differently, should site conditions dictate.

FIBER OPTIC AND TELEPHONE LINES

VERIZON

Verizon overhead conflicts and relocations will be determined during the final design phase of the proposed improvements. **Appendix 1-A** lists potential conflicts and relocations for underground Verizon ^ utilities as a result of the Proposed Project. For all Verizon utilities, relocations would be coordinated with PSEG-LI.

OTHER FIBER OPTIC AND TELEPHONE LINES UTILITIES

Overhead and underground fiber optic and telephone line conflicts and relocations will be determined during the final design of proposed improvements for: Verizon Business Solutions (VBS), AT&T, Lightower, Crown Castle, and Level 3. If necessary, VBS, Lightower, Crown Castle, and Level 3 relocations would be coordinated with PSEG-LI. AT&T relocations would be coordinated with Verizon and Lightower and Crown Castle relocations would be coordinated with PSEG-LI and Lightower.

CABLE TELEVISION LINES

Specific relocation requirements for Altice cable facilities will be determined on a case-by-case basis in conjunction with electric, telephone, and fiber optic utility relocations. Construction of cable facility relocations within the LIRR right-of-way will be coordinated with the relocations

of LIRR utility poles and VBS fiber optic relocations. Construction of off-right-of-way relocations should be coordinated with PSEG-LI pole relocations required for grade crossings and bridge widening work.

WATER AND SANITARY SEWER LINES

As a result of the Proposed Project, there could be potential impacts to water and sanitary sewer lines for: Nassau County Department of Public Works (NCDPW), Village of Garden City, Village of Mineola, Water Authority of Western Nassau County (WAWNC), Westbury Water District, and Hicksville Water District. **Appendix 1-A** lists these potential conflicts and likely relocations.

The Proposed Project is not expected to create additional demand on existing water and sewer services.

DRAINAGE FACILITIES

Installation of the Proposed Project, including the third track, new station platforms, new parking lots and garages, and new grade crossings, presents an opportunity to install stormwater best management practices that would help to manage stormwater flows from existing and new impervious surfaces, alleviate any existing flooding problems, and to prevent future flooding from storms up to the 100-year design storm. Due to differences in the elevation of the LIRR right-of-way and the proposed NYSDOT grade crossing improvements, separate stormwater management strategies have been developed for the LIRR right-of-way and the NYSDOT grade crossings. All stormwater management strategies implemented for the Proposed Project would comply with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-0-15-002).

LIRR ROW DRAINAGE

The Proposed Project track vertical alignment predominantly follows existing ground topography. Where the proposed alignment will be raised from the existing elevation, retaining walls will be used to minimize or avoid impacts to property outside of the LIRR right-of-way. Ten drainage areas, separated by high points along the alignment, will be affected by changes in the vertical profile for the Proposed Project. In most cases, project improvements will occupy the existing ditch line along the south side of the right-of-way and/or will displace station platform areas. This in turn will increase surface runoff volume, since bare ground will need to be converted to ballasted area; soil below ballasted areas is generally compacted and may not have adequate infiltration compared to natural soils away from ballasted areas. As a result, modifying certain station facilities and relocating and upgrading the drainage ditches/channels will be necessary.

For purposes of conducting a conservative analysis of potential stormwater volume, it has been assumed that any existing stormwater management structures within the Project Corridor would not be able to accommodate additional stormwater flow and that drainage structures for the 100-year storm event volume would be provided within the LIRR right-of-way. The preferred ^ option for providing adequate stormwater storage volume ^ is to increase the size of existing drainage ditches alongside the track structure^ . Where feasible, these ditches^ would be ^ grass-lined. Periodic maintenance of ^ ditches/channels would be necessary to ensure the quality of water ^ infiltrating into the groundwater table.

In some cases, another alternative for managing stormwater discharge could be considered using the nearest Nassau County recharge basins. This option would have to be approved by Nassau County and coordinated with NYSDOT for the design of the buried storm pipe system necessary to connect to these basins. Also, some existing recharge basins may need to be deepened to accommodate the additional flow from the Proposed Project.

As discussed in Section A, Existing Conditions, under LIRR Drainage, at least six drainage culverts cross the LIRR right-of-way with pipe diameters ranging from 12-inches to 48-inches. If any of these culverts remain active, which would be investigated further during the design process for the Proposed Project, they would be extended, maintained, and protected during construction or either replaced in-kind, if damaged, or upgraded to handle the appropriate design flow rate without causing stormwater to rise above the top of rail elevation.

Any existing longitudinal drainage pipes along the north or south sides of the LIRR right-of-way could be maintained and protected during construction, as long as they are not in direct conflict with Proposed Project facilities. If damaged, existing pipes would not need to be replaced, unless they currently receive storm runoff from outside of the LIRR right-of-way or from station buildings or platforms.

DRAINAGE AT GRADE CROSSINGS

Drainage improvements for local roadways at the seven proposed grade crossing improvement projects are discussed in this section. Stormwater volumes, based on the 100-year storm event, were calculated in order to determine the approximate size of the proposed stormwater management system. Stormwater management system designs may change as the Proposed Project advances. By designing the stormwater management practices to NYSDEC design standards the Proposed Project would not result in any significant adverse impacts from stormwater runoff and may result in local area benefits where inadequate stormwater drainage practices exist.

Subsequent to the release of the DEIS, NYSDOT conducted additional consultation with Nassau County Department of Public Works (DPW). It was determined that the underground retention and infiltration systems described as options in the DEIS were not acceptable to Nassau County DPW; however, connection to existing Nassau County recharge basins using gravity flow to convey stormwater is acceptable. Nassau County DPW also rejected the use of pump stations due to concerns over long-term maintenance. Nassau County DPW further informed NYSDOT that open-cut trenching would not be allowed on Old Country Road; a trenchless form of A trenchless means of construction would allow for construction of new stormwater infrastructure under Old Country Road. A revised drainage report incorporating Nassau County DPW comments and recommendations is included in **Appendix 9**.

County recharge basins #51, #121, #232, and #315 would receive additional stormwater from the Proposed Project. Basins #121, #232, and #315 would have to be enlarged to accommodate additional stormwater flow. These basins could be enlarged through excavation and/or construction of retaining walls to increase the basin volume.

Covert Avenue Grade Crossing

^ Stormwater drainage ^ from the Covert Avenue grade crossing ^ would be provided through a gravity sewer to the existing county recharge basin #121 with the installation of ^ approximately ^ 3,270 feet of ^ 36-inch ^ reinforced concrete pipe^ (RCP). This system would be approximately 22 feet deep to allow for gravity inflow without the use of pumps.^

^ *South 12th Street Grade Crossing*

^ Closure of South 12th Street to vehicular traffic would not require any new stormwater management practices. Should a pedestrian underpass be selected as the preferred option for maintaining pedestrian access across the railroad tracks, drainage for the underpass would be routed to existing 36-inch drainage lines in 1st Avenue and in Plaza Avenue that connect to county recharge basins #121 and #232.

New Hyde Park Road Grade Crossing

^ Stormwater drainage from the proposed five-lane New Hyde Park Road underpass would be provided through a gravity sewer to the existing county recharge basin #121. The new 1,350-foot 36-inch diameter gravity sewer would be constructed parallel to the LIRR ROW and behind residences to the existing recharge basin to the east.

Main Street ^ Grade ^ Crossing

^ Closure of Main Street to vehicular traffic would not require any new stormwater management practices. Any additional drainage ^ generated by the ^ traffic roundabouts on the north and south sides of the railroad tracks would be integrated with new drainage infrastructure serving the Willis Avenue grade crossing ^ (see below).

Willis Avenue Grade Crossing

Stormwater drainage from the Willis Avenue grade crossing would be provided by installation of a stormwater conveyance pipe (varying in size from 48-inches up to 60-inches in diameter) at minimum slope for cleanout velocity, approximately 5,000 feet west to the existing Nassau County Recharge ^ basin #123, west of the intersection of Old Country Road and Herricks Road. This pipe would pick up runoff from both the Willis Avenue underpass and roadway improvements at Main Street^ . This system ranges from 25 feet deep near each underpass approach to 20 feet deep at Basin SWB 123 to allow for gravity flow without the use of pumps. ^

^ *School Street Grade Crossing*

^ Stormwater drainage ^ from the School Street grade crossing ^ would be provided by installation of a 30-inch diameter storm water conveyance pipe at minimum slope to maintain proper flow, approximately 3,300 feet south to the existing Nassau County ^ recharge basin #315 south of Linden Avenue. This system ranges from 25 feet deep near the underpass approach to approximately 15 feet deep at ^ basin #315 to allow for gravity flow without the use of pumps. ^

^ *Urban Avenue Grade Crossing*

^ Stormwater drainage from the Urban Avenue grade crossing would be provided by installation of a 60-inch stormwater conveyance pipe at minimum slope for cleanout velocity, approximately 3,500 feet south to the existing Nassau County ^ recharge basin #51, south of Old Country Road. This system ranges from 25 feet deep near the underpass approach to 15 feet deep at ^ basin #51 to allow for gravity flow without the use of pumps. Pre-treatment water quality devices would be located within the underpass to allow for ease of access. ✷

^

Chapter 10: Transportation

A. INTRODUCTION

This chapter identifies the transportation benefits and potential significant adverse impacts of the Proposed Project on specific local components of the region's transportation system—LIRR service, operations and ridership, nearby bus services, vehicular traffic, parking, pedestrian connectivity, and traffic safety. In terms of regional travel, the Proposed Project would provide substantial benefits by improving rail service and reliability to the tens of thousands of commuters who take trains that use the Main Line. There would be more reverse direction trains during peak periods, greater availability of seats, enhanced service reliability, and improvements to north–south vehicular traffic flow where grade crossings are eliminated in the New Hyde Park, Mineola, and Westbury/New Cassel communities. Traffic and pedestrian safety in the vicinity of existing grade crossings would be substantially improved. At the same time, the Proposed Project could result in some localized effects on traffic due to diversions where local streets are closed rather than grade-separated. This chapter provides an overview of regional transportation issues in the Main Line corridor and presents detailed analyses of existing conditions, future conditions without the Proposed Project (the No Build conditions), and future conditions with the Proposed Project (the Build condition), including the following:

- LIRR Service, Operations, and Ridership: This includes a description of current and projected future LIRR operating plans, ridership forecasts, projected station utilization, and additional train service that would be provided under the No Build and Build conditions.
- Bus Service: This includes a description of bus routes serving the corridor and their characteristics in serving local LIRR ^ Stations or providing alternative intra-Island service.
- Vehicular Traffic: This includes analyses of existing, No Build, and Build conditions, especially at grade crossings and nearby intersections that could be affected by the Proposed Project, including proposed grade crossing eliminations and proposed parking garages, and detailed analyses of queuing and delays at the seven LIRR grade crossings eliminated by the Proposed Project.
- Parking: This includes parking availability within the Project Corridor under existing, future No Build, and future Build conditions, which includes the provision of additional parking.
- Pedestrian Connectivity: Since the Proposed Project would include several grade crossing eliminations (either grade separations or street closures), this section addresses how pedestrian connections between the north and south sides of the tracks would be maintained.
- Traffic Safety: This section provides a summary analysis of crash data at the seven grade crossings and nearby intersections that are affected by the crossings and their potential grade separation or closures with the Proposed Project.

The Proposed Project is expected to provide significant transportation benefits but also has the potential to create significant adverse traffic impacts, with mitigation measures identified as well

in this chapter. The methodologies used to analyze existing and projected future conditions are identified in each section of this chapter.

B. PRINCIPAL CONCLUSIONS AND IMPACTS

RAIL SERVICE AND RIDERSHIP

The Proposed Project would result in the expansion of Main Line train service with eight additional eastbound trains (reverse peak direction) and one more westbound train (peak direction) during the AM Peak Period; equivalent additional service in the reverse pattern would be offered in the PM Peak Period. Beyond these enhancements to services offered, the Proposed Project would improve reliability and flexibility in operations, critical for supporting planned service increases associated with LIRR's separate East Side Access Project. The Proposed Project would result in ridership increases associated with expanded reverse peak service. In the 2040 Build Condition, both Mineola and Hicksville ^ Stations would see an additional 17 percent growth in reverse peak ridership when compared to the 2040 No Build Condition. Furthermore, the improvements in reliability of the LIRR operation associated with the Proposed Project support the anticipated ridership growth with the LIRR's East Side Access Project and are necessary to sustain those ridership benefits over time.

BUS SERVICE

The Proposed Project is not anticipated to change the demand for (NICE) bus services with connections to LIRR ^ Stations. While increased reverse peak service in the Proposed Project could result in increased demand for Nassau Inter-County Express NICE bus service with connections to LIRR ^ Stations, this increased demand would be accommodated with adjustments to NICE bus service to complement the changes in LIRR ridership.

VEHICULAR TRAFFIC

This FEIS identifies the grade-separation of five streets and the full closure of two streets (South 12th Street in New Hyde Park and Main Street in Mineola) to vehicular traffic as the "preferred alternative" that will be advanced into final design by the selected Design-Build Contractor. Analysis results for both build conditions—1) grade separation of all seven intersections, and 2) grade separation of five intersections with full closure of two intersections—is described in this FEIS for comparison purposes.

The Proposed Project would ^ reduce all vehicular traffic delays and queues at each of the seven grade crossings that would be eliminated. In New Hyde Park, when trains approach the station, the LIRR gates are in the down position approximately 32 to 42 percent of the time in the AM and PM Peak hours. In Mineola, the gates are in the down position as much as 53 percent of the time; in Westbury, they are in the down position approximately 27 to 35 percent of the time. Without the Proposed Project but with additional trains being operated with the LIRR's East Side Access Project in place by 2023, gates would be in the down position for more time during the peak hours; vehicular traffic delays, which are already substantial today, would increase as would the unpredictability to motorists as to how long their delays would be, especially when back-to-back trains through the station areas cause extended gate down times. With the elimination of all seven grade crossings in the Project Corridor, traffic would flow smoothly and without delay due to these gate crossings.

With the elimination of all seven grade crossings, including the ^ full closure of South 12th Street in New Hyde Park and Main Street in Mineola, traffic diversions are expected to occur.

The potential impacts of these diversions were analyzed in detail and are documented in the "Vehicular Traffic" section that follows. The detailed vehicular traffic analyses account for the annual growth in general background traffic, traffic expected to be generated by new commercial or residential development in the station areas, and new station-oriented traffic that would be generated by new LIRR riders. Adverse significant traffic impacts that could be generated by the Proposed Project in both the Year 2020 and 2040 analysis years, could all be ^ mitigated with the implementation of standard traffic capacity improvements such as signal phasing and timing modifications, the installation of two new traffic signals (one in Mineola and one in Westbury), lane re-striping and intersection channelization modifications to add turn lane capacity where needed, and on-street parking prohibitions at select locations where additional traffic capacity is needed. New traffic signals would also be installed as part of the Proposed Project at up to two intersections in New Hyde Park, at up to two intersections in Mineola, and at one intersection in Westbury. However, one location in Mineola, in a Build option that is no longer preferred, would have one unmitigated significant adverse impact during the PM peak hour,

Emergency vehicle travel times would remain comparable or improve with the elimination of grade crossings via the construction of underpasses. Should the two grade crossings in New Hyde Park (i.e., South 12th Street) and Mineola (i.e., Main Street) be closed, emergency vehicles would divert to the adjacent crossing locations where they could proceed unimpeded by stoppages due to LIRR gates being in the down position. With the elimination of existing grade crossings and the implementation of traffic mitigation measures outlined under "Vehicular Traffic," emergency vehicle access times would remain generally comparable to conditions without the Proposed Project or improve.

PARKING

The Proposed Project would not create the need for additional parking, but would add 95 parking spaces at New Hyde Park^ , two parking garages totaling ^ 916 spaces at Mineola, two parking garages totaling 1,^ 355 parking spaces at Westbury, and two parking garages ^ totaling 1,^ 258 spaces at Hicksville. These six new parking garages would replace existing surface parking lots at those stations. The "Parking" section of this chapter provides a detailed summary of the net increase in station parking. The proposed vehicular traffic mitigation measures would also result in parking losses on-street where additional traffic capacity is needed to improve traffic flow at key intersections. The net increase in commuter parking spaces would be substantial at Mineola, Westbury, and Hicksville, and while it may not fully address parking needs anticipated for East Side Access-related demand, along with expected annual growth through year 2040, it would be a major benefit of the Proposed Project. Parking needs and ridership would be monitored and additional measures would be implemented should a future shortfall occur.

PEDESTRIAN CONNECTIVITY AND BICYCLE ACCESS

The Proposed Project would not significantly increase the volume of pedestrians crossing the tracks, but would provide for the safe crossing of pedestrians at locations where underpasses or pedestrian overpasses would be built or where street closures would occur. There would be no conflicts between pedestrians and vehicular traffic crossing from one side of the tracks to the other. Pedestrian connectivity would be maintained wherever underpasses and overpasses are built. Bicycle access at New Hyde Park, Mineola, and Westbury would remain similar to existing conditions.

VEHICULAR AND PEDESTRIAN SAFETY

There have been a total of six fatal crashes over the past ten-year period at the grade crossing locations in the Proposed Project, with several additional incidents that resulted in personal injuries or property damage to the vehicles involved. The elimination of grade crossings would eliminate fatalities involving vehicular traffic being struck by LIRR trains. With the reduction in vehicular traffic delays due to elimination of the seven grade crossings, pedestrian and vehicular safety would also be improved at these locations and potentially at nearby locations. A summary of crash histories is presented in the "Vehicular and Pedestrian Safety" section of this chapter.

C. RAIL SERVICE AND RIDERSHIP

This section discusses rail operations in the Study Area, including both LIRR passenger train operations and freight rail operations, and projected passenger ridership on the LIRR Main Line, for the Study Area as a whole and on a station-by-station basis. Prior to the discussion of operations and ridership, the section presents a discussion of commuter rail service on the system and characteristics affecting the reliability and flexibility of rail service in meeting existing and future passenger needs.

PASSENGER RAIL SERVICE

The LIRR provides commuter rail service between Long Island and Manhattan and, to a lesser extent, Brooklyn and Queens. It also serves, on a smaller scale, trips from New York City to Long Island (reverse peak direction) as well as intra-Island trips within Nassau and Suffolk Counties. Customer demand for this type of reverse peak travel, as well as increasing demand for off-peak, non-work type trips, is a growing portion of the LIRR ridership^ —reverse direction ridership increased in both the morning and PM Peak Periods, 1.5 percent and 1.9 percent, respectively between 2013 and 2014. Supporting this trend, off-peak ridership was the fastest growing customer base for the LIRR between 2013 and 2014 with a 3.5 percent growth.[1]

The LIRR comprises 11 branches throughout Long Island with the Main Line serving as its central artery. Trains from five branches travel along the Main Line between Floral Park and Hicksville:

- **Hempstead Branch –**runs parallel to the Main Line west of Floral Park Station and joins the Main Line at Queens Village;
- **Oyster Bay Branch**^ —joins the Main Line at Mineola;
- **Port Jefferson Branch**^ —joins the Main Line at Hicksville;
- **Ronkonkoma Branch**^ —joins the Main Line at Hicksville (east of Bethpage, the Ronkonkoma Branch is the Main Line); and,
- **Montauk Branch**^ —trains travel up the Central Branch to join the Main Line at Bethpage.

The focus of this analysis is on the Main Line between Floral Park and Hicksville^ —the limits of the Project Corridor. Because the Oyster Bay Branch splits from the Main Line at Mineola, the total number of trains operating in the Project Corridor changes at Mineola. Therefore, service characteristics are presented in two sections^ —between Floral Park and Mineola and

[1] LIRR Annual Ridership Report, 2014.

between Mineola and Hicksville. A discussion of the service characteristics for both the Hempstead and Oyster Bay Branches are presented separately.

SERVICE RELIABILITY

The current two-track configuration support two-way train traffic (westbound and eastbound) during less-intensive portions of the peak period and in off-peak hours. However, because of heavy ridership into Manhattan during the height of the AM Peak Period, both tracks are used exclusively for westbound service for more than 1.5 hours during the AM Peak Period. This operating configuration means that no eastbound service can run on the Main Line or branches off of the Main Line during this time period. The Main Line and branches to the east of the Main Line are the only parts of the entire LIRR system that do not have eastbound service during this period of the day. During the PM Peak Period, this same limitation happens in reverse, resulting in the use of both tracks for eastbound service out of Manhattan, with no westbound service for significant periods of time.

In addition to the AM Peak Period with no eastbound service between approximately 7:00 AM and 8:30 AM (and a comparable period in the PM peak for westbound service), the transition from the "1 and 1" (eastbound and westbound) operation to the "2 and 0 operation" (both tracks westbound in the morning peak and both tracks eastbound in the evening peak) can result in reliability and operational problems as this transition in operations occurs during the busiest periods of the day. Since trains in the eastbound direction in the morning peak must clear the Main Line before "2 and 0" operations can go into effect, any late running eastbound train will hold up a queue of westbound trains waiting to get onto the second westbound track (the reverse is true in the evening peak). At the end of the "2 and 0" period, when the transition back to "1 and 1" operations occurs, eastbound trains can be held up by late running westbound trains that must clear the Main Line before the transition back to "1 and 1" operations can occur.

CAPACITY FOR NON-PEAK/INTRA-ISLAND TRIPS

Non-traditional trips include reverse peak direction trips (eastbound in the morning peak and westbound in the evening peak) and intra-Island trips. The current Main Line track configuration affects the LIRR's capacity to provide non-traditional trips in two different ways. First, as described in the previous section, because the LIRR must use both tracks to meet westbound passenger demand in the morning peak (and vice versa in the evening peak) service, no eastbound service is available to Study Area stations or stations to the east of the Study Area for approximately 1.5 hours starting at 7:00 AM during the "peak of the peak period" (as noted, the reverse happens in the evening peak). Therefore, the ability to provide service for riders traveling in the non-peak direction is limited, especially during the height of the peak period.

The second impact on the LIRR's ability to provide for non-traditional trips is due to the lack of operational flexibility and the inability to provide multiple types of service patterns. Currently, because of the need to use nearly all of the track capacity for peak direction trips, most often to Manhattan or downtown Brooklyn, little opportunity exists for local service making stops at all Main Line stations or a combination of stops that serves non-traditional origin-destination pairs. Consequently, it can be difficult to make intra-Island trips because a particular origin-destination pair may only be served by one or two trips during the entire four-hour peak period

ABILITY TO RECOVER FROM SERVICE DISRUPTIONS

The heavy volume of train traffic in both directions on the Main Line leaves little room for recovery from unanticipated incidents, such as a disabled train causing a bottleneck. These

incidents, therefore, often result in service disruptions, due to the limited opportunity to reroute trains around problem areas. For example, a recent mechanical failure of a Port Jefferson train west of Hicksville at the height of the AM peak blocked the Main Line 2, southerly track (Main Line 2). Although the disabled train was moving again in less than 15 minutes, the ripple effect of the delay affected nine other trains from the Port Jefferson, Huntington, Ronkonkoma, and Montauk branches. The inability to route trains around the disabled train resulted in delays of between six and 14 minutes for each of these nine trains carrying more than 8,100 people. Similar ripple effects occur when incidents impact certain elements of LIRR infrastructure. A recent track circuit failure at the New Hyde Park Road grade crossing took Main Line 2 out of service for one hour and 43 minutes. Without the ability to bypass the problem area, this single circuit failure delayed 15 trains between six and 27 minutes each. The track circuit failure also caused the warning gates at the New Hyde Park Road grade crossing to become inoperable, resulting in additional delay as trains were required to reduce speed through the crossing.

Particularly during peak commuting hours, individual incidents result in ripple effects of delay to thousands of customers on the Main Line and its branches. Furthermore, these delays often also result in passengers missing connections at Jamaica Station, further extending the overall impact of an incident. A third track would allow the LIRR to re-route service, reduce congestion and speed recovery time and thereby improve on-time arrivals for thousands of customers.

As demonstrated in the following sections, the ability to recover from service disruptions will become even more critical in the future, with or without the Proposed Project. For example, the number of westbound AM peak trains under the 2040 No Build scenario increases by eight, from 49 to 57, reflecting service increases related to the East Side Access project. In other words, with more service, a single incident has the potential to delay more trains and customers.

SCHEDULING OF INFRASTRUCTURE MAINTENANCE

At present, given the heavy volume of train traffic in both directions, scheduled track and other infrastructure maintenance projects, which necessitate taking a track out of service, often result in the reduction of train service along the Main Line. In order to minimize impact to passengers, the LIRR often schedules this work during off-peak periods. Nevertheless, this scheduled maintenance can result in inconvenience and added travel time for passengers, more crowded trains, as well as in certain instances, increased operating costs associated with the provision of bus service as an alternative.

The LIRR typically will remove one track from passenger service during these maintenance projects, resulting in a single-track corridor that effectively operates at half capacity, necessitating service reductions. Main Line service is often reduced from half-hourly to hourly, with even greater reductions to branches that feed into the corridor, such as the Port Jefferson and Oyster Bay branches. With an additional track, the LIRR would, in certain cases, be able to maintain regular service levels while it performs important maintenance work to its track, switches, signals, and other infrastructure.

As LIRR increases train service in the future to meet demand and provide East Side Access service, the additional trains will increase wear and tear on the infrastructure and will add to LIRR's maintenance needs.

EXISTING CONDITIONS

The LIRR operates through the Project Corridor round the clock. In general, the four-hour AM Peak Period is defined to include those trains arriving at western LIRR terminals between 6:00

AM and 10:00 AM. The PM Peak Period is defined to include those trains leaving the LIRR western terminals between 4:00 PM and 8:00 PM. LIRR predominantly operates electric multiple-unit trains. During the morning and PM Peak Periods, the average electric train consists of up to 12 cars and during the off-peak hours the trains typically consist of 10 cars. The LIRR also operates 13 diesel-powered trains on the non-electrified branches or portions of these branches that feed into the Main Line between Floral Park and Hicksville. A small number of bi-level trains use dual-mode locomotives (capable of operating in both diesel and electric modes) to provide one-seat service directly to/from Manhattan. Maximum allowable speed for passenger trains on the Main Line is 80 mph. Freight rail service, which uses both the Main Line and branches of the LIRR system, is discussed later in this chapter.

SERVICE CHARACTERISTICS

On a daily basis, more than 250 trains operate between Floral Park and Mineola, with nearly 220 trains operating between Mineola and Hicksville (see **Table 10-1**). The train volumes are reported for both revenue and non-revenue (equipment) trains currently operating eastbound and westbound through the Project Corridor. Revenue trains carry passengers; non-revenue trains do not carry passengers, but are necessary equipment moves to position a train in order to make another revenue trip or to make room for additional revenue trains arriving at the Western terminals. In order to maximize the use of the existing fleet, it is essential that the LIRR operate both revenue and non-revenue trains throughout the day. As such, the total train volume, and required capacity to handle that train volume, is reflective of both revenue and non-revenue service.

Table 10-1
Existing Conditions^ ═Daily and Peak Period Service between Floral Park and Hicksville

	Main Line: Floral Park to Mineola			Main Line: Mineola to Hicksville		
	Westbound	Eastbound	Total Westbound and Eastbound	Westbound	Eastbound	Total Westbound and Eastbound
Daily	**125**	**127**	**252**	**106**	**109**	**215**
Revenue	109	108	217	92	93	185
Equipment	16	19	35	14	16	30
AM Peak Period	**49**	**24**	**73**	**43**	**21**	**64**
Revenue	49	13	62	43	11	54
Equipment	0	11	11	0	10	10
PM Peak Period	**24**	**47**	**71**	**20**	**41**	**61**
Revenue	13	47	60	10	41	51
Equipment	11	0	11	10	0	10

In the AM Peak Period, the LIRR operates more than twice as many trains in the westbound direction to Manhattan than in the eastbound direction from Manhattan to Long Island. During this time period, all of the 49 trains are revenue trains. Similarly, during the PM Peak Period, all 47 trains are operating as revenue trains with no non-revenue moves. The LIRR does operate some eastbound trains (from Manhattan to the Study Area) in the AM Peak Period, although the number is limited by the amount of westbound train service. As previously noted, some trains leave the Project Corridor at Mineola to continue on the Oyster Bay Branch. Six AM Peak Period revenue trains join the Main Line at Mineola; similarly, six PM Peak Period revenue trains split from the Main Line at Mineola to continue on the Oyster Bay branch.

2020 NO BUILD AND BUILD CONDITIONS

The proposed service plan for 2020 No Build Conditions shown in **Table 10-2** is based on the LIRR Spring 2016 schedule, plus the added service proposed with the Double Track Project from Farmingdale to Ronkonkoma. LIRR then developed the corresponding service plan for 2020 Build Conditions by adding changes in service resulting from the Proposed Project to the 2020 No Build Condition. As stated previously, East Side Access service is scheduled to begin in 2023 and, therefore, was not been factored into 2020 No Build and Build Conditions for the Proposed Project.

Table 10-2
2020 No Build - Daily and Peak Period Service between Floral Park and Hicksville

	Main Line: Floral Park to Mineola			Main Line: Mineola to Hicksville		
	Westbound	Eastbound	Total WB + EB	Westbound	Eastbound	Total WB + EB
Daily	**138**	**141**	**279**	**119**	**123**	**242**
Revenue	122	122	244	105	106	211
Equipment	16	19	35	14	17	31
AM Peak Period	**49**	**24**	**73**	**43**	**21**	**64**
Revenue	49	13	62	43	11	54
Equipment	0	11	11	0	10	10
PM Peak Period	**24**	**47**	**71**	**20**	**41**	**61**
Revenue	13	47	60	10	41	51
Equipment	11	0	11	10	0	10

When compared to 2020 No Build Conditions, Main Line reverse peak train service would be expanded in the 2020 Build Condition, with eight additional eastbound trains and one more westbound train during the AM Peak Period; equivalent additional service in the reverse pattern would be offered in PM Peak Period with eight additional westbound trains and one more eastbound train.

The 2020 Build Condition would address the service reliability and the ability to recover from disruption issues identified in Existing Conditions and continued in the 2020 No Build (see **Table 10-3**). The Proposed Project would provide the flexibility necessary to route one train around another during a service disruption, thereby improving overall performance and reliability. In addition, the added capacity in this heavily used section of the LIRR would allow for an increase of more than 60 percent in reverse peak train service.

Table 10-3
2020 Build - Daily and Peak Period Service between Floral Park and Hicksville

	Main Line: Floral Park to Mineola			Main Line: Mineola to Hicksville		
	Westbound	Eastbound	Total WB + EB	Westbound	Eastbound	Total WB + EB
Daily	**147**	**150**	**297**	**128**	**132**	**260**
Revenue	131	131	262	114	114	228
Equipment	16	19	35	14	18	32
AM Peak Period	**50**	**32**	**82**	**44**	**29**	**73**
Revenue	50	21	71	44	19	63
Equipment	0	11	11	0	10	10
PM Peak Period	**32**	**48**	**80**	**28**	**42**	**70**
Revenue	21	48	69	18	42	60
Equipment	11	0	11	10	0	10

2040 NO BUILD AND BUILD CONDITIONS

The 2040 No Build service plan is based on the LIRR opening day plan for East Side Access, including service to both Penn Station New York and Grand Central Terminal (see **Table 10-4**). The 2040 No Build service plan also incorporates improvements associated with the Main Line Double Track Project (between Farmingdale and Ronkonkoma). The 2040 Build service plan is based on the 2040 No Build service plan with the additional Proposed Project service (see **Table 10-5**). The Proposed Project would add one westbound and eight eastbound trains in the AM Peak Period and one eastbound and eight westbound trains in the PM Peak Period. Improvements associated with the Proposed Project would improve reliability and flexibility of operations and increased reverse direction service during peak hours. As noted earlier in this chapter, improvements in reliability and flexibility will be critical for supporting planned service increases associated with East Side Access.

Table 10-4
2040 No Build - Daily and Peak Period Service between Floral Park and Hicksville

	Main Line: Floral Park to Mineola			Main Line: Mineola to Hicksville		
	Westbound	Eastbound	Total WB + EB	Westbound	Eastbound	Total WB + EB
Daily	**150**	**150**	**300**	**131**	**131**	**262**
Revenue	137	138	275	120	120	240
Equipment	13	12	25	11	11	22
AM Peak Period	**57**	**23**	**80**	**51**	**20**	**71**
Revenue	57	14	71	51	12	63
Equipment	0	9	9	0	8	8
PM Peak Period	**22**	**52**	**74**	**19**	**46**	**65**
Revenue	14	52	66	11	46	57
Equipment	8	0	8	8	0	8

Table 10-5
2040 Build - Daily and Peak Period Service between Floral Park and Hicksville

	Main Line: Floral Park to Mineola			Main Line: Mineola to Hicksville		
	Westbound	Eastbound	Total WB + EB	Westbound	Eastbound	Total WB + EB
Daily	**159**	**158**	**317**	**140**	**139**	**279**
Revenue	146	146	292	129	128	257
Equipment	13	12	25	11	11	22
AM Peak Period	**58**	**31**	**89**	**52**	**28**	**80**
Revenue	58	22	80	52	20	72
Equipment	0	9	9	0	8	8
PM Peak Period	**30**	**53**	**83**	**27**	**47**	**74**
Revenue	22	53	75	19	47	66
Equipment	8	0	8	8	0	8

HEMPSTEAD AND OYSTER BAY BRANCHES

The Hempstead Branch serves Hempstead, Country Life Press, Garden City, Nassau Boulevard, and Stewart Manor stations in Nassau County, before paralleling the Main Line just east of Floral Park ^ Station to serve Floral Park, Bellerose, Queens Village, and Hollis stations. The current service pattern for the Hempstead Branch is expected to remain unchanged for the Existing Condition, 2020 No Build, and 2020 Build Conditions^ —four of the ten AM Peak Period trains continue to Penn Station New York, while the remaining six trains serve Atlantic

Terminal in Brooklyn. In the PM Peak Period, six of the nine peak period trains originate at Penn Station New York, with the remaining three originating from Atlantic Terminal. Service on the Hempstead Branch would be modified in the 2040 No Build and Build conditions, as a result of the opening of East Side Access.

In both the 2040 No Build and Build Conditions, the Hempstead Branch would continue to have ten AM Peak Period and nine PM Peak Period trains. However, all morning and PM Peak Period trains would continue through Jamaica to either Penn Station or Grand Central Terminal in Manhattan^ ═a 150 percent increase in direct service to Manhattan. The continuation of these four additional AM Peak Period trains to Manhattan would also provide increased access and service for customers boarding at Hollis, Queens Village, and Floral Park. Hempstead Branch passengers continuing to Atlantic Terminal would be able to make a connection at Jamaica Station.

The Oyster Bay Branch serves Mineola, East Williston, Albertson, Roslyn, Greenvale, Glen Head, Sea Cliff, Glen Street, Glen Cove, Locust Valley, and Oyster Bay stations in Nassau County. The Oyster Bay Branch connects with the Main Line at Mineola. Service levels on the Oyster Bay Branch would be unchanged from Existing Conditions in both the 2020 No Build and Build Conditions, and would continue to include six AM Peak westbound trains. In the Build Condition, eastbound Oyster Bay Branch trains will continue to stop at Mineola but will stop at the westbound platform. The 2040 No Build and Build Conditions would also be the same, with the addition of one eastbound off-peak train when compared to Existing Conditions. The addition of the three off-peak trains is attributable to service changes associated with East Side Access and would not change with the Proposed Project.

PASSENGER RAIL OPERATIONS SUMMARY

Compared to Existing Conditions, off-peak passenger rail operations would increase in the 2020 No Build Condition as a result of the opening of the Double Track Project between Farmingdale and Ronkonkoma, which includes the provision of half-hourly off-peak service between Manhattan and Ronkonkoma. Under 2040 No Build Conditions, passenger rail operations will increase further, due to the opening of the East Side Access Project. However, as shown in **Tables 10-2 and 10-3**, in comparing both 2020 No Build to 2020 Build Conditions and 2040 No Build to 2040 Build Conditions, most of the service increase would be realized in the reverse peak directions. This is consistent with the Purpose and Need for the Proposed Project in terms of the need to improve overall operational flexibility and reliability (i.e., particularly for peak period trips), while adding new reverse-peak direction service in response to increased demand for non-traditional trips.

Table 10-6 presents projected service levels by station for each of the scenarios analyzed in this chapter. The 2020 No Build Condition reflects the benefit of added off-peak service from the Double Track project to and from Ronkonkoma, while the 2020 Build Condition adds the service provided by the Proposed Project. The 2040 No Build Condition reflects the service patterns associated with East Side Access, and the 2040 Build Condition adds the additional service provided by the Proposed Project.

Table 10-6
Number of Trains Stopping by Station (24-hour Weekday Counts)

Station	Current	2020 No Build	2020 Build	2040 No Build	2040 Build
Hicksville*	150	177	195	286	204
Westbury	72	72	82	74	84
Carle Place	54	54	64	70	80
Mineola—Main Line Trains	123	150	168	150	168
Mineola—Oyster Bay Trains	30	30	30	33	33
Merillon Avenue	57	57	67	69	79
New Hyde Park	59	59	69	70	80
Floral Park—Hempstead Trains	58	58	58	58	58
Floral Park—Main Line Trains	4	4	4	15	15

***** Includes Port Jefferson branch trains starting or ending in Hicksville

Notes: A new third track would add scheduling flexibility during peak times, making it easier to add station stops based on ridership demand.
2020 No Build = Current Schedule + Main Line 2nd Track
2020 Build = Current Schedule + Main Line 2nd Track + Main Line 3rd Track
2040 No Build = ESA Opening Day Plan (Includes Main Line 2nd Track)
2040 Build = ESA Opening Day Plan (Includes Main Line 2nd Track) + Main Line 3rd Track

RAIL FREIGHT SERVICE/OPERATIONS

This section discusses freight rail service/operations for Existing Conditions, 2020 and 2040 No Build Conditions, and 2020 and 2040 Build Conditions.

EXISTING CONDITIONS

LIRR is required by federal law to permit freight operations along its system, which it does under the terms of its agreement with the New York & Atlantic Railway (NY&A), an independent contractor. Since the primary mission of the LIRR is to move people expeditiously and reliably, the agreement between NY&A and LIRR provides that passenger trains have priority over freight trains. LIRR currently restricts the operation of freight trains to non-peak periods and is committed to keeping this restriction in place. Today the NY&A typically operates three round trip freight trains along the Project Corridor per weekday^ —one round trip during off-peak hours in the daytime and two at night (on weekends, NY&A typically operates only one round trip per day). Freight traffic represents approximately two percent of total train trips through the corridor.

NY&A has operating rights on LIRR track extending from Brooklyn and Queens to points east on the Main Line, Montauk, Port Jefferson, and Central Branches. The typical freight train includes approximately 20 freight cars and two locomotives. Maximum freight train operating speed is 45 mph. The NY&A operates out of the rail yard at Fresh Pond, Queens and serves a diverse customer base in Kings (Brooklyn), Queens, Nassau, and Suffolk Counties. While historical freight data are not available for the Main Line Expansion Project Study Area specifically, LIRR has experienced a substantial decrease in freight traffic system-wide. Currently the number of carloads of freight handled on the LIRR system is almost 90 percent fewer than the number of carloads handled in 1941. Furthermore, since 2009, freight traffic on

LIRR's Main Line has fallen from five to three daily freight train round trips. Freight capacity is not constrained by the existing track network because freight trains travel during non-peak periods where capacity is currently available. Principal commodities handled are construction and demolition debris, flour, food products, liquefied propane gas, bio-diesel, stone, aggregates, and lumber.

2020 AND 2040 NO BUILD CONDITIONS

The demand for freight service on Long Island is not expected to grow beyond current service levels of three round-trip freight trains through the Project Corridor in the 2020 or 2040 No Build Conditions.

At current growth rates for freight, the existing three round trips could accommodate the modest increase in carloads through 2020 as well as through 2040. Incremental increases in demand for freight service in the future could be accommodated by adding freight cars to the existing freight trains.

2020 AND 2040 BUILD CONDITIONS

The purpose of the Proposed Project is to increase the capacity and improve reliability on the Main Line at peak periods. LIRR is committed to using this peak period capacity increase only for the operation of its own passenger trains, and is thus equally committed in the future to not scheduling freight trains during peak periods. Since freight operations are not currently capacity constrained during non-peak hours and since the Main Line peak hour capacity increase will not be used for freight trains, the additional third Main Line track proposed in the Proposed Project in both the 2020 and 2040 Build Conditions would not have any impact on freight traffic through the corridor.

In addition to track access or service planning, the Proposed Project would not affect the operating conditions for freight trains. Today, freight trains may not exceed 45 mph, far lower than the 80 mph maximum for passenger trains. These speed restrictions will not change as a result of the Proposed Project. Furthermore, all of NY&A freight train operations are subject to strict federal safety regulations which cover both train operations and the nature and handling of cargo. These federal safety regulatory requirements — which are not under the control of either LIRR or NY&A — will not change as a result of the Proposed Project.

RIDERSHIP

For evaluation purposes, ridership was estimated for an Existing (2015) Condition, a 2020 No Build and Build Condition, and a 2040 No Build and Build Condition. Passenger boardings (Ons) and alightings (Offs) were estimated for each of the seven stations on the Main Line in the Project Corridor (listed from west to east) as follows:

- Floral Park
- New Hyde Park
- Merillon Avenue
- Mineola
- Carle Place
- Westbury
- Hicksville

OVERVIEW OF METHODOLOGY

For the Proposed Project, ridership forecasts were based on 2014 station boardings and alightings at the seven LIRR ^ Stations in the Project Corridor. The LIRR then estimated growth in these station boardings based on branch and system-wide growth trends for the period 2011^ —2015, in order to avoid anomalies associated with the economic downturn between 2008 and 2010. These trends indicate that AM Peak Period ridership was growing at 1.3 percent per year and PM Peak Period ridership was growing at 1.7 percent per year. Using these growth factors, available 2014 station counts were adjusted for one year in order to establish Existing Conditions for 2015. Further inflation using these factors was then used to develop the 2020 No Build Condition.

For the 2020 Build Condition, additional ridership growth was estimated based on the addition of eight reverse peak direction trains during the morning and PM Peak Periods. The LIRR used comparables from the experience with increased reverse direction service on the Port Washington branch to estimate the customer response to this type of service increase on the Main Line. Based on these comparables, the 2020 Build Condition ridership in the morning and PM Peak Period reverse direction was increased by an additional 17 percent.

The 2040 No Build and Build Conditions were increased by an additional 20 percent in the Year 2023 to account for the opening of East Side Access service. Following the increase in 2023, growth of ridership was further projected to increase at a rate of 1.3 percent per year in the AM Peak Period and 1.7 percent per year in the PM Peak Period up to 2040. Further details as to assumptions and the overall ridership forecasting methodology are provided in Appendix 10.

Forecast ons and offs by station are necessary to evaluate the local impacts of additional passengers arriving and departing from each station in the Project Corridor. Station ons and offs support the traffic analysis described subsequently in this chapter. As further described in Appendix 10, total estimated growth was allocated to stations proportional to station boarding counts obtained in 2014. Further details are provided in Appendix 10.

RIDERSHIP FORECASTS^ —EXISTING, 2020 NO BUILD AND BUILD, 2040 NO BUILD AND BUILD CONDITIONS

Overall ridership and station-by-station ons and offs were estimated for the 2020 No Build and Build Conditions and 2040 No Build and Build Conditions for each of the seven stations in the Project Corridor. Ridership projections include boardings and alightings for the morning and PM Peak Periods in both the eastbound and westbound directions.

When compared to Existing Conditions, morning and PM Peak Period, peak direction ridership is expected to grow slightly in the 2020 No Build, as shown in ^ **Table 10-7**. This growth reflects recent trends for the LIRR system as a whole, associated with overall growth in population and employment, along with service improvements proposed with the Double Track Project. With the Proposed Project, when compared to the 2020 No Build Condition, morning and PM Peak Period, peak direction ridership would not increase, although the addition of eight reverse peak trains in the morning and PM Peak Periods is expected to result in a 17 percent increase in reverse peak ridership, respectively. **Table 10-^ 8** sets for the projected ridership by station in both the 2020 and 2040 analysis years.

Table 10-^ 7
Overall Ridership in the Study Area

Time Period	2015 Existing Conditions		2020 No-Build (w/o ESA)		2020 Build (w/o ESA)		2040 No-Build (w/ ESA)		2040 Build (w/ ESA)	
	West-bound	East-bound	West-bound	East-bound	West-bound	East-bound	West-bound	East-bound	West-bound	East-bound
AM Peak Period	45,600	5,060	48,650	5,400	48,650	6,315	76,240	6,990	76,240	8,235
PM Peak Period	5,600	37,190	6,085	40,395	7,115	40,395	8,465	67,470	9,905	67,470

Source: LIRR 2015.

Beyond the forecast ridership increases, added capacity and flexibility provided with the Proposed Project would improve overall service reliability, particularly during the morning and PM Peak Periods. While it is difficult to capture the effects of improved reliability on ridership forecasts, the Proposed Project improvements are fundamental to sustaining the ridership forecasts. Although not captured in this initial ridership forecast, there is also further potential for additional ridership growth as a result of improved on-time performance.

As shown on **Table 10-^ 7** and **Table 10-^ 8**, service improvements proposed for East Side Access would result in overall growth in passenger ridership in the 2040 No Build Condition, when compared to Existing Conditions as well as the 2020 No Build Condition. Mineola and Hicksville ^ Stations would continue to experience high volumes of ridership in both the peak and reverse peak directions, with growth of nearly 60% in the AM Peak Period peak direction travel. With continued constraints to operating reverse direction peak period service, reverse peak direction ridership would be constrained to 40% growth in the 2040 No Build Condition. As noted previously with regard to the 2020 Build Condition (see **Table 10-^ 7** and **Table 10-^ 8**), in the 2040 Build Condition, the Proposed Project would result in ridership increases associated with the addition of eight morning and PM Peak Period reverse peak direction trains. In the 2040 Build Condition, both Mineola and Hicksville ^ Stations would see an additional 17 percent growth when compared to the 2040 No Build Condition. Although the Proposed Project is not forecast to add ridership in the peak direction for either the morning or PM Peak Periods, when compared to the 2040 No Build Condition, the Proposed Project would add capacity and flexibility to the overall operation and result in improvements to the reliability of the LIRR operation in both the peak and reverse peak directions. These improvements support the anticipated ridership growth with the East Side Access Project and are necessary to sustain those ridership benefits over time.

Table 10-^ 8
No Build and Build Ridership Projections by Station

2020 No Build Peak Hour Ridership Projections (without ESA)									2020 Build Peak Hour Ridership Projections (without ESA)								
Station	Westbound				Eastbound				Station	Westbound				Eastbound			
	AM Peak		PM Reverse Peak		AM Reverse Peak		PM Peak			AM Peak		PM Reverse Peak		AM Reverse Peak		PM Peak	
	On	Off	On	Off	On	Off	On	Off		On	Off	On	Off	On	Off	On	Off
Floral Park	510	5	40	5	10	30	0	420	Floral Park	510	5	50	5	15	35	0	420
New Hyde Park	625	25	70	20	10	45	25	545	New Hyde Park	625	25	80	25	15	50	25	545
Merillon Avenue	300	5	30	10	0	15	10	260	Merillon Avenue	300	5	40	10	5	20	10	260
Mineola	1,420	315	400	90	70	350	250	995	Mineola	1,420	315	470	110	80	405	250	995
Carle Place	140	0	20	5	0	15	5	105	Carle Place	140	0	25	5	0	15	5	105
Westbury	540	25	80	20	10	115	20	455	Westbury	540	25	95	20	15	135	20	455
Hicksville	2,740	335	430	80	85	350	275	2,225	Hicksville	2,740	335	505	90	100	410	275	2,225
Total	6,275	710	1,070	230	185	920	585	5,005	Total	6,275	710	1,265	265	230	1,070	585	5,005
2040 No Build Peak Hour Ridership Projections (with ESA)									**2040 Build Peak Hour Ridership Projections (with ESA)**								
Station	Westbound				Eastbound				Station	Westbound				Eastbound			
	AM Peak		PM Reverse Peak		AM Reverse Peak		PM Peak			AM Peak		PM Reverse Peak		AM Reverse Peak		PM Peak	
	On	Off	On	Off	On	Off	On	Off		On	Off	On	Off	On	Off	On	Off
Floral Park	800	5	60	5	15	40	5	700	Floral Park	800	5	70	5	15	45	5	700
New Hyde Park	980	40	95	30	15	60	45	910	New Hyde Park	980	40	115	35	20	70	45	910
Merillon Avenue	465	10	45	10	5	20	15	435	Merillon Avenue	465	10	55	15	5	25	15	435
Mineola	2,230	495	560	130	90	450	415	1,660	Mineola	2,230	495	655	150	105	530	415	1,660
Carle Place	220	5	25	5	0	20	5	180	Carle Place	220	5	30	10	0	20	5	180
Westbury	845	40	110	25	15	150	30	755	Westbury	845	40	130	30	20	175	30	755
Hicksville	4,295	525	600	110	110	450	460	3,715	Hicksville	4,295	525	700	130	130	530	460	3,715
Total	9,835	1,120	1,495	315	250	1,190	975	8,355	Total	9,835	1,120	1,755	375	295	1,395	975	8,355

Source: Gannett Fleming/AECOM 2016.

D. BUS SERVICE

METHODOLOGY

This section provides an overview of public bus services provided in and near the Study Area. An inventory of bus routes that are proximate to LIRR passenger rail stations within the Project Corridor is presented.

EXISTING CONDITIONS

Prior to 2012, MTA Long Island Bus provided public bus service on Long Island. Since that time, a private entity has been operating the Nassau Inter-County Express (NICE) public bus service under contract with Nassau County through a public-private operating partnership. NICE bus service operates throughout Nassau County and limited portions of western Suffolk County and Queens County. NICE includes more than 30 bus routes in Nassau County, in addition to several local shuttle buses. The n24 Bus runs roughly parallel to the portion of the Main Line within the study area—along Jericho Turnpike in the western portion and along Old County Road in the eastern portion—and stops directly at the Mineola Intermodal Center and Hicksville Station. Notably, recent NICE ridership data indicates that the two most popular alighting locations along the eastbound n24 are the Hicksville Station and the Mineola Intermodal Center, respectively.[1] According to current NICE maps (see **Figure 10-1**) and schedules, the following NICE bus stops are located near the LIRR ^ Stations within the Study Area:

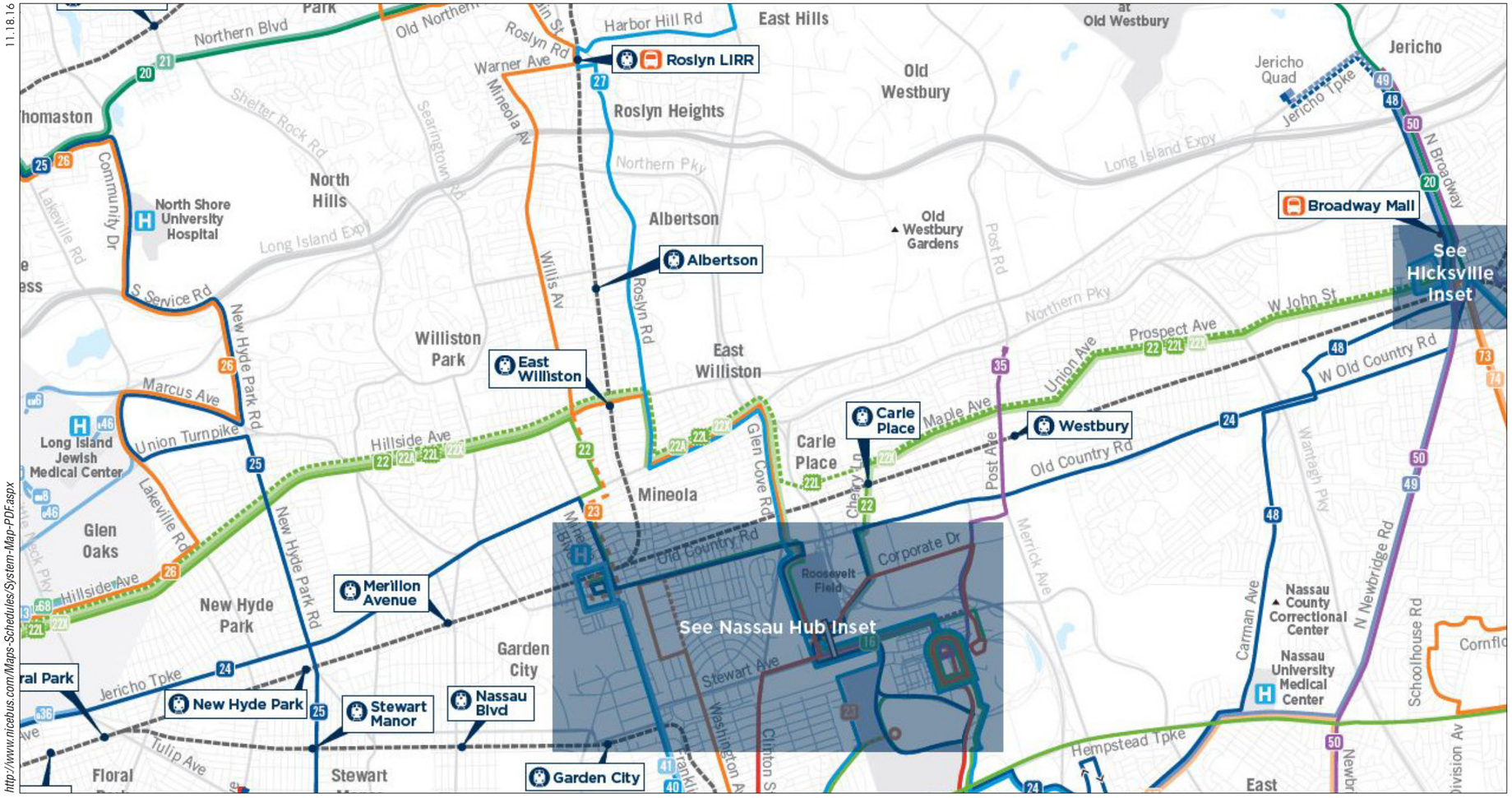
- Floral Park Station^ —The n24 Bus stops at Jericho Turnpike and Tyson Avenue, approximately 0.3 miles from the station;
- New Hyde Park Station^ —The n24 Bus and the n25 Bus stop at Jericho Turnpike and New Hyde Park Road, approximately 0.2 miles from the station;
- Merillon Avenue Station^ —The n24 Bus stops at Jericho Turnpike and Nassau Boulevard, approximately 0.6 miles from the station;
- Mineola Station - The n22, n23, n24, n40, and n41 bus routes all offer direct connection to LIRR service at the Mineola Intermodal Center;
- Carle Place Station^ —The n22 Bus stops at Cherry Lane and Garden Avenue, approximately 0.2 miles from the station;
- Westbury Station^ —The n35 Bus stops at Post Avenue and Railroad Avenue, approximately 0.1 miles from the station, and the n22 Bus stops at Post Avenue and Maple Avenue, approximately 0.3 miles from the station;
- Hicksville Station^ —Connections to the n20, n22, n24, n48, n49, n78, n79, n80, and n81 bus routes are available at Newbridge Road, adjacent to the LIRR ^ Station.

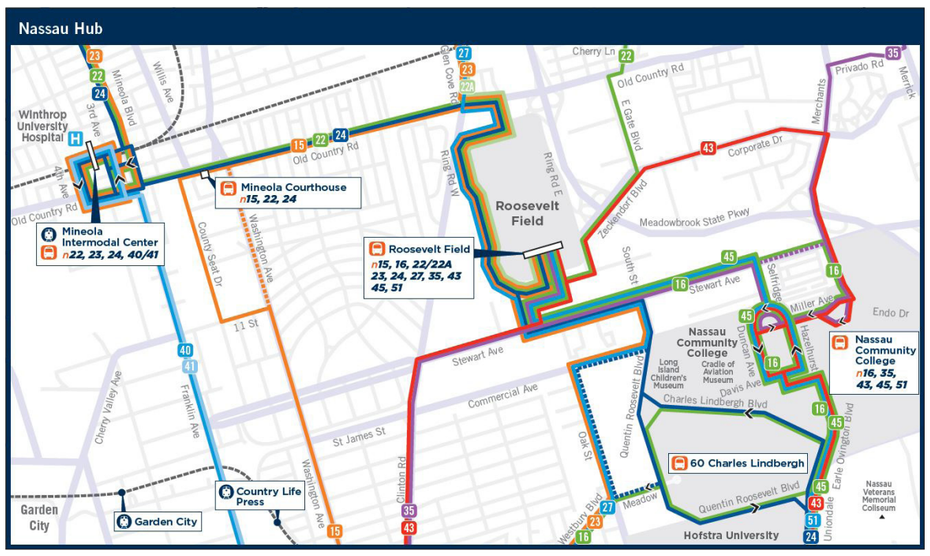
Some of the bus lines listed above connect to locations in Queens (including Jamaica) and western Suffolk County. Service along most of the above-referenced bus routes are concentrated during the morning and evening rush hours, with little to no service in the overnight hours. As an example of schedule frequency, the n24 stop near Merillon Avenue Station is serviced by three westbound (to Jamaica) and five eastbound (to Hicksville) buses between 7:00 AM and 8:00 AM on weekdays. The n22 stop at Post Avenue and Maple Avenue near the Westbury Station is

[1] Nassau Inter-County Express, Composite Statistics, as of September 9, 2016.

11.18.16

http://www.nicebus.com/Maps-Schedules/System-Map-PDF.aspx





LIRR Expansion Project
Floral Park to Hicksville

Study Area Bus Service
Figure 10-1

serviced by two westbound (to Jamaica) and five eastbound (to Hicksville) buses between 7:00 AM and 8:00 AM on weekdays.

For individuals with disabilities, NICE Able-Ride is available. NICE Able-Ride is a door-to-door shared ride paratransit bus service for individuals with disabilities. NICE Able-Ride provides trips that start and end within 0.75-miles of a fixed route service that is operating at the time an eligible customer wants to travel. Transfers to Suffolk County Accessible Transit (SCAT) and New York City Transit's Access-a-Ride paratransit system at certain locations are available upon request.

FUTURE WITHOUT THE PROPOSED PROJECT

NICE service is adjusted (increased or decreased) based on ridership, market demand, and other reasons. In the Future without the Proposed Project, it is anticipated that NICE service will continue to be adjusted to accommodate changes in demand. NICE bus and LIRR passenger rail will continue to provide complementary transportation services, including service to popular transfer points (such as Hicksville and Mineola, as discussed above). The projected substantial increases in LIRR ridership due to the completion of the East Side Access Project may necessitate additional NICE bus service to various LIRR ^ Stations.

FUTURE WITH THE PROPOSED PROJECT

The LIRR Main Line Expansion Project would result in ridership increases for reverse peak service. Increased reverse peak service could result in increased demand for NICE bus service with connections to LIRR ^ Stations. It is also likely that NICE would continue to adjust bus service to accommodate these and other changes in demand. Overall, the Proposed Project is unlikely to significantly change the demand for bus service. No adverse impacts to bus service would result from the Proposed Project.

E. VEHICULAR TRAFFIC

EXISTING CONDITIONS

METHODOLOGY

This section addresses vehicular traffic conditions in detail. It provides a description of the key streets in the vicinity of the ^ four traffic study areas (as described below), weekday peak hour traffic volumes, and a detailed analysis of traffic conditions—i.e., volume-to-capacity (v/c) ratios, average vehicle delays, and levels of service (LOS)—at each intersection analyzed. Traffic levels of service measure the ability of each traffic movement at an intersection to be accommodated by the number and widths of travel lanes available, signal timing, on-street parking, and other characteristics that affect traffic flow.

Traffic LOS at signalized intersections are defined in terms of a vehicle's control delay at the intersection, as follows:

- LOS A describes operations with very low delays, i.e., 10.0 seconds or less per vehicle. This occurs when signal progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with delays in excess of 10.0 seconds up to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.

- LOS C describes operations with delays in excess of 20.0 seconds up to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is noticeable at this level, although many still pass through the intersection without stopping.
- LOS D describes operations with delays in excess of 35.0 seconds up to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.
- LOS E describes operations with delays in excess of 55.0 seconds up to 80.0 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.
- LOS F describes operations with delays in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also contribute to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

LOS A, B, and C are considered acceptable, LOS D is generally considered marginally acceptable up to mid-LOS D (45 seconds of delay for signalized intersections) and unacceptable above mid-LOS D; LOS E and F indicate congestion.

For unsignalized intersections, delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line: LOS A describes operations with very low delay, i.e., 10.0 seconds or less per vehicle; LOS B describes operations with delays in excess of 10.0 seconds up to 15.0 seconds; LOS C has delays in excess of 15.0 seconds up to 25.0 seconds; LOS D, excess of 25.0 seconds up to 35.0 seconds per vehicle; and LOS E, excess of 35.0 seconds up to 50.0 seconds per vehicle, which is considered to be the limit of acceptable delay. LOS F describes operation with delays in excess of 50.0 seconds per vehicle, which is considered unacceptable to most drivers. This condition exists when there are insufficient gaps of suitable size in a major vehicular traffic stream to allow side street traffic to cross safely.

NEW HYDE PARK STATION AREA

There are three grade crossings at or near the New Hyde Park ^ Station—at New Hyde Park Road, South 12th Street, and Covert Avenue. The number of times and the extent of time that the crossing gates are in a down position, precluding traffic from crossing from one side of the tracks to the other, is a major source of traffic congestion in the area because the prolonged gate down time creates significant queuing along these three north–south streets and is a major factor affecting traffic conditions throughout the station area.

The traffic study area encompasses the three grade crossings plus the following 12 intersections (see **Figure 10-2**):

- New Hyde Park Road and Jericho Turnpike;
- New Hyde Park Road and Second Avenue;
- New Hyde Park Road, Clinch Avenue and Greenridge Avenue;
- New Hyde Park Road and Stewart Avenue;
- South 12th Street and Jericho Turnpike;

Source: VHB

LIRR Expansion Project
Floral Park to Hicksville

Traffic Study Area — New Hyde Park
Figure 10-2

- South 12th Street and Second Avenue;
- South 12th Street and Third Avenue;
- South 12th Street and Stewart Avenue;
- Covert Avenue and Jericho Turnpike;
- Covert Avenue and Second Avenue;
- Covert Avenue and Third Avenue; and
- Covert Avenue and Stewart Avenue.

Intersection through and turning movement counts were conducted in May 2016, supplemented by 24-hour Automatic Traffic Recorder (ATR) machine counts at key locations. The peak traffic analysis hours were then identified as 7:30–8:30 AM and 5:00–6:00 PM.

New Hyde Park Road is a key north–south road in the area. It has two travel lanes per direction with no curb parking north of the tracks in a primarily commercial part of the area. South of the tracks, it also has two travel lanes per direction with no curb parking in an entirely residential area. New Hyde Park Road borders the eastern edge of the train platform and there is a considerable volume of LIRR passengers that cross onto or off the platforms at this end of the station. New Hyde Park Road has a substantial volume of vehicle traffic—approximately 1,000 vehicles per hour (vph) northbound and 545 vph southbound near the grade crossing in the AM peak hour, and 510 vph northbound and 960 vph southbound in the PM peak hour.

South 12th Street is a much lower-volume street in terms of vehicular traffic, although there is considerable pedestrian traffic heading to and from the LIRR platforms at this western edge of the platform and considerable pick-up and drop-off activity. There is one travel lane per direction and curb parking immediately north and south of the tracks. Peak hour traffic volumes are approximately 190 vph northbound and 120 vph southbound near the grade crossing in the AM peak hour, and 125 vph northbound and 185 vph southbound in the PM peak hour.

Covert Avenue is another key north–south road in the area. It has one travel lane and curb parking north and south of the tracks but widens to two travel lanes per direction further south near Seventh Avenue. Peak hour traffic volumes are approximately 740 vph northbound and 400 vph southbound near the grade crossing in the AM peak hour, and 460 vph northbound and 755 vph southbound in the PM peak hour.

Second and Third Avenues near the station function as “service” roads to and from the station platforms on the north and south sides of the platform, respectively. Second Avenue is two-way at the eastern end of the station area and two-way at the western end of the station. Third Avenue only serves the western part of the south station platform, and is two-way. There is station parking on both Second and Third Avenues.

Jericho Turnpike is one of the primary east–west arterial roads in Nassau County, traversing busy commercial uses on both sides. Jericho Turnpike generally has two travel lanes in each direction, with left-turn slots at key intersections, curb parking, and bus activity. It has approximately 1,250 vph eastbound and 1,050 vph westbound near New Hyde Park Road in the AM peak hour, and 1,250 vph eastbound and 1,365 vph westbound in the PM peak hour.

Stewart Avenue is also an important east–west road in the area, traversing a residential corridor. It generally has two travel lanes per direction with left-turn slots at select intersections, and with curb parking allowed on some blocks. It has approximately 720 vph eastbound and 465 vph

westbound near New Hyde Park Road in the AM peak hour, and 675 vph eastbound and 820 vph westbound in the PM peak hour.

Clinch Avenue has one travel lane per direction in the north–south direction with curb parking allowed in a residential corridor. It has approximately 225 vph northbound and 130 vph southbound near the grade crossing in the AM peak hour, and 165 vph northbound and 275 vph southbound in the PM peak hour.

Detailed traffic volume maps for the AM and PM peak hours are presented in **Appendix 10**. Based on these volumes, the Synchro model[1] was used to determine traffic levels of service. **Table 10-^ 9** presents the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable LOS E or F. Additional detailed information is available in **Appendix 10**.

The analyses incorporate conditions both when the three crossing gates are in the down position and traffic queues occur on both sides of the gates, and when the gates are in the up position and traffic flows freely across the tracks. The amount of time that the gates are in the down position is considerable in the AM and PM peak analysis hours:

- At New Hyde Park Road, the gates are in the down position approximately 33 percent of the time in the AM peak hour and 39 percent of the time in the PM peak hour. Traffic queues and delays are substantial, frequently extending for more than 15 to 20 car lengths in one or both directions. The occurrence of left turns from southbound New Hyde Park Road onto Clinch Avenue just south of the tracks, further exacerbate the congestion as these left turning vehicles must await gaps in oncoming northbound traffic in order to make their turns, and this condition is heightened when the gates are in the down position and northbound queuing blocks their path. Queues are typically longest when multiple trains pass without the LIRR grade crossing gates returning to the up position.
- At South 12th Street, the gates are in the down position close to 40 percent of the time in the AM and PM peak hours. However, due to the low volumes typically on South 12th Street, queuing and delays are not as extensive as at New Hyde Park Road. There is, however, a substantial volume of pick-ups and drop-offs at this location since it is at the west end of the train platform.
- Traffic queues on South 12th Street due to the LIRR gates in the down position typically extend approximately five car lengths in both directions during both peak hours when the LIRR gates are down and occasionally spill onto Second and Third Avenues, which run parallel to the LIRR tracks.

[1] Synchro is an industry-standard macroscopic traffic analysis model that generates LOS results by movement based on the Transportation Research Board's Highway Capacity Manual (HCM).

Table 10-^ 9
2016 Existing Traffic Levels of Service Summary, New Hyde Park

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Covert Avenue at Jericho Turnpike (Rt. 25)	E	58.4	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn	E	60.2	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn
Covert Avenue at LIRR Grade Crossing	C	34.2	None	C	26.3	None
Covert Avenue at Stewart Avenue	B	18.8	None	B	17.1	None
South 12th Street at Jericho Turnpike (Rt. 25)	B	15.4	None	B	11.2	South 12th St NB approach
South 12th Street at LIRR Grade Crossing	C	23.4	None	B	17.9	None
New Hyde Park Road at Jericho Turnpike (Rt. 25)	E	61.7	New Hyde Park Rd NB shared through & right; Jericho Tpk EB approach and WB left turn	E	66.5	New Hyde Park Rd NB approach and SB shared through & right; Jericho Tpk EB left turn and WB approach
New Hyde Park Road at LIRR Grade Crossing	C	30.7	None	C	22.2	None
New Hyde Park Road at Stewart Avenue	C	33.6	None	C	24.3	None
Covert Avenue at Second Avenue	A	3.5	Second Ave WB approach	A	4.9	Second Ave WB approach
Covert Avenue at Third Avenue	A	2.4	Third Ave EB approach	A	2.6	Third Ave EB approach
South 12th Street at Second Avenue	A	9.9	None	A	9.3	None
South 12th Street at Third Avenue	A	8.7	None	A	8.1	None
South 12th Street/ Jefferson Street at Stewart Avenue	A	2.4	None	A	5.1	South 12th St SB approach
New Hyde Park Road at Second Avenue	A	0.8	None	A	0.7	None
New Hyde Park Road at Clinch Avenue	A	4.4	None	A	3.9	None

Note: Delay measured in seconds per ^ vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

- At Covert Avenue, the gates are in the down position approximately 32 to 42 percent of the time in the AM peak hour and about 33 percent of the time in the PM peak hour. Since this crossing is situated a block west of the station platform, pick-up and drop-off activity is lighter than at South 12th Street, but north–south volumes on Covert Avenue are higher than at South 12th Street. Queues on Covert Avenue due to the LIRR gates in the down position typically range from approximately 15 to 30 lengths in each direction during the AM and PM peak hours. Queues are typically longer in the northbound direction on Covert Avenue during the AM peak hour and in the southbound direction during the PM peak hour when the LIRR gates are down. Queues of less than five car lengths occasionally spill back onto Second and Third Avenues. Queues are typically longest when multiple trains pass without the LIRR grade crossing gates returning to the up position.

The key overall findings of the traffic level of service analyses and field observations are:

- Two of the 15 intersections analyzed operate at overall unacceptable LOS E or F in both the AM and PM peak hours. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all of the individual traffic movements).
- In both the AM and PM peak hours, the intersections of Covert Avenue at Jericho Turnpike and New Hyde Park Road at Jericho Turnpike both operate at overall intersection LOS E. Several traffic movements at each intersection operate at LOS E or F. All other intersections analyzed operate at overall acceptable levels of service; at some of these intersections, one or more traffic movements operate unacceptably.

MINEOLA STATION AREA

There are three grade crossings just east of the Mineola ^ Station—one at Main Street and two at Willis Avenue (Main Line and Oyster Bay branches). Grade crossings that had existed previously were eliminated via an overpass of Mineola Boulevard over the tracks, and an underpass of Roslyn Road under the tracks east of Willis Avenue several years ago. However, the number of times and the extent of time that the Main Street and Willis Avenue crossing gates are in a down position, precluding traffic from crossing from one side of the tracks to the other, is a major source of traffic issues in the area since the repeated instances of gates being down creates significant queuing along these two streets. This is exacerbated by the two sets of LIRR tracks at Willis Avenue where the Oyster Bay Branch tracks from the north merge with the Main Line tracks from the east.

The traffic study area encompasses the two grade crossings plus the following 16 intersections (see **Figure 10-3**):

- Main Street and First Street;
- Main Street and Second Street;
- Main Street and Front Street/Station Plaza (north side of tracks);
- Main Street and Front Street (south side of tracks);
- Main Street and Third Street;
- Main Street and Old Country Road;
- Willis Avenue and First Street;
- Willis Avenue and Second Street;
- Willis Avenue and Front Street;
- Willis Avenue and Third Street;
- Willis Avenue and Old Country Road;
- Mineola Boulevard and First Street;
- Mineola Boulevard and Second Street;
- Mineola Boulevard and Old Country Road;
- Roslyn Road and Second Street; and
- Roslyn Road and Old Country Road.

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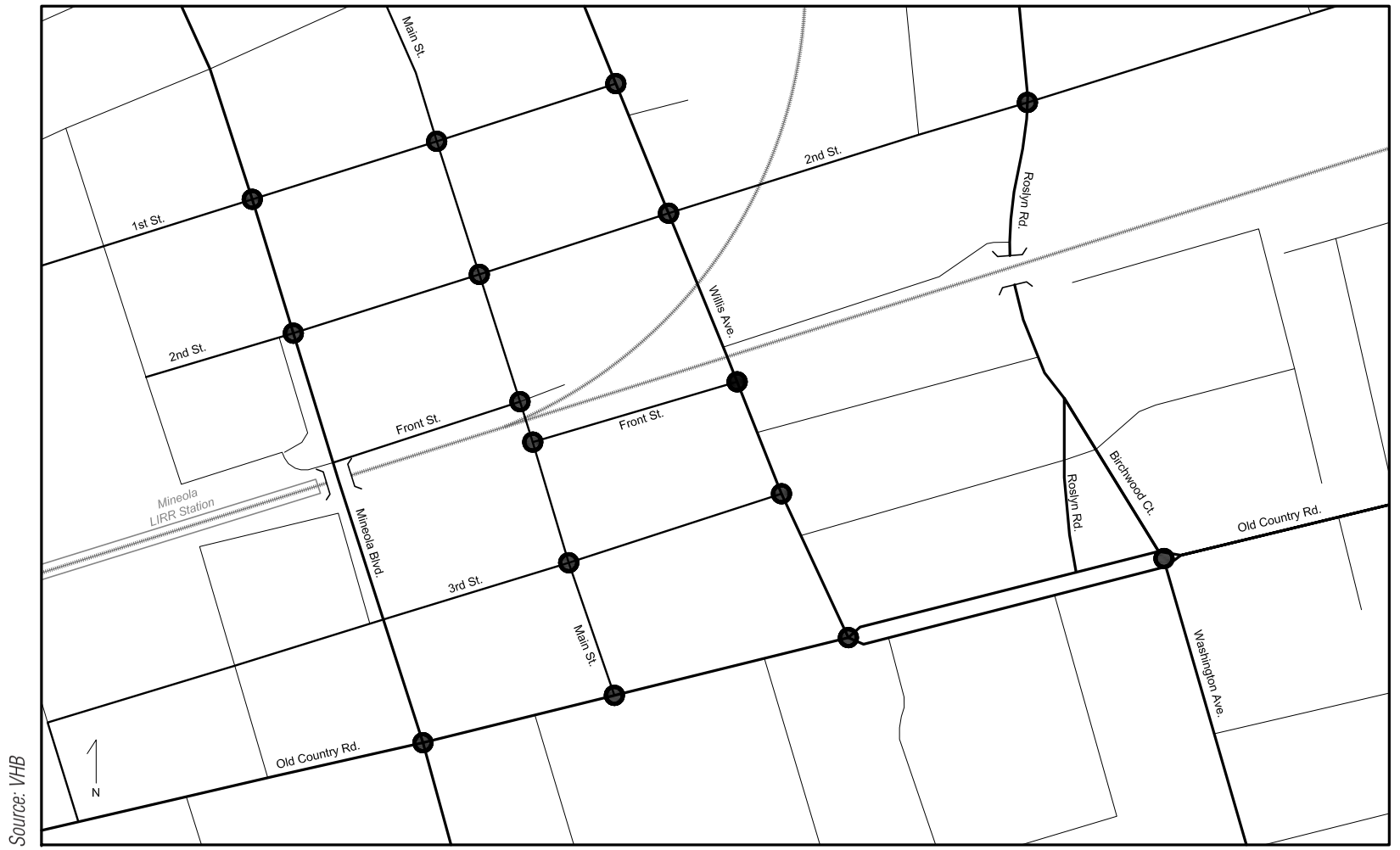

Source: VHB

LIRR Expansion Project
Floral Park to Hicksville

Traffic Study Area — Mineola
Figure 10-3

These intersection analysis locations are situated within the Mineola central business district, or downtown area, primarily north of the LIRR tracks, and the commercial and institutional area south of the tracks. Winthrop-University Hospital, a major traffic generator, and related medical office facilities are located north of the LIRR tracks and generally west of Mineola Boulevard. The area north of the Mineola downtown area is generally residential.

Intersection through and turning movement counts were conducted in May 2016, supplemented by 24-hour ATR machine counts at key locations. The peak traffic analysis hours were then identified as 8:00–9:00 AM, 12:30–1:30 PM (midday peak), and 4:45–5:45 PM. Midday counts and analyses were conducted in this area due to the busy nature of its commercial, retail, and institutional uses throughout the business day.

Main Street is a low-volume street that generally has one northbound travel lane, with curb parking, from Old Country Road to Third Street. Between Third Street and the LIRR tracks, it is a two-way street with one travel lane per direction and curb parking only in the northbound direction. North of the tracks, it remains two-way with one travel lane and curb parking in each direction. Main Street terminates three blocks north of the tracks at Harrison Avenue in a residential area. Just north of the tracks, it is a retail street within the Mineola business district, while south of the tracks it is generally in a commercial area. Main Street carries approximately 50 to 85 vph per direction near the grade crossing in the AM peak hour, 125 vph northbound and 60 vph southbound in the midday peak hour, and 135 vph northbound and 30 vph southbound in the PM peak hour.

Willis Avenue generally has one travel lane plus curb parking in each direction north of the tracks, while south of the tracks it generally has one travel lane per direction with curb parking only in the northbound direction. Southbound Willis Avenue flares to two travel lanes approaching the traffic signal at Old Country Road. There is a short section of Willis Avenue situated between the Oyster Bay Branch tracks and the Main Line tracks. Vehicular traffic may be stopped north and south of both sets of tracks. Willis Avenue carries approximately 135 vph northbound and 145 vph southbound near the grade crossing in the AM peak hour, 170 vph northbound and 245 vph southbound in the midday peak hour, and 210 vph northbound and 230 vph southbound in the PM peak hour.

Mineola Boulevard is a major north–south street in the area. In the downtown Mineola area north of the tracks, it generally provides for one travel lane per direction with curb parking allowed north of Second Street. The Mineola Boulevard viaduct over the tracks is wide and provides two northbound travel lanes and a left turn lane to First Street, and one southbound travel lane with an adjacent southbound left turn lane on the south side of the viaduct. South of the viaduct, there are three northbound travel lanes and three southbound travel lanes approaching Old Country Road. Mineola Boulevard has a substantial volume of vehicle traffic—approximately 865 vph northbound and 675 vph southbound on the viaduct over the LIRR tracks in the AM peak hour, 875 vph northbound and 765 vph southbound in the midday peak hour, and 1,150 vph northbound and 830 vph southbound in the PM peak hour.

Roslyn Road, located on the eastern edge of the downtown area, generally has two travel lanes per direction north of Old Country Road and under the viaduct up to Second Street. North of Second Street it has two travel lanes per direction through residential areas. Roslyn Road carries a substantial volume of vehicle traffic—approximately 730 vph northbound and 850 vph southbound in the underpass section beneath the LIRR tracks in the AM peak hour, 615 vph northbound and 470 vph southbound in the midday peak hour, and 880 vph northbound and 905 vph southbound in the PM peak hour.

First Street generally has one travel lane and curb parking in each direction between Mineola Boulevard and Willis Avenue. It traverses both commercial and residential blocks. It carries approximately 140 to 190 vph per direction in the AM peak hour, 90 to 150 vph per direction in the midday peak hour, and 125 to 215 vph per direction in the PM peak hour.

Second Street generally has one travel lane and curb parking in each direction in the commercial/retail section between Mineola Boulevard and Willis Avenue. It carries approximately 200 vph per direction in the AM and midday peak hours, and 175 vph westbound and 350 vph eastbound in the PM peak hour.

Third Street has one travel lane and curb parking in each direction between Mineola Boulevard and Main Street, and one travel lane eastbound plus curb parking on both sides of the street between Main Street and Willis Avenue. This street is a relatively minor east–west connecting street but does have major parking garage access/egress along it. It carries approximately 50 to 250 vph per direction in the AM and PM peak hours, and 100 to 160 vph per direction in the midday peak hour.

Old Country Road is one of Nassau County's primary east–west roadways traversing a key commercial corridor. It generally has two to three travel lanes per direction within this study area, with left turn lanes and right turn lanes at select locations. Curb parking is allowed at only select locations. Old Country Road is a carrier of a substantial volume of vehicular traffic—approximately 1,000 to 1,350 vph per direction in the AM, midday, and PM peak hours near Mineola Boulevard.

There is considerable multi-modal activity in the station area. The Mineola Bus Terminal and Parking Garage is situated on the south side of the tracks along with station taxi service and several formal and informal pick-up/drop-off areas. There are also a considerable number of taxi and auto pick-ups and drop-offs at the Mineola ^ Station house on the north side of the tracks.

Detailed traffic volume maps for the AM, midday, and PM peak hours are presented in **Appendix 10**. Based on these volumes, the Synchro model was used to determine traffic levels of service. **Table 10-^ 10** presents the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable LOS E or F. Additional detailed information is available in **Appendix 10**.

The analyses incorporate conditions both when the Main Street and Willis Avenue crossing gates are in the down position and traffic queues occur on both sides of the gates, and when the gates are in the up position and traffic flows freely across the tracks. The amount of time that the gates are in the down position is considerable in the three peak analysis hours.

At Main Street, the gates are in the down position approximately as much as 53 percent of the time in the AM and PM peak hours, and close to 20 percent of the time in the midday peak hour. Queues on Main Street due to the LIRR gates in the down position typically extend less than five car lengths in each direction during the AM, midday, and PM peak hours. Northbound queues occasionally spill back one to three car lengths on Front Street, which runs one-way westbound on the south side of the main line LIRR tracks.

^ At Willis Avenue, the gates are in the down position approximately 43 percent of the time in the AM peak hour, 12 to 13 percent of the time in the midday peak hour, and 50 percent of the time in the PM peak hour. Queues on Willis Avenue due to the LIRR gates in the down position typically extend up to 10 car lengths in each direction during the AM and PM peak hours. Queues extend onto Second Street, especially when the gates are down at the LIRR Oyster Bay branch grade crossing on Second Street. Queues are typically longest in the PM peak hour when multiple trains pass without the LIRR grade crossing gates returning to the up position.

Table 10-10
2016 Existing Traffic Levels of Service Summary, Mineola

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (MD)	Delay (MD)	Traffic Movements at LOS E or F (MD)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Mineola Boulevard/ Franklin Avenue at Old Country Road	D	44.2	Old Country Rd WB through	D	37.0	None	D	43.6	Old Country Rd WB through
Mineola Boulevard at Second Street	C	31.3	Mineola Blvd SB shared through & right	C	31.5	Mineola Blvd SB shared through & right	C	32.4	None
Mineola Boulevard at First Street	B	16.4	None	B	19.1	None	B	19.2	None
Willis Avenue at Old Country Road	B	12.6	Willis Avenue SB right turn	B	13.3	None	B	12.6	None
Willis Avenue at Grade Crossing	D	41.6	None	B	13.3	None	D	42.0	None
Willis Avenue at Second Street	C	24.1	None	C	21.8	None	C	28.3	None
Main Street at Grade Crossing	D	39.6	None	B	12.1	None	D	37.7	None
Roslyn Road/ Washington Avenue at Old Country Road	D	49.5	Old Country Rd EB and WB through	D	43.9	Old Country Rd EB and WB through	D	42.8	Old Country Rd EB through
Roslyn Road at Second Street	D	36.4	Roslyn Rd SB approach	C	22.3	None	D	40.1	None
Main Street at First Street	A	9.2	None	A	8.6	None	A	10.0	None
Main Street at Second Street	B	10.7	None	B	10.2	None	C	16.1	None
Main Street at Front Street (North side of LIRR Tracks)	A	3.4	None	A	2.2	None	A	1.5	None
Main Street at Front Street (South side of LIRR Tracks)	A	3.9	None	A	3.0	None	A	2.3	None
Main Street at Third Street	A	9.1	None	A	8.5	None	B	10.3	None
Willis Avenue at First Street	A	4.8	None	A	2.7	None	A	3.6	None
Willis Avenue at Front Street	A	1.7	None	A	1.1	None	A	0.9	None
Willis Avenue at Third Street	A	3.4	None	A	3.1	None	A	5.4	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

The key overall findings of the traffic level of service analyses and our field observations are:

- None of the 18 intersections analyzed operate at overall unacceptable LOS E or F in the AM, midday, or PM peak hours. One intersection—Roslyn Road/Washington Avenue at Old Country Road—operates above mid-LOS D in the AM and midday peak hours, i.e., within the unacceptable range of LOS D. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all of the individual traffic movements).
- In each of the three traffic peak hours, there are individual traffic movements at specific intersections that currently operate at unacceptable LOS E or F, even if the overall intersection operates acceptably. Such traffic movements occur at Old Country Road/Mineola Boulevard/Franklin Avenue, Mineola Boulevard/Second Street, Willis Avenue/Old Country Road, Roslyn Road/Washington Avenue/Old Country Road, and Roslyn Road/Second Street.

WESTBURY STATION AREA/NEW CASSEL

There are two grade crossings proposed for elimination by the Proposed Project—at School Street and at Urban Avenue. These two grade crossings are about a mile apart and are situated near two key north–south roadways that are already grade-separated, Post Avenue which goes under the LIRR tracks immediately adjacent to the Westbury ^ Station and Grand Boulevard which is situated east of School Street and west of Urban Avenue. The number of times and the extent of time that the School Street and Urban Avenue crossing gates are in a down position, precluding traffic from crossing from one side of the tracks to the other, is not as pronounced as at the New Hyde Park and Mineola grade crossings, but vehicular and pedestrian safety is still a factor here and traffic conditions with and without the Proposed Project need to be addressed. In addition, two new parking garages are proposed near the Westbury LIRR Station. One garage would be located north of the station on the site of an existing surface parking lot for LIRR passengers on the north side of Union Avenue and one garage would be located south of the station on the north side of Railroad Avenue on a portion of the site of an existing surface parking lot for LIRR passengers.

The traffic study area encompasses two gate crossings plus the following ^ 14 intersections (see **Figure 10-4**):

- Post Avenue and Maple Avenue;
- Post Avenue and Scally Place;
- Post Avenue and Union Avenue;
- Post Avenue and Railroad Avenue;
- School Street and Maple Avenue;
- School Street and Union Avenue;
- School Street and Railroad Avenue;
- School Street and Old Country Road;
- Urban Avenue and Prospect Avenue;
- Urban Avenue and Broadway;
- Urban Avenue and Railroad Avenue;

Source: VHB

LIRR Expansion Project
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Traffic Study Area — Westbury
Figure 10-4

- Urban Avenue and Main Street;
- Urban Avenue and Old Country Road; and
- Grand Boulevard and Old Country Road.

Intersection through and turning movement counts were conducted in March 2016^ , May 2016, and February 2017, supplemented by 24-hour ATR machine counts at key locations. The peak traffic analysis hours were then identified as 8:00–9:00 AM and 5:00–6:00 PM.

School Street has one travel lane in each direction with curb parking prohibited south of the LIRR tracks. The adjacent properties are mostly residential several blocks south of the tracks on the east side of School Street, while close to the tracks, the adjacent properties are industrial/commercial on both sides of the street. North of the tracks, School Street generally has one travel lane per direction within an industrial/commercial area, which becomes residential north of Maple Avenue. School Street carries approximately 350 vph northbound and 225 vph southbound near the grade crossing in the AM peak hour, and 300 to 350 vph per direction in the PM peak hour.

Urban Avenue has one travel lane per direction with limited curb parking south of the tracks since there are lengthy curb cuts for parking in front of industrial/commercial properties. North of the tracks, Urban Avenue again has one travel lane per direction within a residential area. Urban Avenue carries approximately 225 to 240 vph per direction near the grade crossing in the AM peak hour, and 440 vph northbound and 325 vph southbound in the PM peak hour.

The intersections analyzed in this area involve a series of east–west streets that cross Urban Avenue or School Street^ , as well as streets in the vicinity of the new parking garages. Prospect Avenue has one travel lane per direction with curb parking and a Class II bike lane in both the eastbound and westbound directions through a corridor that varies between residential and commercial sections. Broadway has one travel lane per direction with curb parking on both sides of the street within a primarily residential area. Main Street has one travel lane per direction with curb parking on both sides of the street within a primarily industrial area at its analysis locations. Railroad Avenue parallels the LIRR tracks with two-way traffic flow on the north side of the tracks. Union Avenue generally has two travel lanes per direction in a retail/commercial area near School Street, with just one travel lane per direction to the west with some short-term parking closer to the Westbury LIRR ^ Station.

Old Country Road is one of Nassau County's primary east–west roadways traversing a key commercial corridor. It generally has two travel lanes per direction with a center left turn lane serving eastbound and westbound left turns within this study area. Old Country Road carries a substantial volume of vehicular traffic—approximately 1,200 to 1,300 vph per direction in the AM peak hour and 1,500 vph westbound and 1,800 vph eastbound in the PM peak hour.

As noted above, Post Avenue and Grand Boulevard—situated west and east of School Street and Urban Avenue—both currently provide grade-separated crossings of the LIRR tracks. Post Avenue extends under the tracks at the western edge of the Westbury ^ Station, traversing the Westbury downtown retail area north of the tracks and a mixed-use residential, institutional, and commercial area south of the tracks. It generally has one travel lane per direction with curb parking in the downtown retail area^ and carries approximately 665 vph northbound and 745 vph southbound in the AM peak hour near the existing LIRR overpass, and approximately 885 vph northbound and 920 vph southbound in the PM peak hour. Grand Boulevard is carried over the tracks within a primarily industrial/commercial area but with several residential blocks. It has one travel lane per direction over the tracks.

Detailed traffic volume maps for the AM and PM peak hours are presented in **Appendix 10**. Based on these volumes, the Synchro model was used to determine traffic levels of service. **Table 10-^ 11** presents the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable LOS E or F. Additional detailed information is available in **Appendix 10**.

Table 10-^ 11
2016 Existing Traffic Levels of Service Summary, Westbury

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Post Avenue at Maple Avenue	B	13.9	None	C	32.5	None
Post Avenue at Scally Place	A	1.4	None	A	1.6	None
Post Avenue at Union Avenue	B	17.4	None	C	26.7	Post Av SB approach
Post Avenue at Railroad Avenue	B	12.3	None	C	20.5	None
School Street at Maple Avenue	B	10.9	None	B	13.2	None
School Street at Union Avenue	B	14.1	None	B	15.4	None
School Street at Grade Crossing	B	16.6	None	C	26.3	None
School Street at Old Country Road	D	48.7	School St NB and SB approaches	D	43.2	School St NB left turn and SB approach; Old Country Rd EB left turn
Urban Avenue at Prospect Avenue	B	13.5	None	B	16.1	None
Urban Avenue at Grade Crossing	A	9.8	None	C	21.2	None
Urban Avenue at Old Country Road	C	25.6	None	C	25.2	None
Old Country Road at Belmont Place/ Merillon Avenue	B	10.5	None	B	13.0	None
School Street at Railroad Avenue	A	3.4	None	A	3.0	None
Urban Avenue at Broadway	A	9.1	None	B	11.9	None
Urban Avenue at Railroad Avenue	A	3.2	None	A	5.7	Railroad Ave WB approach
Urban Avenue at Main Street	B	11.8	None	C	19.3	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

The analyses incorporate conditions both when the School Street and Urban Avenue crossing gates are in the down position and traffic queues occur on both sides of the gates, and when the gates are in the up position and traffic flows freely across the tracks. The amount of time that the gates are in the down position is substantially lower in the peak traffic analysis hours than at New Hyde Park and at Mineola:

- At School Street, the gates are in the down position approximately 27 to 28 percent of the time in the AM peak hour and up to 35 percent of the time in the PM peak hour. Queues on School Street due to the LIRR gates in the down position typically extend between approximately five and 15 car lengths in each direction during the AM and PM peak hours. Queues are typically longest when multiple trains pass without the LIRR grade crossing gates returning to the up position.
- At Urban Avenue, the gates are in the down position as much as 32 percent of the time in the AM peak hour and close to 30 percent of the time in the PM peak hour. Queues on Urban Avenue due to the LIRR gates in the down position typically extend five car lengths or less in each direction during the AM peak hour and between ten and 15 car lengths in each direction during the PM peak hour. Queues are typically longest when multiple trains pass without the LIRR grade crossing gates returning to the up position.

The key overall findings of the traffic level of service analyses and field observations are:

- None of the ^ 16 intersections analyzed operate at overall unacceptable LOS E or F in the AM or PM peak hours. One intersection operates above mid-LOS D in the AM peak hour, i.e., within the unacceptable range of LOS D. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all of the individual traffic movements).
- In both the AM and PM peak hours, there are individual traffic movements at specific intersections that currently operate at unacceptable LOS E or F, even though the overall intersection operates acceptably. Such traffic movements occur at Old Country Road/School Street and at Urban Avenue/Railroad Avenue.

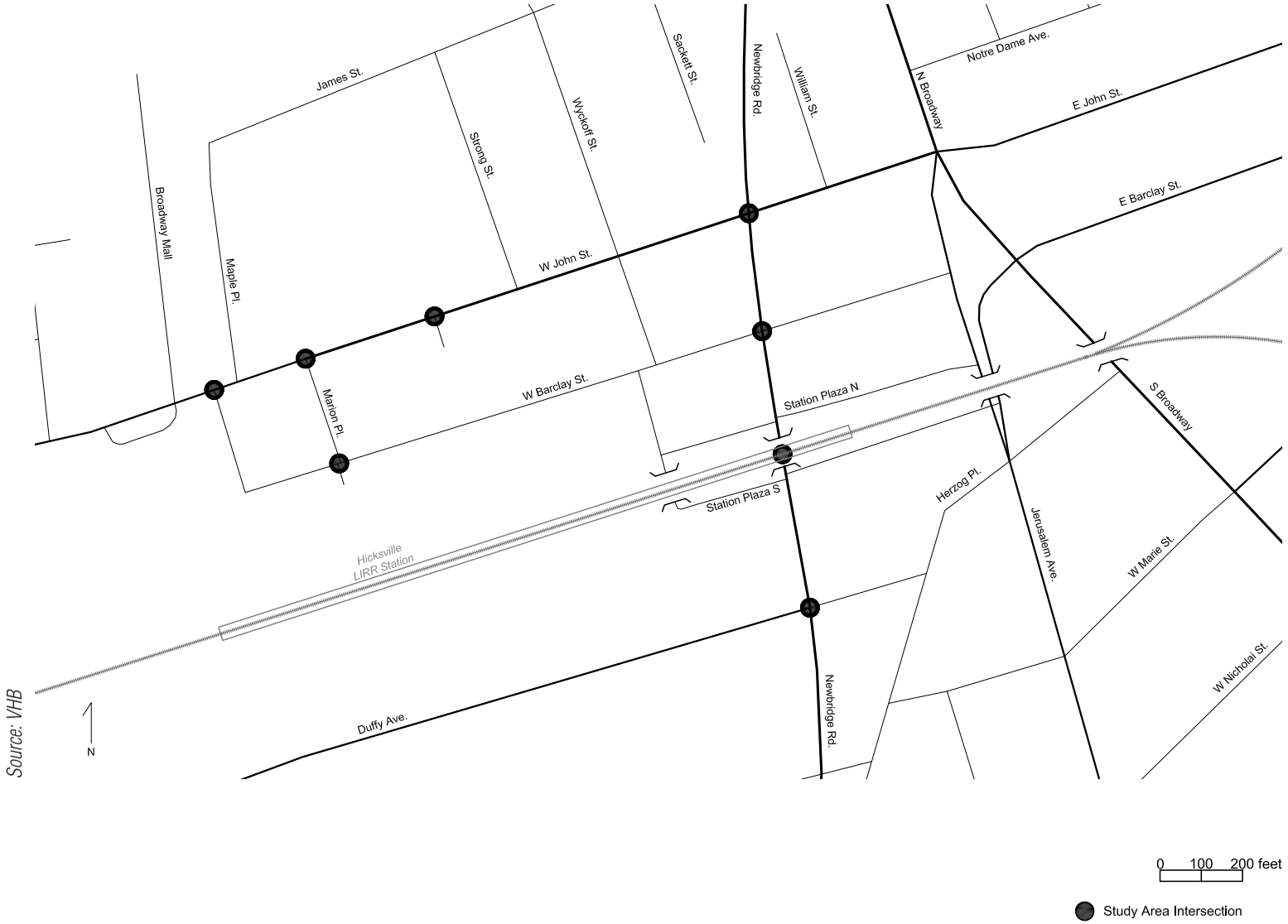
HICKSVILLE

At Hicksville Station, the LIRR tracks are elevated and there are no existing grade crossings. Parking facilities for LIRR passengers are provided north, south, and east of the station and two additional parking facilities would be provided by the Proposed Project on the north side of the station.

The traffic study area encompasses the following eight intersections (see **Figure 10-5**):

- Newbridge Road (Rte. 106) and Duffy Avenue;
- Newbridge Road (Rte. 106) and Station Plaza (north and south of the LIRR overpass);
- Newbridge Road (Rte. 106) and West John Street;
- Newbridge Road (Rte. 106) and West Barclay Street;
- West Barclay Street and West John Street;
- Marion Place and West Barclay Street;
- Marion Place and West John Street;
- LIRR Parking Lot Exit at West John Street.

Intersection through and turning movement counts were conducted in January 2017, and were supplemented by 24-hour ATR machine counts at key locations. The peak traffic analysis hours were then identified as 8:00–9:00 AM and 5:00–6:00 PM.



Source: VHB

LIRR Expansion Project
Floral Park to Hicksville

Traffic Study Area — Hicksville
Figure 10-5

Newbridge Road (Route 106) generally has two travel lanes in each direction with a raised median and turning lanes and occasional curb parking north and south of the LIRR tracks. The adjacent properties are mostly commercial on both sides of the street. Newbridge Road carries approximately 1,080 vph northbound and 965 vph southbound near the Hicksville LIRR Station in the AM peak hour, and 1,095 vph northbound and 1,315 vph southbound in the PM peak hour.

Duffy Avenue has one travel lane in each direction with turn lanes approaching Newbridge Road from the west; parking is mostly prohibited on both sides of the street. Duffy Avenue is lined with surface parking lots on the east side of Newbridge Road and terminates one block east of Newbridge Road; on the west side of Newbridge Road, Duffy Avenue is largely residential with some commercial uses and a LIRR commuter parking garage closer to its intersection with Newbridge Road. Duffy Avenue extends west into New Cassel. On the west side of Newbridge Road, Duffy Avenue carries approximately 270 vph eastbound and 505 vph westbound in the AM peak hour and approximately 760 vph eastbound and 330 westbound in the PM peak hour. On the east side of Newbridge Road, Duffy Avenue carries approximately 305 vph eastbound and 210 vph westbound in the AM peak hour and 365 vph eastbound and 240 vph westbound in the PM peak hour.

West Barclay Street has one travel lane in each direction with parking on both sides of the street. West Barclay Street is lined with commercial and industrial uses and parking facilities used by LIRR passengers. West Barclay Street carries between approximately 65 vph to 125 vph in each direction in the vicinity of Newbridge Road during the AM and PM peak hours.

West John Street generally has two travel lanes in each direction with turn lanes and limited curb parking in the study area. West John Street is generally lined with commercial and industrial uses and extends west into New Cassel and Westbury. In the vicinity of Newbridge Road, West John Street carries approximately 480 vph eastbound and 735 vph westbound during the AM peak hour, and approximately 880 vph eastbound and 625 vph westbound during the PM peak hour.

Detailed traffic volume maps for the AM and PM peak hours are presented in **Appendix 10**. Based on these volumes, the Synchro model was used to determine traffic levels of service. **Table 10-12** presents the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable LOS E or F. Additional detailed information is available in **Appendix 10**.

The key overall findings of the traffic level of service analyses and field observations are:

- None of the eight intersections analyzed operate at overall unacceptable LOS E or F in the AM or PM peak hours. One intersection operates above mid-LOS D in the PM peak hour, i.e., within the unacceptable range of LOS D. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all of the individual traffic movements).
- In both the AM and PM peak hours, there are individual traffic movements at specific intersections that currently operate at LOS E or F, even though the overall intersection operates acceptably. Such traffic movements occur at Newbridge Road/Duffy Avenue, Newbridge Road/Station Plaza, and at Newbridge Road/West John Street.

Table 10-12
2017 Existing Traffic Levels of Service Summary, Hicksville

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Newbridge Road at Duffy Avenue	D	36.0	Newbridge Rd SB right turn; Duffy Ave EB left turn and WB approach	D	36.5	Duffy Ave WB approach
Newbridge Road at Station Plaza	C	25.4	Station Plaza WB approach (south of the LIRR overpass)	B	12.2	Station Plaza WB approach (south of the LIRR overpass)
Newbridge Road at West John Street	D	41.5	West John Street EB left turn and WB shared through & right	D	48.8	Newbridge Rd NB left turn; West John Street EB left turn & through and WB approach
Newbridge Road at West Barclay Street	A	0.5	None	A	1.1	None
West Barclay Street at West John Street	A	0.8	None	A	1.6	None
Marion Place at West John Street	A	0.6	None	A	2.6	None
Marion Place at West Barclay Street	A	2.3	None	A	3.6	None
LIRR Parking Lot Exit at West John Street	A	1.0	None	A	1.2	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement. See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

FUTURE CONDITIONS WITHOUT THE PROPOSED PROJECT (YEAR 2020)

METHODOLOGY

The development of projected future traffic volumes without the Proposed Project incorporates three factors. The first is the annual growth rate of background traffic, i.e., the general historical growth in traffic annually exclusive of major new developments. The second is traffic expected to be generated by significant development projects in the vicinity of the traffic study areas that have obtained the necessary approvals. The third is the growth in traffic generated by increased ridership at the three LIRR ^ Stations.

For background traffic growth, an annual background traffic growth of 0.5 percent was assumed, as per the New York State Department of Transportation (NYSDOT). For traffic generated by major new developments in the vicinity of the three station/grade crossing areas, four such developments were identified in the downtown Mineola area. For traffic expected to be generated at the ^ four stations due to new riders, projections were developed in conjunction with the LIRR for year 2020 conditions without the East Side Access Project in place since the East Side Access Project is not expected to be operational until 2023 (it is included in the Year 2040 analyses later in this chapter). (See Section "Ridership", which describes ridership projections).

Additionally, under projected future conditions without the Proposed Project, gate down times would increase slightly and thus adversely affect traffic conditions in all three station/grade

crossing areas. This would be more pronounced under 2040 conditions since East Side Access would not be in place until 2023 and additional trains could not be operated until that time.

NEW HYDE PARK ^ STATION AREA

For year 2020 conditions without the Proposed Project, it was determined that there would be additional vehicle trips to/from the New Hyde Park ^ Station, as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—16 in the AM peak hour (15 vehicles to the station and 1 from the station) and 17 in the PM peak hour (1 vehicle to the station and 16 from the station).
- Additional auto pick-up or drop-off trips serving new riders—26 in the AM peak hour (13 vehicles to the station and 13 from the station) and 30 in the PM peak hour (15 vehicles to the station and 15 from the station).
- There would not be any projected additional taxi trips serving new riders.

These additional vehicle trips were assigned to routes serving the station area and added to background trips and to existing peak hour volumes, resulting in future peak hour volumes without the Proposed Project. Figures in **Appendix 10** illustrate projected future volumes in the New Hyde Park traffic study area in the year 2020. Resulting intersection levels of service are shown in **Table 10-^ 13**; additional detailed information is provided in **Appendix 10**.

This represents the background, or baseline, condition against which the potential year 2020 impacts of the Proposed Project are compared.

The key overall findings of the traffic level of service findings are:

- The same two intersections operating at overall unacceptable levels of service in the AM and PM peak hours under existing conditions (Covert Avenue at Jericho Turnpike, and New Hyde Park Road at Jericho Turnpike) would continue to do so, but no additional intersections would deteriorate into overall unacceptable LOS E or F.
- Two additional intersections would have specific traffic movements operating at LOS E or F in the AM peak hour—New Hyde Park Road/Stewart Avenue and South 12th Street/Jefferson Street/Stewart Avenue.

MINEOLA ^ STATION AREA

Traffic expected to be generated by four proposed development projects in the downtown area were added to annual background traffic growth:

- Mill Creek Searing Avenue (120, 121, and 127 Searing Avenue) which will provide 197 residential units. Weekday traffic generation is expected to be: weekday AM peak hour, 20 vehicle trips in and 81 vehicle trips out; weekday midday peak hour, 28 vehicle trips in and 28 out; weekday PM peak hour, 80 vehicle trips in and 43 out.
- Mill Creek Modera (140 Old Country Road) which will provide 285 residential units. Weekday traffic generation is expected to be: weekday AM peak hour, 15 vehicle trips in and 59 vehicle trips out; weekday midday peak hour, 20 vehicle trips in and 20 out; weekday PM peak hour, 58 vehicle trips in and 31 out.

Table 10-13
2020 No Build Traffic Levels of Service Summary, New Hyde Park

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Covert Avenue at Jericho Turnpike (Rt. 25)	E	63.7	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn	E	65.5	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn
Covert Avenue at LIRR Grade Crossing	C	34.7	None	C	26.7	None
Covert Avenue at Stewart Avenue	B	19.7	None	B	18.1	None
South 12th Street at Jericho Turnpike (Rt. 25)	B	16.8	None	B	12.3	South 12th St NB approach
South 12th Street at LIRR Grade Crossing	C	23.5	None	B	18.0	None
New Hyde Park Road at Jericho Turnpike (Rt. 25)	E	68.0	New Hyde Park Rd NB shared through & right; Jericho Tpk EB approach and WB left turn	E	73.0	New Hyde Park Rd NB approach and SB shared through & right; Jericho Tpk EB and WB approaches
New Hyde Park Road at LIRR Grade Crossing	C	31.1	None	C	22.4	None
New Hyde Park Road at Stewart Avenue	D	37.7	New Hyde Park Rd NB approach	C	24.8	None
Covert Avenue at Second Avenue	A	3.9	Second Ave WB approach	A	5.5	Second Ave WB approach
Covert Avenue at Third Avenue	A	2.5	Third Ave EB approach	A	2.9	Third Ave EB and WB approaches
South 12th Street at Second Avenue	B	10.2	None	A	9.6	None
South 12th Street at Third Avenue	A	8.9	None	A	8.2	None
South 12th Street/Jefferson Street at Stewart Avenue	A	2.5	South 12th St SB approach	A	5.6	South 12th St SB approach
New Hyde Park Road at Second Avenue	A	0.8	None	A	0.8	None
New Hyde Park Road at Clinch Avenue	A	4.6	None	A	4.0	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

- Lalezarian Village Green (199 Second Street) which will provide 296 residential units and approximately 6,975 square feet of retail space and 6,975 square feet of restaurant space. Weekday traffic generation is expected to be: weekday AM peak hour, 28 vehicle trips in and 52 vehicle trips out; weekday midday peak hour, 72 vehicle trips in and 76 out; weekday PM peak hour, 98 vehicle trips in and 68 out.
- Lalezarian One Third Avenue (250 Old Country Road) which will provide 346 residential units. Weekday traffic generation is expected to be: weekday AM peak hour, 26 vehicle trips

in and 106 vehicle trips out; weekday midday peak hour, 36 vehicle trips in and 37 out; weekday PM peak hour, 105 vehicle trips in and 56 out.

These vehicle trips were assigned to the traffic study area street network. By 2020, Third Street between Main Street and Willis Avenue would be converted from the existing one-way eastbound operation to two-way operation.

There would also be additional vehicle trips to/from the Mineola ^ Station under future 2020 conditions without the Proposed Project, as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—65 in the AM peak hour (51 vehicles to the station and 14 from the station), 30 in the midday peak hour (14 vehicles to the station and 16 from the station), and 63 in the PM peak hour (17 vehicles to the station and 46 from the station).
- Additional taxi trips serving new LIRR riders—2 in the AM peak hour (1 vehicle to and from the station), 16 in the midday peak hour (8 vehicles to and from the station), and 3 in the PM peak hour (1 vehicle to the station and 2 from the station)
- Additional auto pick-up or drop-off trips serving new riders—48 in the AM peak hour (24 vehicles to and from the station), 54 in the midday peak hour (27 vehicles to and from the station), and 50 in the PM peak hour (25 vehicles to and from the station).

These additional vehicle trips were also assigned to routes serving the station area and added to background trips, development project generated trips, and to existing peak hour volumes, resulting in future peak hour volumes without the Proposed Project. Figures in **Appendix 10** illustrate projected future volumes at the 16 Mineola ^ Station area intersections in the year 2020. Resulting intersection levels of service are shown in **Table 10-^ 14**; additional detailed information is provided in **Appendix 10**.

This represents the background, or baseline, condition against which the potential year 2020 impacts of the Proposed Project are compared.

The key overall findings of the traffic level of service analyses are:

- Two of the 18 intersections analyzed operate at overall unacceptable LOS E or F in the AM, midday, or PM peak hours—Mineola Boulevard/Franklin Avenue at Old Country Road in the AM and PM peak hours, and Roslyn Road/Washington Avenue at Old Country Road during all three peak analysis hours. Two additional intersections operate just above mid-LOS D—Mineola Boulevard/Second Street and Roslyn Road/Second Street in the PM peak hour. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all of the individual traffic movements).
- In addition to the four intersections noted above, one additional intersection—Willis Avenue at Old Country Road—would have one individual traffic movement at unacceptable LOS E or F, even if the overall intersection operates acceptably.

Table 10-14
2020 No Build Traffic Levels of Service Summary, Mineola

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (MD)	Delay (MD)	Traffic Movements at LOS E or F (MD)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Mineola Boulevard/ Franklin Avenue at Old Country Road	E	57.0	Old Country Rd EB and WB through	D	42.1	None	E	56.1	Old Country Rd WB through
Mineola Boulevard at Second Street	D	41.5	Mineola Blvd SB shared through & right	D	42.7	Mineola Blvd SB shared through & right	D	45.3	Mineola Blvd SB shared through & right; Second St WB approach
Mineola Boulevard at First Street	B	17.1	None	C	32.8	None	C	21.4	None
Willis Avenue at Old Country Road	B	15.2	Willis Ave SB right turn	B	14.8	None	B	14.9	Willis Ave SB left turn
Willis Avenue at LIRR Tracks	D	42.6	None	B	18.0	None	D	43.0	None
Willis Avenue at Second Street	C	24.4	None	C	23.1	None	C	31.9	None
Main Street at LIRR Tracks	D	40.1	None	B	16.5	None	D	39.0	None
Roslyn Road/ Washington Avenue at Old Country Road	E	63.5	Old Country Rd EB and WB through	E	57.9	Old Country Rd EB and WB through	E	57.2	Old Country Rd EB and WB through
Roslyn Road at Second Street	D	42.6	Roslyn Rd SB approach	C	23.0	None	D	46.4	Second St EB shared through & right
Main Street at Old Country Road	C	0.4	None	A	0.3	None	A	0.4	None
Main Street at First Street	A	9.3	None	A	8.7	None	B	10.4	None
Main Street at Second Street	B	11.8	None	B	11.7	None	D	29.5	Second St EB approach
Main Street at Front Street (North side of LIRR Tracks)	A	4.5	None	A	4.2	None	A	3.7	None
Main Street at Front Street (South side of LIRR Tracks)	A	3.8	None	A	2.8	None	A	2.3	None
Main Street at Third Street	A	9.7	None	A	9.1	None	B	12.2	None
Willis Avenue at First Street	A	5.3	None	A	2.9	None	A	4.2	None
Willis Avenue at Front Street	A	1.8	None	A	1.2	None	A	1.4	None
Willis Avenue at Third Street	A	5.8	None	A	4.6	None	A	8.2	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

WESTBURY/NEW CASSEL

For year 2020 conditions without the Proposed Project, it was determined that there would be additional vehicle trips to/from the Westbury, as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—22 in the AM peak hour (21 vehicles to the station and 1 from the station) and 23 in the PM peak hour (1 vehicle to the station and 22 from the station).
- Additional taxi trips serving new LIRR riders—none in the AM peak hour and 2 in the PM peak hour (1 vehicle to and from the station)
- Additional auto pick-up or drop-off trips serving new riders—24 in the AM peak hour (12 vehicles to and from the station) and 22 in the PM peak hour (11 vehicles to and from the station).

These additional vehicle trips were assigned to routes serving the station area and added to background trips and to existing peak hour volumes, resulting in future peak hour volumes without the Proposed Project. Figures in **Appendix 10** illustrate projected future volumes at the nine Westbury study area intersections in the year 2020. Resulting intersection levels of service are shown in **Table 10-15**; additional detailed information is provided in **Appendix 10**.

^ This represents the background, or baseline, condition against which the potential year 2020 impacts of the Proposed Project is compared.

The key overall findings of the traffic level of service analyses are:

^ None of the ^ 16 intersections analyzed would operate at overall unacceptable LOS E or F in the AM or PM peak hours. One intersection—School Street at Old Country Road—would operate above mid-LOS D in the AM and PM peak hours, i.e., within the unacceptable range of LOS D. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all of the individual traffic movements).

- In both the AM and PM peak hours, there are individual traffic movements at specific intersections that currently operate at unacceptable LOS E or F, even if the overall intersection operates acceptably. Such traffic movements occur at Post Avenue/Maple Avenue, Post Avenue/Union Avenue, Old Country Road/School Street, and at Urban Avenue/Railroad Avenue.

HICKSVILLE STATION AREA

For year 2020 conditions without the Proposed Project, it was determined that there would be additional vehicle trips to/from the Hicksville Station, as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—149 in the AM peak hour (129 vehicles to the station and 20 from the station) and 157 in the PM peak hour (24 vehicle to the station and 133 from the station).
- Additional taxi trips serving new LIRR riders—3 in the AM peak hour (2 vehicles to the station and 1 vehicle from the station) and 4 in the PM peak hour (2 vehicles to and from the station).
- Additional auto pick-up or drop-off trips serving new riders—74 in the AM peak hour (37 vehicles to the station and 37 from the station) and 84 in the PM peak hour (42 vehicles to the station and 42 from the station).

Table 10-15
2020 No Build Traffic Levels of Service Summary, Westbury

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Post Avenue at Maple Avenue	B	14.3	None	D	35.8	Post Av SB left turn and Maple Av EB shared through & right turn
Post Avenue at Scally Place	A	1.4	None	A	1.6	None
Post Avenue at Union Avenue	B	19.4	None	D	35.4	Post Av SB approach
Post Avenue at Railroad Avenue	B	13.1	None	C	23.7	None
School Street at Maple Avenue	B	10.9	None	B	13.5	None
School Street at Union Avenue	B	15.4	None	B	16.7	None
School Street at Grade Crossing	B	16.7	None	C	26.6	None
School Street at Old Country Road	D	52.2	School St NB and SB approaches	D	46.3	School St NB left turn and SB approach; Old Country Rd EB left turn
Urban Avenue at Prospect Avenue	B	13.6	None	B	16.4	None
Urban Avenue at Grade Crossing	A	9.8	None	C	21.4	None
Urban Avenue at Old Country Road	C	28.0	None	C	25.1	None
Old Country Road at Belmont Place/ Merillon Avenue	B	10.5	None	B	13.5	None
School Street at Railroad Avenue	A	3.7	None	A	3.8	None
Urban Avenue at Broadway	A	9.2	None	B	12.1	None
Urban Avenue at Railroad Avenue	A	3.3	None	A	6.0	Railroad Ave WB approach
Urban Avenue at Main Street	B	12.0	None	C	20.5	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement. See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

These additional vehicle trips were assigned to routes serving the station area and added to background traffic, resulting in future peak hour volumes without the Proposed Project. Figures in **Appendix 10** illustrate projected future volumes in the Hicksville traffic study area in the year 2020. Resulting intersection levels of service are shown in **Table 10-16**; additional detailed information is provided in **Appendix 10**.

Table 10-16
2020 No Build Traffic Levels of Service Summary, Hicksville

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Newbridge Road at Duffy Avenue	D	44.9	Newbridge Rd SB right turn; Duffy Ave EB left turn and WB approach	D	39.7	Duffy Ave WB approach
Newbridge Road at Station Plaza	C	28.3	Station Plaza WB approach (south of the LIRR overpass)	B	13.8	Station Plaza WB approach (south of the LIRR overpass)
Newbridge Road at West John Street	D	47.5	Newbridge Rd SB shared through & right; West John Street EB left turn and WB shared through & right	E	55.1	Newbridge Rd NB left turn and SB shared through & right; West John Street EB left turn & through and WB approach
Newbridge Road at West Barclay Street	A	0.5	None	A	1.1	None
West Barclay Street at West John Street	A	0.9	None	A	2.0	None
Marion Place at West John Street	A	0.8	None	A	3.4	None
Marion Place at West Barclay Street	A	2.2	None	A	3.6	None
LIRR Parking Lot Exit at West John Street	A	1.0	None	A	1.2	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement. See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

This represents the background, or baseline, condition against which the potential year 2020 impacts of the Proposed Project are compared.

The key overall findings of the traffic level of service analyses are:

- One of the eight intersections analyzed operates at overall unacceptable LOS E or F in the PM peak hour—Newbridge Road at West John Street. That intersection operates just above mid-LOS D in the AM peak hour i.e., within the unacceptable range of LOS D. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all of the individual traffic movements).
- In both the AM and PM peak hours, there are individual traffic movements at specific intersections that currently operate at unacceptable LOS E or F, even though the overall intersection operates acceptably. Such traffic movements occur at Newbridge Road/Duffy Avenue and Newbridge Road/Station Plaza.

FUTURE CONDITIONS WITH THE PROPOSED PROJECT (YEAR 2020)

METHODOLOGY

The evaluation of future conditions with the Proposed Project includes additional vehicular traffic that would be generated by additional trains that would be operated with the third track in place. This includes additional commuter trips by car who park at the station[1], additional auto drop-offs or pick-ups, and taxi trips serving new commuters either in the peak or reverse-commute peak direction. It also includes the construction of new parking and/or pick-up/drop-off facilities. These analyses also include the effects of eliminating all seven project area grade crossings, which would result in no queuing at the crossings and the potential diversions of some traffic from one north–south route to another depending on the grade crossing elimination options being studied.

In most cases, the elimination of grade crossings will reduce north–south vehicular traffic delays. For some conditions, the diversion of traffic from one crossing location to another—as new grade-separated crossings become available to the motoring public—could result in increases in traffic delay that would require capacity improvements such as modifying existing intersection signal timings to accommodate changes in traffic flows. "Significant traffic impacts" requiring such mitigation are defined as increases in vehicular traffic delay of ten or more seconds where conditions are at unacceptable levels of service. This is the same criterion used on other major transportation projects of regional significance, such as LIRR's East Side Access Project. Locations where significant traffic delay reduction benefits are also expected are also identified in this section of the EIS.

NEW HYDE PARK ^ STATION AREA

Three existing grade crossings have been proposed for elimination. The grade crossing at Covert Avenue is proposed for grade separation, with Covert Avenue passing under the LIRR tracks and a southbound service road on the north side of the LIRR tracks to access 2nd Avenue and a northbound service road on the south side of the LIRR tracks to access 3rd Avenue from the south. Traffic currently using Covert Avenue would continue to do so. There are two grade crossing elimination options being considered for the grade crossing at South 12th Street (closure of the street at the tracks with the diversion of traffic to Covert Avenue and/or New Hyde Park Road; or grade separation under the tracks providing for one-way southbound flow, in which case northbound traffic would be expected to divert to Covert Avenue and/or New Hyde Park Road). New Hyde Park Road would be grade-separated with New Hyde Park Road going under the LIRR tracks. The cross section of New Hyde Park Road would either provide for two northbound travel lanes and two southbound travel lanes within a four-lane cross-section, or would also add a southbound left turn lane to Clinch Avenue within a five-lane cross section. The intersection of New Hyde Park Road with Clinch Avenue would be signalized with a four-lane cross section on New Hyde Park Road.

For the purposes of this traffic analysis, two potential combinations of these options were analyzed in detail:

[1] The traffic analyses are based on the parking plan detailed in the Final SEQRA Scoping Document. The traffic study will be updated once the final parking plan for the Proposed Project has been established.

Option 1:

Closure of South 12th Street at the tracks and provision of a four-lane underpass for New Hyde Park Road beneath the LIRR tracks

Option 2:

Closure of South 12th Street at the tracks and provision of a five-lane underpass for New Hyde Park Road beneath the LIRR tracks (This is the preferred option)

With both options, the intersection of New Hyde Park Road and Second^ Avenue would be eliminated and 2nd Avenue would have a dead-end just west of New Hyde Park Road. In addition, Greenridge Avenue would intersect with Clinch Avenue east of the intersection of New Hyde Park Road and Clinch Avenue and would no longer intersect with New Hyde Park Road. Traffic levels of service are nearly identical under both of these options. Potential grade separation of South 12th Street with provision of a southbound underpass was not analyzed in detail. Existing northbound traffic on South 12th Street could be expected to divert to Covert Avenue and/or New Hyde Park Road similar to the full closure scenario analyzed and impacts could be expected to be comparable; existing southbound traffic on South 12th Street would be expected to follow similar patterns to existing and No Build conditions and could be expected to operate at similar levels of service to No Build conditions.

In addition to traffic diversions that would result from the grade crossing configurations, station ridership projections for the 2020 condition with the Proposed Project are as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—1 vehicle from the station in the AM peak hour and 1 vehicle to the station in the PM peak hour.
- Additional auto pick-up or drop-off trips serving new riders—2 in the AM peak hour (1 vehicle to and from the station) and 8 in the PM peak hour (4 vehicles to and from the station).
- There would not be any additional taxi trips serving new riders.

These new trips were assigned to the station area for taxi and auto pick-ups and drop-offs and to station parking facilities^ . Detailed traffic volume maps for the AM and PM peak hours are presented in **Appendix 10**. **Tables 10-^ 17 and 10-^ 18** present the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable levels of service E or F. Additional detailed information is available in **Appendix 10**.

The findings of the traffic level of service analyses for both Build options are nearly identical, which is expected since the primary difference between the two is the provision of a four-lane section (Build Option 1) or a five-lane section (Build Option 2) for the New Hyde Park Road underpass below the LIRR tracks. Build Option 1 also includes a new pick-up/drop-off facility along the west side of New Hyde Park Road; Build Option 2 includes the same new pick-up/drop-off facility plus a new 95-space surface parking lot on the north side of the tracks at the station house.

Table 10-^ 17
2020 Build Traffic Levels of Service Summary, New Hyde Park
Option 1: Four-Lane New Hyde Park Road Underpass and Closure of South 12th Street

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Covert Avenue at Jericho Turnpike (Rt. 25)	E	74.3	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn	E	73.1	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn
Covert Avenue at Stewart Avenue	C	21.0	None	C	17.6	None
South 12th Street at Jericho Turnpike (Rt. 25)	A	9.7	None	A	7.6	South 12th St NB approach
South 12th Street at Grade Crossing[1]	-	-	-	-	-	-
New Hyde Park Road at Jericho Turnpike (Rt. 25)	E	70.8	New Hyde Park Rd NB shared through & right; Jericho Tpk EB approach and WB left turn	E	79.3	New Hyde Park Rd NB approach and SB shared through & right; Jericho Tpk EB and WB approaches
New Hyde Park Road at Stewart Avenue	D	37.0	New Hyde Park Rd NB approach	C	24.7	None
Covert Avenue at Second Avenue	A	4.6	None	A	5.4	None
Covert Avenue at Third Avenue	A	0.1	None	A	1.9	None
South 12th Street at Second Avenue	A	8.1	None	A	7.6	None
South 12th Street at Third Avenue	A	7.1	None	A	7.2	None
South 12th Street/Jefferson Street at Stewart Avenue	A	1.7	None	A	2.2	None
New Hyde Park Road at Clinch Avenue	A	8.9	None	A	9.9	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Table 10-^ 18
2020 Build Traffic Levels of Service Summary, New Hyde Park Option 2^ (Preferred): Five-Lane New Hyde Park Road Underpass and Closure of South 12th Street

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Covert Avenue at Jericho Turnpike (Rt. 25)	E	73.9	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn	E	72.8	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn
Covert Avenue at Stewart Avenue	C	21.0	None	C	17.6	None
South 12th Street at Jericho Turnpike (Rt. 25)	A	9.8	None	A	7.6	South 12th St NB approach
South 12th Street at Grade Crossing[1]	-	-	-	-	-	-
New Hyde Park Road at Jericho Turnpike (Rt. 25)	E	70.8	New Hyde Park Rd NB shared through & right; Jericho Tpk EB approach and WB left turn	E	79.3	New Hyde Park Rd NB approach and SB shared through & right; Jericho Tpk EB and WB approaches
New Hyde Park Road at Stewart Avenue	D	37.0	New Hyde Park Rd NB approach	C	24.7	None
Covert Avenue at Second Avenue	A	4.4	None	A	5.4	None
Covert Avenue at Third Avenue	A	0.1	None	A	1.9	None
South 12th Street at Second Avenue	A	8.1	None	A	7.6	None
South 12th Street at Third Avenue	A	7.1	None	A	7.1	None
South 12th Street/Jefferson Street at Stewart Avenue	A	1.7	None	A	2.2	None
New Hyde Park Road at Clinch Avenue	A	4.1	None	A	2.9	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Under both Build options, there would be the following significant adverse traffic impacts which can be mitigated, as described below:

- Covert Avenue and Jericho Turnpike— AM peak hour impacts would occur for the northbound Covert Avenue shared through-right movement and westbound Jericho Turnpike left-turn movement with both Build options, and PM peak hour impacts would occur for the northbound Covert Avenue left-turn movement with both Build options and the eastbound shared through-right movement with Build Option 1. Impacts identified for the AM and PM peak hours can be mitigated by reconfiguring the southbound approach to require all exits from the retail site to be made on the North Sixth Street side of the property and by modifying the traffic signal timing plan.

- New Hyde Park Road and Jericho Turnpike— PM peak hour impacts would occur for the eastbound Jericho Turnpike shared through-right movement and westbound Jericho Turnpike left-turn movement with both Build options. Impacts identified for the PM peak hour can be mitigated by modifying the traffic signal timing plan and by prohibiting parking along approximately 250 feet from the stop bar on the south side of eastbound Jericho Turnpike during the 5-6 PM peak hour.

In addition, the intersection of New Hyde Park Road at Clinch Avenue would be signalized as part of the Proposed Project under Build Option 1 and would operate at acceptable levels of service.

The above mitigation measures would reduce any increases in traffic delay for critical movements operating at unacceptable LOS D, E, or F to fewer than ten seconds above No Build traffic delays, which are not considered significant. Detailed traffic level of service tables and schematic drawings of proposed traffic mitigation measures are presented in **Appendix 10**.

Average and 95th Percentile queue lengths are presented below in **Table 10-^ 19**. Queues at the three grade crossings in New Hyde Park extend to as many as approximately 34 vehicles per lane on southbound Covert Avenue during the PM peak hour under Existing Conditions and could be expected to increase by up to 5 vehicles per lane in each direction during peak hours between Existing and 2020 No Build Conditions. Queues would increase in the 2020 No Build Condition due to the growth in vehicular traffic volumes and additional time that LIRR gates are in the down position due to additional trains operating along the LIRR Main Line. Queues at each of the grade crossings would be eliminated ^ with Build Option 1 and Build Option 2 due to the elimination of existing grade crossings and proposed underpasses. Elimination of queues at the grade crossings could be expected to result in smoother traffic flow along these corridors.

MINEOLA ^ STATION AREA

Two existing grade crossings have been proposed for elimination. There are two options for Main Street—closure of the street with the diversion of traffic to other adjacent grade-separated crossings; or construction of an underpass under the LIRR tracks with Main Street operating one-way northbound.

There are also two options for Willis Avenue, both of which involve grade-separating the crossing by bringing Willis Avenue under the tracks: one option would build a two-way underpass, while the second option would make the underpass one-way southbound.

For the purposes of this traffic analysis, two potential combinations of these options were analyzed in detail:

Option 1:

Closure of Main Street at the LIRR tracks and provision of a two-way underpass for Willis Avenue beneath the tracks (This is the preferred option at this location).

Option 2:

Provision of a pair of one-way underpasses, with Main Street one-way northbound and Willis Avenue one-way southbound.

Table 10-^ 19

Queue Lengths at LIRR Grade Crossings, New Hyde Park

LIRR Grade Crossing Approach	Queues	AM Peak Hour				PM Peak Hour			
		Existing	2020 No Build	2020 Build Option 1	2020 Build Option 2	Existing	2020 No Build	2020 Build Option 1	2020 Build Option 2
NB Covert Avenue	50th Percentile Queue (veh/lane)	29	30	-	-	13	13	-	-
	95th Percentile Queue (veh/lane)	36	37	-	-	16	16	-	-
SB Covert Avenue	50th Percentile Queue (veh/lane)	16	16	-	-	28	29	-	-
	95th Percentile Queue (veh/lane)	17	17	-	-	34	35	-	-
NB South 12th Street	50th Percentile Queue (veh/lane)	5	5	-	-	4	4	-	-
	95th Percentile Queue (veh/lane)	7	8	-	-	4	5	-	-
SB South 12th Street	50th Percentile Queue (veh/lane)	4	4	-	-	5	5	-	-
	95th Percentile Queue (veh/lane)	5	5	-	-	6	7	-	-
NB New Hyde Park Road	50th Percentile Queue (veh/lane)	21	22	-	-	8	8	-	-
	95th Percentile Queue (veh/lane)	24	25	-	-	9	9	-	-
SB New Hyde Park Road	50th Percentile Queue (veh/lane)	10	9	-	-	16	17	-	-
	95th Percentile Queue (veh/lane)	12	11	-	-	18	19	-	-

Note: The 95th percentile queue is the queue length (in vehicles per lane) that has a 95% probability of not being exceeded during the peak hour. The 50th percentile queue is the average queue length (in vehicles per lane) during a typical gate down condition.

With the first option, Willis Avenue would have a northbound one-way service road beginning at Third Street that would be used to access westbound Front Street. South of the LIRR tracks, Main Street would terminate at the LIRR tracks on either side of the tracks. With the second option, Main Street would be converted to a one-way northbound street between Third and Second Streets with a northbound one-lane service road between Third Street and Front Street and northbound one-way service road between Station Plaza and Second Street. Front Street between Main Street and Roslyn Road would be converted from the existing one-way westbound street to a one-way eastbound street; Front Street would intersect with a southbound Willis Avenue service road that would begin south of the LIRR tracks and intersect with the southbound Willis Avenue underpass at the intersection of Willis Avenue and Third Street.

In addition to traffic diversions that would result from the grade crossing configurations, station ridership projections for the 2020 condition with the Proposed Project are projected as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—9 in the AM peak hour (2 vehicles to the station and 7 from the station) and 16 in the PM peak hour (13 vehicles to the station and 3 from the station).
- Additional taxi trips serving new LIRR riders—5 in the AM peak hour (3 vehicles to the station and 2 from the station) and 6 in the PM peak hour (3 vehicles to and from the station)
- Additional auto pick-up or drop-off trips serving new riders—22 in the AM peak hour (11 vehicles to and from the station) and 30 in the PM peak hour (15 vehicles to and from the station).
- There would not be any additional vehicle trips during the midday peak hour.

These new trips were assigned to the station area for taxi and auto pick-ups and drop-offs and to station parking facilities, including additional parking that would be built as part of the Proposed Project. Detailed traffic volume maps for the AM, midday, and PM peak hours are presented in **Appendix 10**. **Tables 10-^ 20 and 10-^ 21** present the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable levels of service E or F. Additional detailed information is available in **Appendix 10**.

Table 10-^ 20
2020 Build Traffic Levels of Service Summary, Mineola
Option 1^ (Preferred): Two-Way Willis Avenue Underpass and Closure of Main Street

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (MD)	Delay (MD)	Traffic Movements at LOS E or F (MD)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Mineola Boulevard/ Franklin Avenue at Old Country Road	E	64.0	Old Country Rd EB and WB through	D	46.5	Old Country Rd EB through and WB left turn	E	60.5	Old Country Rd EB left turn, and WB left turn and through
Mineola Boulevard at Second Street	^ C	^ 35.0	Mineola Blvd SB shared through & right	^ C	^ 32.8	Mineola Blvd SB shared through & right	D	^ 39.2	Mineola Blvd SB shared through & right
Mineola Boulevard at First Street	B	^ 18.3	None	C	^ 24.2	None	C	^ 22.4	None
Willis Avenue at Old Country Road	B	^ 18.3	Willis Ave SB right turn	C	^ 24.7	Willis Ave SB approach	C	22.^ 2	Willis Ave SB approach
Willis Avenue at Third Street	D	^ 41.5	None	D	48.^ 1	None	E	^ 70.3	^ Third St EB ^ approach
Willis Avenue at Second Street	C	24.^ 7	None	C	23.8	None	D	36.^ 1	None
Roslyn Road/ Washington Avenue at Old Country Road	E	65.8	Old Country Rd EB and WB through	E	60.9	Old Country Rd EB and WB through	E	60.3	Old Country Rd EB and WB through
Roslyn Road at Second Street	D	41.^ 5	Roslyn Road SB approach	C	22.8	None	D	45.7	Second St EB shared through & right
Main Street at Old Country Road	A	0.3	None	A	0.2	None	A	0.3	None
Main Street at First Street	A	9.^ 2	None	A	8.^ 6	None	A	9.^ 9	None
Main Street at Second Street	B	^ 12.6	None	B	11.^ 4	None	C	^ 20.9	None
Main Street at Front Street (North side of LIRR Tracks)	A	7.^ 6	None	A	7.6	None	A	7.5	None
Main Street at Front Street (South side of LIRR Tracks)	A	7.^ 8	None	A	7.8	None	A	7.2	None
Main Street at Third Street	A	9.^ 6	None	A	9.^ 1	None	B	10.^ 4	None
Willis Avenue at First Street	A	6.0	None	A	3.2	None	A	4.4	None
Willis Avenue at Front Street	A	8.^ 1	None	A	7.9	None	A	1.2^	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Table 10-^ 21
2020 Build Traffic Levels of Service Summary, Mineola
Option 2: One-Way Northbound Main Street and One-Way Southbound Willis Avenue Underpasses

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (MD)	Delay (MD)	Traffic Movements at LOS E or F (MD)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Mineola Boulevard/ Franklin Avenue at Old Country Road	E	58.2	Old Country Rd EB and WB through	D	42.1	None	E	57.5	Old Country Rd WB through
Mineola Boulevard at Second Street	D	^ 43.5	Mineola Blvd SB shared through & right	D	^ 46.7	Mineola Blvd SB shared through & right	D	^ 46.5	Mineola Blvd SB shared through & right
Mineola Boulevard at First Street	B	^ 18.3	None	D	42.^ 7	Mineola Blvd NB approach	C	^ 23.6	None
Main Street at Second Street	C	29.^ 0	None	C	24.^ 2	None	D	^ 48.8	Main St SB approach; Second St EB approach
Willis Avenue at Old Country Road	B	12.^ 5	None	B	14.4	None	B	14.^ 6	Willis Ave SB left turn
Willis Avenue at Third Street	B	17.^ 7	None	B	18.^ 2	None	^ C	^ 34.9	None
Willis Avenue at Second Street	C	^ 31.3	None	C	27.^ 8	None	E	^ 70.5	Second St EB approach
Roslyn Road/ Washington Avenue at Old Country Road	E	61.2	Old Country Rd EB and WB through	E	55.3	Old Country Rd EB and WB through	E	55.1	Old Country Rd EB and WB through
Roslyn Road at Second Street	D	^ 46.0	Roslyn Rd SB approach	C	23.^ 7	None	D	49.^ 6	Roslyn Rd SB approach; Second St EB shared through &right
Main Street at Old Country Road	A	0.5	None	A	0.4	None	A	0.5	None
Main Street at First Street	A	9.^ 6	None	A	8.8	None	B	10.^ 8	None
Main Street at Front Street (North side of LIRR Tracks)	A	9.0	None	A	9.0	None	A	8.9	None
Main Street at Third Street	B	12.^ 0	None	B	11.^ 3	None	D	^ 16.6	^ None
Willis Avenue at First Street	A	9.^ 6	First St EB approach	A	4.5	None	^ A	5.8	^ None
Willis Avenue at Front Street	A	0.0	None	A	0.0	None	A	0.0	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Under Build Option 1 (Main Street closed and a two-way underpass for Willis Avenue under the LIRR tracks) there would be significant adverse traffic impacts at several intersections which could be mitigated as follows:

- Mineola Boulevard/Franklin Avenue at Old Country Road—AM peak hour impacts would occur for the eastbound Old Country Road through movement and midday and PM peak hour impacts would occur for westbound Old Country Road left turns, and could be mitigated by restriping the westbound Old Country Road approach as one 12 foot left-turn lane, two 11 foot through lanes, and one 10 foot right-turn lane and by modifying the traffic signal timing plan.
- Willis Avenue at Old Country Road—AM, midday, and PM peak hour impacts would occur for the southbound Willis Avenue approach and could be mitigated by modifying the traffic signal phasing and timing plan during all three peak hours.

In addition, the intersection of Willis Avenue at Third Street would be signalized as part of the Proposed Project. AM peak hour impacts would occur for the northbound Willis Avenue and eastbound Third Street approaches and Midday and PM peak hour impacts would occur for the northbound and southbound Willis Avenue and eastbound Third Street approaches. Impacts could be mitigated by prohibiting parking for 250 feet from the stopbar on the eastbound Third Street approach and restriping the approach as one 10 foot left-turn lane and one 10 foot right-turn lane, and by prohibiting parking 250 feet from the intersection on the westbound Third street receiving side of the intersection.

The above mitigation measures would reduce any increases in traffic delay for critical movements operating at unacceptable LOS D, E, or F to fewer than ten seconds above No Build traffic delays, which are not considered significant. Detailed traffic level of service tables and schematic drawings of proposed traffic mitigation measures are presented in **Appendix 10**.

Under Build Option 2 (Main Street northbound underpass and Willis Avenue southbound underpass) there would be significant adverse traffic impacts at several intersections which could be mitigated as follows:

- Mineola Boulevard at Second Street—^ Midday peak hour impacts to the southbound Mineola Boulevard through and right turn movement could be mitigated by modifying the traffic signal timing plan.
- Mineola Boulevard at First Street—Midday peak hour impacts to the northbound Mineola Boulevard approach could be mitigated by modifying the traffic signal timing plan.
- Main Street at Second Street—PM peak hour impacts to the northbound and southbound Main Street approaches and eastbound Second Street approach could be mitigated by shifting the centerline one foot to the north and prohibiting parking for 100 feet from the stopbar on the eastbound Second Street approach and 50 feet on the receiving side of the intersection; restriping the eastbound Second Street approach as one 10 foot left-turn lane and one 10 foot through lane; shifting the centerline five feet to the east and prohibiting parking for 200 feet on the southbound Main Street approach; restriping the southbound Main Street approach as one 12 foot left-turn lane and one 10 foot right-turn lane; prohibiting parking for 200 feet along the east curb of the northbound Main Street receiving side of the intersection; and modifying the signal timing and phasing plan.
- Willis Avenue at Second Street—AM and PM peak hour impacts to the eastbound Second Street approach could be mitigated by modifying the traffic signal timing plan.

In addition, the intersections of Willis Avenue at Third Street and Main Street at Second Street would be signalized as part of the Proposed Project.

The above mitigation measures would reduce any increases in traffic delay for critical movements operating at unacceptable LOS D, E, or F to fewer than ten seconds above No Build traffic delays, which are not considered significant. Detailed traffic level of service tables and schematic drawings of proposed traffic mitigation measures are presented in **Appendix 10**.

Average and 95th Percentile queue lengths are presented below in **Table 10-^ 22**. Queues at the two grade crossings in Mineola extend to as many as approximately 13 vehicles per lane on Southbound Willis Avenue during the PM peak hour under Existing conditions and could be expected to grow by up to 5 vehicles per lane in each direction during peak hours between Existing and 2020 No Build conditions. Queues would grow longer in the 2020 No Build condition due to the growth in vehicular traffic volumes and additional time that LIRR gates are in the down position due to additional trains operating along the LIRR Main Line. Queues at each of the grade crossings would be eliminated ^ with Build Option 1 and Build Option 2 due to the elimination of existing grade crossings and proposed underpasses. Elimination of queues at the grade crossings could be expected to result in smoother traffic flow along these corridors.

Table 10-^ 22
Queue Lengths at LIRR Grade Crossings, Mineola

LIRR Grade Crossing Approach	Queues	AM Peak Hour				Midday Peak Hour				PM Peak Hour			
		Existing	2020 No Build	2020 Build Option 1	2020 Build Option 2	Existing	2020 No Build	2020 Build Option 1	2020 Build Option 2	Existing	2020 No Build	2020 Build Option 1	2020 Build Option 2
NB Main Street	50th Percentile Queue (veh/lane)	4	4	-	-	4	6	-	-	4	6	-	-
	95th Percentile Queue (veh/lane)	5	6	-	-	6	7	-	-	6	9	-	-
SB Main Street	50th Percentile Queue (veh/lane)	2	3	-	-	2	3	-	-	1	2	-	-
	95th Percentile Queue (veh/lane)	3	5	-	-	3	4	-	-	2	4	-	-
NB Willis Avenue	50th Percentile Queue (veh/lane)	6	7	-	-	6	7	-	-	8	10	-	-
	95th Percentile Queue (veh/lane)	8	10	-	-	8	9	-	-	12	13	-	-
SB Willis Avenue	50th Percentile Queue (veh/lane)	6	7	-	-	10	11	-	-	10	11	-	-
	95th Percentile Queue (veh/lane)	9	10	-	-	11	13	-	-	13	14	-	-

Note: The 95th percentile queue is the queue length (in vehicles per lane) that has a 95% probability of not being exceeded during the peak hour. The 50th percentile queue is the average queue length (in vehicles per lane) during a typical gate down condition.

WESTBURY ^ STATION AREA/NEW CASSEL

The existing grade crossings of Urban Avenue and School Street are proposed as grade-separated underpasses beneath the LIRR tracks. Urban Avenue would have a northbound one-way service road on the south side of the LIRR tracks to access local businesses. This plan was analyzed in detail.

In addition to traffic diversions that would result from the grade crossing configurations, station ridership projections for the 2020 condition with the Proposed Project are as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station^ 1 vehicle from the station in the AM peak hour and 1 vehicle to the station in the PM peak hour.

- Additional taxi trips serving new LIRR riders^ —2 in the AM peak hour (1 vehicle to and from the station) and 2 in the ^ PM peak hour (1 vehicle to and from the station).
- Additional auto pick-up or drop-off trips serving new riders^ —20 in the AM peak hour (10 vehicles to and from the station) and 12 in the PM peak hour (6 vehicles to and from the station).

These new trips were assigned to the station area for taxi and auto pick-ups and drop-offs and to station parking facilities. Detailed traffic volume maps for the AM and PM peak hours are presented in in **Appendix 10**. **Table 10-^ 23** presents the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable levels of service E or F. Additional detailed information is available in **Appendix 10**.

Table 10-^ 23
2020 Build Traffic Levels of Service Summary, Westbury

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Post Avenue at Maple Avenue	B	14.3	None	D	36.0	Post Av SB left turn and Maple Av EB shared through & right
Post Avenue at Scally Place	A	1.4	None	A	1.6	None
Post Avenue at Union Avenue	C	23.5	None	D	37.2	Post Av SB approach
Post Avenue at Railroad Avenue	B	13.2	None	C	24.1	None
School Street at Maple Avenue	B	11.0	None	B	13.5	None
School Street at Union Avenue	B	^ 14.7	None	B	^ 16.3	None
School Street at Railroad Avenue	A	^ 5.4	None	A	6.7^	None
School Street at Old Country Road	D	52.4	School St NB and SB approaches	D	46.^ 4	School St NB left turn and SB approach; Old Country Rd EB left turn
Urban Avenue at Prospect Avenue	B	13.6	None	B	16.4	None
Urban Avenue at Old Country Road	C	28.2	None	C	25.1	Urban Ave SB right turn; Old Country Rd EB left turn
Old Country Road at Belmont Place/ Merillon Avenue	B	10.4	None	B	13.5	None
Urban Avenue at Broadway	B	10.7	None	C	24.^ 5	None
Urban Avenue at Main Street	B	12.0	None	C	20.5	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

^ The southbound Post Avenue approach at Union Avenue would be significantly impacted during the AM peak hour and could be mitigated by modifying the traffic signal timing plan. The intersection of School Street and Railroad Avenue would be signalized as part of the Proposed Project and would operate at acceptable levels of service. Detailed traffic level of service tables are presented in **Appendix 10**.

Average and 95th Percentile queue lengths are presented below in **Table 10-^ 24**. Queues at the two grade crossings in Westbury extend to as many as approximately 16 vehicles per lane on Northbound Urban Avenue during the PM peak hour under Existing conditions and could be expected to grow by

up to 5 vehicles per lane in each direction during peak hours between Existing and 2020 No Build conditions. Queues would grow longer in the 2020 No Build condition due to the growth in vehicular traffic volumes and additional time that LIRR gates are in the down position due to additional trains operating along the LIRR Main Line. Queues at each of the grade crossings would be eliminated ^ with Build Option 1 and Build Option 2 due to the elimination of existing grade crossings and proposed underpasses. Elimination of queues at the grade crossings could be expected to result in smoother traffic flow along these corridors.

Table 10-^ 24
Queue Lengths at LIRR Grade Crossings, Westbury

LIRR Grade Crossing Approach	Queues	AM Peak Hour			PM Peak Hour		
		Existing	2020 No Build	2020 Build	Existing	2020 No Build	2020 Build
NB School Street	50th Percentile Queue (veh/lane)	11	11	-	11	12	-
	95th Percentile Queue (veh/lane)	13	14	-	15	15	-
SB School Street	50th Percentile Queue (veh/lane)	6	7	-	12	13	-
	95th Percentile Queue (veh/lane)	8	9	-	15	16	-
NB Urban Avenue	50th Percentile Queue (veh/lane)	5	5	-	13	13	-
	95th Percentile Queue (veh/lane)	6	7	-	16	17	-
SB Urban Avenue	50th Percentile Queue (veh/lane)	5	6	-	9	9	-
	95th Percentile Queue (veh/lane)	7	7	-	11	12	-

Note: The 95th percentile queue is the queue length (in vehicles per lane) that has a 95% probability of not being exceeded during the peak hour. The 50th percentile queue is the average queue length (in vehicles per lane) during a typical gate down condition.

HICKSVILLE STATION AREA

Two parking garages would be built to replace existing surface parking lots near the Hicksville LIRR Station to accommodate LIRR riders. A 583-space parking garage would replace an existing surface parking lot on the south side of West Barclay Street at Marion Place and a 675-space parking garage would be built on the north side of West Barclay Street between Marion Place and Newbridge Road. Station ridership projections for the 2020 condition with the Proposed Project are as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—15 in the AM peak hour (3 vehicles to the station and 12 from the station) and 21 in the PM peak hour (18 vehicles to the station and 3 from the station).
- Additional taxi trips serving new LIRR riders—6 in the AM peak hour (3 vehicles to and from the station) and 8 the PM peak hour (4 vehicles to and from the station).
- Additional auto pick-up or drop-off trips serving new riders—28 in the AM peak hour (14 vehicles to and from the station) and 40 in the PM peak hour (20 vehicles to and from the station).

These new trips were assigned to the station area for taxi and auto pick-ups and drop-offs and to station parking facilities. Detailed traffic volume maps for the AM and PM peak hours are presented in in **Appendix 10**. **Table 10-25** presents the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable levels of service E or F. Additional detailed information is available in **Appendix 10**.

Table 10-25
2020 Build Traffic Levels of Service Summary, Hicksville

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Newbridge Road at Duffy Avenue	D	39.2	Newbridge Rd SB right turn; Duffy Ave EB left turn and WB approach	D	39.1	Duffy Ave WB approach
Newbridge Road at Station Plaza	C	28.4	Station Plaza WB approach (south of the LIRR overpass)	B	14.3	Station Plaza WB approach (south of the LIRR overpass)
Newbridge Road at West John Street	D	53.1	Newbridge Rd SB shared through & right; West John Street EB left turn and WB shared through & right	E	61.9	Newbridge Rd NB left turn and SB shared through & right; West John Street EB left turn & through and WB approach
Newbridge Road at West Barclay Street	A	0.5	None	A	1.2	None
West Barclay Street at West John Street	A	1.0	None	A	2.0	None
Marion Place at West John Street	A	1.1	None	A	4.8	None
Marion Place at West Barclay Street	A	3.5	None	A	5.2	None
LIRR Parking Lot Exit at West John Street	A	1.3	None	A	1.8	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement. See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

The southbound Newbridge Road shared through and right turn movements at West John Street would be significantly impacted during the AM peak hour and the eastbound West John Street left turn movement would be significantly impacted during both AM and PM peak hours and could be mitigated by modifying the traffic signal timing plan and prohibiting curbside parking along southbound Newbridge Road for an additional 75 feet beyond existing parking restrictions that currently extend for approximately 175 feet from the stopbar. Detailed traffic level of service tables are presented in **Appendix 10**.

FUTURE CONDITIONS WITHOUT THE PROPOSED PROJECT (YEAR 2040)

METHODOLOGY

The development of projected future traffic volumes without the Proposed Project in 2040 incorporates the same annual background traffic growth rate of 0.5 percent per year as was applied for year 2020 conditions, plus the significant growth in LIRR ridership projected to occur once East Side Access service is provided. Additionally, under projected future conditions without the Proposed Project, gate down times would increase due to more trains operated with East Side Access; this would adversely affect traffic conditions in all three station/grade crossing areas.

NEW HYDE PARK ^ STATION AREA

For year 2040 conditions without the Proposed Project, it was determined that there would be additional vehicle trips to/from the New Hyde Park ^ Station, as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station^ —150 in the AM peak hour (143 vehicles to the station and 7 from the station) and 161 in the PM peak hour (11 vehicles to the station and 150 from the station).
- Additional taxi trips serving new LIRR riders^ —4 in the AM peak hour (2 vehicles to and from the station) and 6 in the PM peak hour (3 vehicles to and from the station)
- Additional auto pick-up or drop-off trips serving new riders^ —246 in the AM peak hour (123 vehicles to and from the station) and 270 in the PM peak hour (135 vehicles to and from the station).

These additional vehicle trips were assigned to routes serving the station area and added to background traffic, resulting in future peak hour volumes without the Proposed Project. Figures in **Appendix 10** illustrate projected future volumes in the New Hyde Park traffic study area in the year 2040. Resulting intersection levels of service are shown in **Table 10-^ 26**; additional detailed information is provided in **Appendix 10**.

The key overall findings of the traffic level of service analyses are:

- In addition to the intersection of Covert Avenue at Jericho Turnpike and New Hyde Park Road at Jericho Turnpike, one additional intersection—New Hyde Park Road at Second Avenue—would also operate at overall unacceptable LOS E or F.
- With the additional background traffic growth of 0.5 percent per year for 20 years plus additional vehicle trips generated to and from the New Hyde Park train station as a result of more LIRR trains operating with East Side Access in place, several additional intersections would have one or more traffic movements operating at unacceptable LOS E or F even if the "overall" intersection operates acceptably.

This represents the year 2040 background, or baseline, condition against which the potential impacts of the Proposed Project are compared.

MINEOLA STATION AREA

In addition to the four development projects included in the Year 2020 analyses, for year 2040 conditions without the Proposed Project, it was determined that there would be additional vehicle trips to/from the Mineola Station, as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—643 in the AM peak hour (516 vehicles to the station and 127 from the station), 83 in the midday peak hour (38 vehicles to the station and 45 from the station), and 576 in the PM peak hour (142 vehicles to the station and 434 from the station).
- Additional taxi trips serving new LIRR riders—16 in the AM peak hour (8 vehicles to and from the station), 42 in the midday peak hour (21 vehicles to and from the station), and 21 in the PM peak hour (11 vehicles to the station and 10 from the station)
- Additional auto pick-up or drop-off trips serving new riders—458 in the AM peak hour (229 vehicles to and from the station), 148 in the midday peak hour (74 vehicles to and from the station), and 428 in the PM peak hour (214 vehicles to and from the station).

Table 10-26

2040 No Build Traffic Levels of Service Summary, New Hyde Park

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Covert Avenue at Jericho Turnpike (Rt. 25)	F	96.7	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn	F	101.1	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn
Covert Avenue at Grade Crossing	D	43.1	None	C	30.6	None
Covert Avenue at Stewart Avenue	C	26.4	Covert Ave (south leg) NB through	C	31.6	Covert Ave (north leg) SB shared through & right; Covert Ave (south leg) NB right turn
South 12th Street at Jericho Turnpike (Rt. 25)	D	51.5	Jericho Tpk EB approach	C	25.5	South 12th St NB approach
South 12th Street at Grade Crossing	C	26.4	None	B	19.2	None
New Hyde Park Road at Jericho Turnpike (Rt. 25)	F	111.3	New Hyde Park Rd NB approach, and SB left turn; Jericho Tpk. EB and WB approaches	F	116.7	New Hyde Park Rd NB and SB approaches; Jericho Tpk EB and WB approaches
New Hyde Park Road at Grade Crossing	D	37.5	None	C	24.8	None
New Hyde Park Road at Stewart Avenue	E	71.1	New Hyde Park Rd NB approach	C	30.7	None
Covert Avenue at Second Avenue	C	16.1	Second Ave EB and WB approaches	B	14.8	Second Ave EB and WB approaches
Covert Avenue at Third Avenue	A	4.3	Third Ave EB and WB approaches	A	7.1	Third Ave EB and WB approaches
South 12th Street at Second Avenue	C	17.4	None	C	15.6	None
South 12th Street at Third Avenue	B	10.3	None	A	9.5	None
South 12th Street/ Jefferson Street at Stewart Avenue	A	3.2	South 12th St SB approach	B	10.8	South 12th St NB and SB approaches
New Hyde Park Road at Second Avenue	A	1.2	None	A	1.6	None
New Hyde Park Road at Clinch Avenue	A	6.6	None	A	4.8	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

^ These additional vehicle trips were assigned to routes serving the station area and added to background traffic, resulting in future peak hour volumes without the Proposed Project. As noted earlier, Third Street between Main Street and Willis Avenue would be converted from the existing one-way eastbound operation to two-way operation. Figures in **Appendix 10** illustrate projected future volumes in the New Hyde Park traffic study area in the year 2040. Resulting intersection levels of service are shown in **Table 10-^ 27**; additional detailed information is provided in **Appendix 10**.

Table 10-27
2040 No Build Traffic Levels of Service Summary, Mineola

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (MD)	Delay (MD)	Traffic Movements at LOS E or F (MD)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Mineola Boulevard/ Franklin Avenue at Old Country Road	F	112.0	Old Country Rd EB and WB left turn and through	E	57.9	Mineola Blvd SB left turn; Old Country Rd EB through and WB left turn and through	F	90.5	Mineola Blvd SB left turn; Old Country Rd EB approach and WB left turn and through
Mineola Boulevard at Second Street	F	165.9	Mineola Blvd SB shared through & right; Second St WB approach	E	77.4	Mineola Blvd SB shared through & right	F	118.1	Mineola Blvd SB shared through & right; Second St WB approach
Mineola Boulevard at First Street	C	26.6	First St EB approach	F	91.8	Mineola Blvd NB approach	E	71.9	Mineola Blvd NB approach; First St EB and WB approaches
Willis Avenue at Old Country Road	B	17.9	Willis Ave SB right turn	B	16.3	Willis Ave SB left turn	B	16.5	Willis Ave SB left turn
Willis Avenue at Grade Crossing	D	52.6	None	B	18.5	None	D	49.6	None
Willis Avenue at Second Street	C	28.4	None	C	24.7	None	E	68.3	Second St EB approach
Main Street at Grade Crossing	D	46.6	None	B	16.6	None	D	41.6	None
Roslyn Road/ Washington Avenue at Old Country Road	F	117.5	Old Country Rd EB through and WB left turn and through	F	97.0	Old Country Rd EB and WB through	F	99.3	Old Country Rd EB and WB through
Roslyn Road at Second Street	F	89.3	Roslyn Rd SB approach	C	25.1	None	F	126.2	Roslyn Rd NB shared through & right and SB approach; Second St EB approach
Main Street at Old Country Road	A	0.5	None	A	0.4	None	A	0.4	None
Main Street at First Street	A	9.9	None	A	9.0	None	B	11.8	None
Main Street at Second Street	C	19.1	None	B	13.3	None	F	82.2	Main St SB approach; Second St EB approach
Main Street at Front Street (North side of LIRR Tracks)	A	4.2	None	A	4.2	None	A	3.7	None
Main Street at Front Street (South side of LIRR Tracks)	A	5.5	None	A	3.2	None	A	3.9	None
Main Street at Third Street	B	12.2	None	A	9.7	None	C	23.9	Third St EB approach
Willis Avenue at First Street	C	16.0	First St EB approach	A	3.5	None	D	29.4	First St EB approach
Willis Avenue at Front Street	A	2.2	None	A	1.3	None	A	1.9	None
Willis Avenue at Third Street	A	9.9	None	A	5.5	None	C	21.7	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

With the additional background traffic growth of 0.5 percent per year for 20 years plus additional vehicle trips generated to and from the Mineola train station as a result of more LIRR trains operating with East Side Access in place, several additional intersections or intersection movements would operate at unacceptable LOS E or F, as noted below:

- Of the 18 intersections analyzed, four intersections would operate at overall unacceptable LOS E or F in the AM and midday peak hours and seven would operate at overall LOS E or F in the PM peak hour. This would include the intersections of Mineola Boulevard/Franklin Avenue at Old Country Road, Mineola Boulevard at Second Street, and Roslyn Road/Washington Avenue at Old Country Road during all three peak traffic analysis hours. The intersections of Mineola Boulevard at First Street would operate at overall LOS E or F in the midday and PM peak hours, the intersection of Roslyn Road at Second Street would operate at overall LOS E or F in the AM and PM peak hours, and the intersections of Willis Avenue at Second Street and Main Street and Second Street would operate at overall LOS E or F in the PM peak hour.
- In addition to the intersections noted above, several additional intersections would have one or more individual traffic movements at LOS E or F even if the overall intersections would be operating at overall acceptable levels of service.

This represents the year 2040 background, or baseline, condition against which the potential impacts of the Proposed Project are compared.

WESTBURY ^ STATION AREA/NEW CASSEL

For year 2040 conditions without the Proposed Project, it was determined that there would be additional vehicle trips to/from the Westbury ^ Station, as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—221 in the AM peak hour (209 vehicles to the station and 12 from the station) and 222 in the PM peak hour (12 vehicles to the station and 210 from the station).
- Additional taxi trips serving new LIRR riders—10 in the AM peak hour (5 vehicles to and from the station) and 12 in the PM peak hour (6 vehicles to and from the station).
- Additional auto pick-up or drop-off trips serving new riders—194 in the AM peak hour (97 vehicles to and from the station) and 188 in the PM peak hour (94 vehicles to and from the station).

These additional vehicle trips were assigned to routes serving the station area and added to background traffic, resulting in future peak hour volumes without the Proposed Project. Figures in **Appendix 10** illustrate projected future volumes in the Westbury/New Cassel traffic study area in the year 2040. Resulting intersection levels of service are shown in **Table 10-^ 28**; additional detailed information is provided in **Appendix 10**.

The key overall findings of the traffic level of service analyses are:

- Two of the ^ 16 intersections analyzed would operate at overall unacceptable level of service E or F—the ^ intersections of Post Avenue at Union Avenue and School Street at Old Country Road^ —in the AM peak hour^ , and five intersections would operate at LOS E ^ or F—the intersections of Post Avenue at Maple Avenue, Post Avenue at Union Avenue, Post Avenue at Railroad Avenue, School Street at Old Country Road, and School Street at Railroad Avenue^ —in the PM peak hour.

Table 10-28
2040 No Build Traffic Levels of Service Summary, Westbury

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Post Avenue at Maple Avenue	B	16.8	None	E	57.8	Post Av NB approach and SB left turn; Maple Av EB shared through & right
Post Avenue at Scally Place	A	1.4	None	A	1.8	None
Post Avenue at Union Avenue	E	56.8	Post Av SB approach	F	117.3	Post Av SB approach
Post Avenue at Railroad Avenue	C	28.1	None	F	92.4	Post Av NB shared through & right and SB shared through & right
School Street at Maple Avenue	B	11.7	None	B	15.6	None
School Street at Union Avenue	D	43.4	School St NB approach; Union Ave WB left turn	D	40.4	School St NB approach; Union Ave WB left turn
School Street at Grade Crossing	C	21.4	None	C	31.8	None
School Street at Old Country Road	F	81.4	School St NB and SB approaches; Old Country Rd WB shared through & right	E	72.6	School St NB and SB approaches; Old Country Rd EB approach
Urban Avenue at Prospect Avenue	B	14.6	None	B	18.3	None
Urban Avenue at Grade Crossing	B	11.8	None	C	23.4	None
Urban Avenue at Old Country Road	D	54.4	Old Country Rd EB left turn and WB approach	D	38.0	Old Country Rd EB left turn and WB approach
Old Country Road at Belmont Place/ Merillon Avenue	B	11.0	None	B	18.2	None
School Street at Railroad Avenue	C	16.8	Railroad Ave EB approach	F	126.7	Railroad Ave EB approach
Urban Avenue at Broadway	A	9.5	None	B	13.7	None
Urban Avenue at Railroad Avenue	A	3.4	None	A	7.8	Railroad Ave WB approach
Urban Avenue at Main Street	B	13.3	None	D	31.7	Urban Ave NB and SB approaches

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement. See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

- With the additional background traffic growth of 0.5 percent per year for 20 years plus additional vehicle trips generated to and from the Westbury train station as a result of more LIRR trains operating with East Side Access in place, several additional intersections would have one or more traffic movements operating at unacceptable LOS E or F even if the "overall" intersection operates acceptably.

This represents the year 2040 background, or baseline, condition against which the potential impacts of the Proposed Project are compared.

HICKSVILLE STATION AREA

For year 2040 conditions without the Proposed Project, it was determined that there would be additional vehicle trips to/from the Hicksville Station, as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—1,479 in the AM peak hour (1,296 vehicles to the station and 183 from the station) and 1,459 in the PM peak hour (204 vehicle to the station and 1,255 from the station).
- Additional taxi trips serving new LIRR riders—21 in the AM peak hour (10 vehicles to the station and 11 from the station) and 25 in the PM peak hour (14 vehicles to the station and 11 from the station).
- Additional auto pick-up or drop-off trips serving new riders—694 in the AM peak hour (347 vehicles to the station and 347 from the station) and 724 in the PM peak hour (362 vehicles to the station and 362 from the station).

These additional vehicle trips were assigned to routes serving the station area and added to background traffic, resulting in future peak hour volumes without the Proposed Project. Figures in **Appendix 10** illustrate projected future volumes in the Hicksville traffic study area in the year 2040. Resulting intersection levels of service are shown in **Table 10-29**; additional detailed information is provided in **Appendix 10**.

Table 10-^ 29
2040 No Build Traffic Levels of Service Summary, ^ Hicksville

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
^ Newbridge Road at Duffy Avenue	F	^ 281.7	^ Newbridge Rd ^ NB shared through & right and ^ SB right turn; Duffy Ave EB left turn^	F	^ 112.0	^ Newbridge Rd ^ SB approach; Duffy Ave EB left turn and WB ^ approach
^ Newbridge Road at ^ Station Plaza	^ E	^ 59.5	^ Station Plaza EB approach (north of the LIRR overpass) and WB approach (south of the LIRR overpass)	^ C	^ 32.7	^ Station Plaza EB approach^ (north of the LIRR overpass) and WB ^ approach (south of the LIRR overpass)
Newbridge Road at West John Street	F	187.9	Newbridge Rd SB shared through & right; West John Street EB left turn and WB approach	F	168.0	Newbridge Rd NB approach and SB shared through & right; West John Street EB left turn & through and WB approach
^ Newbridge Road at West Barclay Street^	A	0.^ 6	None	A	^ 1.3	None
^ West Barclay Street at ^ West John Street	^ A	^ 1.8	None	^ C	^ 18.4	^ West Barclay St ^ NB approach
^ Marion Place at West John Street	A	^ 2.3	None	^ D	^ 34.8	^ Marion Pl NB approach
^ Marion Place at West Barclay Street	A	^ 2.8	None	A	^ 4.9	None
LIRR Parking Lot Exit at West John Street	A	1.1	None	A	2.3	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

^ This represents the background, or baseline, condition against which the potential year 2040 impacts of the Proposed Project are compared.

The key overall findings of the traffic level of service analyses are:

- Three of the eight intersections analyzed operate at overall unacceptable LOS E or F in the AM peak hour and two of the eight intersections analyzed operate at overall unacceptable LOS E or F in the PM peak hour. This would include the intersections of Newbridge Road at Duffy Avenue and Newbridge Road at West John Street during both the AM and PM peak hours and Newbridge Road at Station Plaza during the AM peak hour only.
- In addition to the intersections noted above, several additional intersections would have one or more individual traffic movements at LOS E or F even if the overall intersections would be operating at overall acceptable levels of service in both the AM and PM peak hours. Such traffic movements occur at Newbridge Road/Station Plaza, West Barclay Street/West John Street, and Marion Place/West John Street.

FUTURE CONDITIONS WITH THE PROPOSED PROJECT (YEAR 2040)

METHODOLOGY

The evaluation of future conditions with the Proposed Project in year 2040 includes additional vehicular traffic that would be generated by additional trains operated with the Proposed Project. This includes commuter trips by car who park at the station[1], auto drop-offs or pick-ups, and taxi trips serving new commuters either in the peak or reverse-commute peak direction. It also includes the effects of eliminating all seven project area grade crossings, which would eliminate queuing at the crossings coupled with potential diversions of some traffic from one north–south route to another depending on the grade crossing elimination options being studied.

As noted earlier for year 2020 conditions with the Proposed Project, in most cases, the elimination of grade crossings will substantially reduce north–south vehicular traffic delays. For some conditions, the diversion of traffic from one crossing location to another—as new grade-separated crossings become available to the motoring public—could result in increases in traffic delay that would require capacity improvements such as modifying existing intersection signal timings to accommodate changes in traffic flows. "Significant traffic impacts" requiring such mitigation are defined as increases in vehicular traffic delay of ten or more seconds where conditions are at unacceptable levels of service. Locations where significant traffic delay reduction benefits are also expected are also identified in this section of the EIS.

NEW HYDE PARK ^ STATION AREA

In addition to traffic diversions that would result from the grade crossing configurations in 2040, station ridership projections for the 2040 condition with the Proposed Project are as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—1 vehicle leaving the station in the AM peak hour and 3 in the PM peak hour (2 vehicles to the station and 1 from the station).
- Additional auto pick-up or drop-off trips serving new riders—6 in the AM peak hour (3 vehicles to and from the station) and 10 in the PM peak hour (5 vehicles to and from the station).
- There would not be any additional projected taxi trips serving new riders.

[1] The traffic analyses are based on the parking plan detailed in the Final SEQRA Scoping Document. The traffic study will be updated once the final parking plan for the Proposed Project has been established.

These new trips were assigned to the station area for taxi and auto pick-ups and drop-offs and to station parking facilities, including new facilities that would be built as part of the Proposed Project. Detailed traffic volume maps for the AM and PM peak hours are presented in **Appendix 10**. **Tables 10-^ 30 and 10-^ 31** present the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable levels of service E or F. Additional detailed information is available in **Appendix 10**.

Table 10-^ 30
2040 Build Traffic Levels of Service Summary, New Hyde Park
Option 1: Four-Lane New Hyde Park Road Underpass and Closure of South 12th Street

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E of F (PM)
Covert Avenue at Jericho Turnpike (Rt. 25)	F	122.1	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn	F	113.2	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn
Covert Avenue at Grade Crossing	-	-	-	-	-	-
Covert Avenue at Stewart Avenue	C	28.7	Covert Ave NB (south leg) through	C	29.8	Covert Ave SB (north leg) shared through & right; Covert Ave NB (south leg) right turn
South 12th Street at Jericho Turnpike (Rt. 25)	B	16.6	None	B	10.8	South 12th St NB approach
New Hyde Park Road at Jericho Turnpike (Rt. 25)	F	115.3	New Hyde Park Rd NB and SB approaches; Jericho Tpk EB and WB approaches	F	125.6	New Hyde Park Rd NB and SB approaches; Jericho Tpk EB and WB approaches
New Hyde Park Road at Stewart Avenue	E	69.9	New Hyde Park Rd NB approach	C	31.1	None
Covert Avenue at Second Avenue	A	5.9	None	A	6.4	None
Covert Avenue at Third Avenue	A	0.4	None	A	1.8	None
South 12th Street at Second Avenue	A	9.1	None	A	8.4	None
South 12th Street at Third Avenue	A	8.9	None	A	9.7	None
South 12th Street/Jefferson Street at Stewart Avenue	A	2.2	South 12th St SB approach	A	2.9	South 12th St SB approach
New Hyde Park Road at Clinch Avenue	B	11.4	None	B	12.6	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Table 10-^ 31
2040 Build Traffic Levels of Service Summary, New Hyde Park Option 2^ (Preferred): Five-Lane New Hyde Park Road Underpass and Closure of South 12th Street

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Covert Avenue at Jericho Turnpike (Rt. 25)	F	120.0	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn	F	112.9	Covert Ave NB and SB approaches; Jericho Tpk EB shared through & right and WB left turn
Covert Avenue at Grade Crossing	-	-	-	-	-	-
Covert Avenue at Stewart Avenue	C	28.7	Covert Ave NB (south leg) through	C	29.8	Covert Ave SB (north leg) shared through & right; Covert Ave NB (south leg) right turn
South 12th Street at Jericho Turnpike (Rt. 25)	B	17.3	None	B	11.0	South 12th St NB approach
South 12th Street at Grade Crossing	-	-	-	-	-	-
New Hyde Park Road at Jericho Turnpike (Rt. 25)	F	114.9	New Hyde Park Rd NB and SB approaches; Jericho Tpk EB and WB approaches	F	125.6	New Hyde Park Rd NB and SB approaches; Jericho Tpk EB and WB approaches
New Hyde Park Road at Grade Crossing	-	-	-	-	-	-
New Hyde Park Road at Stewart Avenue	E	69.9	New Hyde Park Rd NB approach	C	31.1	None
Covert Avenue at Second Avenue	A	4.1	None	A	6.4	None
Covert Avenue at Third Avenue	A	0.4	None	A	1.8	None
South 12th Street at Second Avenue	A	9.2	None	A	8.2	None
South 12th Street at Third Avenue	A	8.8	None	A	9.7	None
South 12th Street/ Jefferson Street at Stewart Avenue	A	2.2	South 12th St SB approach	A	2.9	South 12th St SB approach
New Hyde Park Road at Second Avenue	-	-	-	-	-	-
New Hyde Park Road at Clinch Avenue	B	5.7	None	B	3.3	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

As reported in year 2020 conditions with the Proposed Project, the findings of the traffic level of service analyses for both Build options are nearly identical, which is expected since the primary difference between the two is the provision of a four-lane section (Build Option 1) or a five-lane section (Build Option 2) for the New Hyde Park Road underpass below the LIRR tracks. Build

Option 1 also includes a new pick-up/drop-off facility along the west side of New Hyde Park Road; Build Option 2 includes the same new pick-up/drop-off facility plus a new 95-space surface parking lot on the north side of the tracks at the station house.

Under both Build options, there would be the following significant adverse traffic impacts which can be mitigated, as described below:

- Covert Avenue and Jericho Turnpike— AM peak hour impacts would occur for the northbound Covert Avenue approach, the eastbound shared through-right movement, and the westbound Jericho Turnpike left-turn movement with both Build options, and PM peak hour impacts would occur for the northbound Covert Avenue left-turn movement with both Build options and the westbound Jericho Turnpike left-turn movement with Build Option 1. Impacts identified for the AM and PM peak hours can be mitigated by reconfiguring the southbound approach to require all exits from the retail site to be made on the North Sixth Street side of the property and by modifying the traffic signal timing plan.
- New Hyde Park Road and Jericho Turnpike— AM and PM peak hour impacts would occur for the northbound New Hyde Park Road left-turn movement with both Build options and PM peak hour impacts would occur for the eastbound Jericho Turnpike shared through-right movement and westbound Jericho Turnpike left-turn movement with both Build options. Impacts identified for the PM peak hour can be mitigated by modifying the traffic signal timing plan and by prohibiting parking along the south side of eastbound Jericho Turnpike for approximately 250 feet from the stopbar during the 5-6 PM peak hour; AM peak hour impacts can be mitigated by prohibiting parking along the north side of westbound Jericho Turnpike for approximately 250 feet from the stopbar during the 7:30-8:30 AM peak hour.

In addition, the intersection of New Hyde Park Road at Clinch Avenue would be signalized as part of the Proposed Project under Build Option 1 and would operate at acceptable levels of service.

The above mitigation measures would reduce any increases in traffic delay for critical movements operating at unacceptable LOS D, E, or F to fewer than ten seconds above No Build traffic delays, which are not considered significant. Detailed traffic level of service tables and schematic drawings of proposed traffic mitigation measures are presented in **Appendix 10**.

Average and 95th Percentile queue lengths are presented below in **Table 10-^ 32**. Queues at the three grade crossings in New Hyde Park extend to as many as approximately 34 vehicles per lane on Southbound Covert Avenue during the PM peak hour under Existing conditions and could be expected to grow by fewer than 10 vehicles per lane in each direction during peak hours between Existing and 2040 No Build conditions. Queues would grow longer in the 2040 No Build condition due to the growth in vehicular traffic volumes and additional time that LIRR gates are in the down position due to additional trains operating along the LIRR Main Line, particularly with the completed East Side Access Project. Queues at each of the grade crossings would be eliminated^ with Build Option 1 and Build Option 2 due to the elimination of existing grade crossings and proposed underpasses. Elimination of queues at the grade crossings could be expected to result in smoother traffic flow along these corridors.

Table 10-^ 32
Queue Lengths at LIRR Grade Crossings, New Hyde Park

LIRR Grade Crossing Approach	Queues	AM Peak Hour				PM Peak Hour			
		Existing	2040 No Build	2040 Build Option 1	2040 Build Option 2	Existing	2040 No Build	2040 Build Option 1	2040 Build Option 2
NB Covert Avenue	50th Percentile Queue (veh/lane)	29	36	-	-	13	15	-	-
	95th Percentile Queue (veh/lane)	36	44	-	-	16	19	-	-
SB Covert Avenue	50th Percentile Queue (veh/lane)	16	18	-	-	28	35	-	-
	95th Percentile Queue (veh/lane)	17	18	-	-	34	42	-	-
NB South 12th Street	50th Percentile Queue (veh/lane)	5	6	-	-	4	4	-	-
	95th Percentile Queue (veh/lane)	7	8	-	-	4	5	-	-
SB South 12th Street	50th Percentile Queue (veh/lane)	4	4	-	-	5	6	-	-
	95th Percentile Queue (veh/lane)	5	6	-	-	6	7	-	-
NB New Hyde Park Road	50th Percentile Queue (veh/lane)	21	26	-	-	8	10	-	-
	95th Percentile Queue (veh/lane)	24	29	-	-	9	10	-	-
SB New Hyde Park Road	50th Percentile Queue (veh/lane)	10	10	-	-	16	22	-	-
	95th Percentile Queue (veh/lane)	12	12	-	-	18	27	-	-

Note: The 95th percentile queue is the queue length (in vehicles per lane) that has a 95% probability of not being exceeded during the peak hour. The 50th percentile queue is the average queue length (in vehicles per lane) during a typical gate down condition.

MINEOLA ^ STATION AREA

In addition to traffic diversions that would result from the grade crossing configurations in 2040, station ridership projections for the 2040 condition with the Proposed Project are as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—12 in the AM peak hour (3 vehicles to the station and 9 from the station) and 23 in the PM peak hour (18 vehicles to the station and 5 from the station).
- Additional taxi trips serving new LIRR riders—6 in the AM peak hour (3 vehicles to and from the station) and 10 in the PM peak hour (5 vehicles to and from the station)
- Additional auto pick-up or drop-off trips serving new riders—32 in the AM peak hour (16 vehicles to and from the station) and 40 in the PM peak hour (20 vehicles to and from the station).
- There would not be any additional vehicle trips during the midday peak hour.

These new trips were assigned to the station area for taxi and auto pick-ups and drop-offs and to station parking facilities, including new facilities that would be built as part of the Proposed Project. Detailed traffic volume maps for the AM, midday, and PM peak hours are presented in **Appendix 10**. **Tables 10-^ 33 and 10-^ 34** present the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable levels of service E or F. Additional detailed information is available in **Appendix 10**.

Table 10-33
2040 Build Traffic Levels of Service Summary, Mineola
Option 1 (Preferred): Two-Way Willis Avenue Underpass and Closure of Main Street

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (MD)	Delay (MD)	Traffic Movements at LOS E or F (MD)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Mineola Boulevard/ Franklin Avenue at Old Country Road	F	126.8	Old Country Rd EB and WB left turn and through	E	65.5	Mineola Blvd SB left turn; Old Country Rd EB through and WB left turn and through	F	99.0	Mineola Blvd NB shared through & right and SB left turn; Old Country Rd EB approach and WB left turn and through
Mineola Boulevard at Second Street	E	70.3	Mineola Blvd SB shared through & right	E	56.7	Mineola Blvd SB shared through & right	E	72.9	Mineola Blvd SB shared through & right; Second St WB approach
Mineola Boulevard at First Street	C	33.7	First St EB and WB approaches	E	63.1	Mineola Blvd NB approach	E	66.6	First St EB and WB approaches
Willis Avenue at Old Country Road	B	19.3	Willis Ave SB approach	C	31.5	Willis Ave SB approach	C	25.5	Willis Ave SB left turn
Willis Avenue at Third Street	F	100.4	Third St EB approach	F	106.5	Third St EB approach	F	241.4	Willis Ave NB and SB approaches; Third St EB approach
Willis Avenue at Second Street	D	38.5	Second St WB shared left & through	C	33.5	None	F	130.3	Willis Ave SB approach; Second St EB approach
Roslyn Road/ Washington Avenue at Old Country Road	F	120.8	Old Country Rd EB through and WB left turn and through	F	98.6	Old Country Rd EB and WB through	F	102.9	Old Country Rd EB and WB through
Roslyn Road at Second Street	E	74.0	Roslyn Rd SB approach	C	24.0	None	F	113.8	Roslyn Rd NB shared through & right and SB approach; Second St EB approach
Main Street at Old Country Road	A	0.4	None	A	0.3	None	A	0.3	None
Main Street at First Street	A	10.6	None	A	8.9	None	B	11.4	None
Main Street at Second Street	C	17.4	None	B	13.5	None	F	55.8	Second St EB approach
Main Street at Front Street (North side of LIRR Tracks)	A	2.7	None	A	7.7	None	A	2.7	None
Main Street at Front Street (South side of LIRR Tracks)	A	8.5	None	A	7.9	None	B	10.7	None
Main Street at Third Street	B	10.5	None	A	9.8	None	C	18.4	None
Willis Avenue at First Street	D	31.5	First St EB approach	A	4.4	None	E	46.7	First St EB approach
Willis Avenue at Front Street	A	8.7	None	A	6.3	None	A	8.4	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Table 10-34
2040 Build Traffic Levels of Service Summary, Mineola
Option 2: One-Way Northbound Main Street
and One-Way Southbound Willis Avenue Underpasses

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (MD)	Delay (MD)	Traffic Movements at LOS E or F (MD)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Mineola Boulevard/ Franklin Avenue at Old Country Road	F	113.0	Old Country Rd EB and WB left turn and through	E	57.8	Mineola Blvd SB left turn; Old Country Rd EB through and WB left turn and through	F	92.3	Mineola Blvd SB left turn; Old Country Rd EB and WB approaches
Mineola Boulevard at Second Street	F	83.5	Mineola Blvd SB shared through & right; Second St WB approach	E	76.4	Mineola Blvd SB shared through & right	F	93.2	Mineola Blvd SB shared through right; Second St WB approach
Mineola Boulevard at First Street	D	36.4	First St EB and WB approaches	F	108.0	Mineola Blvd NB approach	F	95.0	Mineola Blvd NB approach; First St EB and WB approaches
Main Street at Second Street	C	29.2	None	C	26.9	None	F	100.5	Main St NB and SB approaches; Second St EB approach
Willis Avenue at Old Country Road	B	14.6	None	B	15.7	Willis Ave SB left turn	B	16.0	Willis Ave SB left turn
Willis Avenue at Third Street	D	29.3	None	B	19.5	None	E	42.4	None
Willis Avenue at Second Street	F	120.9	Second St EB approach and WB shared left & through	C	30.8	None	F	541.7	Second St EB approach and WB shared left & through
Roslyn Road/Washington Avenue at Old Country Road	F	115.1	Old Country Rd EB and WB through	F	92.8	Old Country Rd EB and WB through	F	97.1	Old Country Rd EB and WB through
Roslyn Road at Second Street	F	92.3	Roslyn Rd SB approach	C	26.2	None	F	133.1	Roslyn Rd NB shared through & right and SB approach; Second St EB approach
Main Street at Old Country Road	A	0.7	Old Country Rd EB left turn	A	0.4	None	A	0.5	None
Main Street at First Street	B	11.3	None	A	9.2	None	B	12.8	None
Main Street at Front Street (North side of LIRR Tracks)	A	9.1	None	A	9.0	None	A	8.9	None
Main Street at Third Street	B	13.5	None	B	12.1	None	C	18.9	None
Willis Avenue at First Street	E	40.2	First St EB approach	A	6.2	None	F	64.7	First St EB approach
Willis Avenue at Front Street	A	0.0	None	A	0.0	None	A	0.0	None

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Under Build Option 1 (Main Street closed and a two-way underpass for Willis Avenue under the LIRR tracks) there would be additional significant traffic impacts beyond those identified under year 2020 conditions with the Proposed Project since background traffic volumes would be substantially higher due to 20 additional years of annual background traffic growth combined with additional trips attracted to the Mineola ^ Station with East Side Access in place. These impacts could be mitigated as follows:

- Mineola Boulevard/Franklin Avenue at Old Country Road—AM peak hour impacts would occur for the eastbound Old Country Road through movement and AM, midday, and PM peak hour impacts would occur for westbound Old Country Road left turns and could be mitigated by restriping the northbound Franklin Avenue approach as one 11 foot left-turn lane and two 12 foot shared through-right lanes; shifting the centerline on the southbound Mineola Boulevard approach two feet to the east and restriping the approach as one 12 foot left-turn lane one 10 foot through lane and ^ one 10 foot shared through-right ^ lane; restriping the westbound Old Country Road approach as one 12 foot left-turn lane, two 11 foot through lanes, and one 10 foot right-turn lane; restriping the eastbound Old Country Road approach as one 10 foot left-turn lane, two 12 foot through lanes, and one 13 foot right-turn lane by reducing the existing five foot painted buffer between through and right-turn lane to a one foot buffer; and by modifying the traffic signal timing plan.
- Mineola Boulevard ^ at First Street—AM peak hour impacts to the westbound First Street approach and PM peak hour impacts to the eastbound and westbound ^ First Street ^ approaches could be mitigated by ^ modifying the ^ traffic signal timing plan.
- Willis Avenue at Old Country Road—AM, midday, and PM peak hour impacts would occur for the southbound Willis Avenue approach and could be mitigated by modifying the traffic signal phasing and timing plan.

^ Willis Avenue at Third Street—AM, midday, and PM peak hour impacts would occur for the eastbound Third Street approach and midday and PM peak hour impacts would occur for the northbound and southbound Willis Avenue approaches^ and could be fully mitigated in the AM, midday, and PM peak hours by prohibiting parking for approximately 250 feet from the stopbar on the eastbound Third Street approach and restriping the approach as one 10 foot left-turn lane and one 10 foot right-turn lane; by prohibiting parking for approximately 250 feet on the westbound Third Street receiving side of the intersection; and by prohibiting parking on the northbound Willis Avenue approach for approximately 250 feet from the stopbar and restriping the approach as one 10 foot left-turn lane and one 10 foot through lane.

- Willis Avenue at Second Street—AM^ peak hour impacts would occur for the eastbound and westbound Second Street approaches and PM peak hour impacts would occur along southbound Willis Avenue and eastbound Second Street and could be mitigated by prohibiting parking on the southbound Willis Avenue approach for approximately 250 feet from the stopbar and restriping the approach as one 10 foot left-turn lane and one 10 foot shared through-right lane; prohibiting parking on the eastbound Second Street approach for approximately 250 feet from the stopbar and for approximately 250 feet on the westbound Second Street receiving side of the intersection; restriping the eastbound Second Street approach as two 12 foot lanes; and modifying the traffic signal timing plan.
- Willis Avenue at First Street—AM and PM peak hour impacts would occur along eastbound First Street and could be mitigated by prohibiting parking for approximately 150 feet from the stopbar on the northbound Willis Avenue approach and approximately 100 feet on the northbound Willis Avenue receiving side of the intersection; restriping the northbound

Willis Avenue approach as one 10 foot left-turn pocket lane and one 10 foot through lane; and by installing an actuated traffic signal.

- Roslyn Road at Second Street—^ PM peak hour impacts along eastbound First Street could be mitigated by ^ restriping the ^ northbound Roslyn Road approach ^ as one 11 foot ^ left-turn ^ lane and one 12 foot shared through-right lane by reducing the existing 5 foot shoulder to a 4 foot shoulder; and modifying the traffic signal timing plan.

In addition, the intersection of Willis Avenue at Third Street would be signalized as part of the Proposed Project.

The above mitigation measures would reduce any increases in traffic delay for critical movements operating at unacceptable LOS D, E, or F to fewer than ten seconds above No Build traffic delays, which are not considered significant. Detailed traffic level of service tables and schematic drawings of proposed traffic mitigation measures are presented in **Appendix 10**.

Under Build Option 2 (a northbound underpass along Main Street and a southbound underpass along Willis Avenue, beneath the LIRR tracks) there would also be additional significant traffic impacts beyond those identified under year 2020 conditions with the Proposed Project since background traffic volumes would be substantially higher with 20 additional years of annual traffic growth plus additional trips generated to the Mineola ^ Station with East Side Access in place. These impacts could be mitigated as follows:

- Mineola Boulevard/Franklin Avenue at Old Country Road—PM peak hour impacts would occur for the westbound Old Country Road right movement and could be mitigated by modifying the traffic signal timing plan.

⊥ Mineola Boulevard at ^ First Street—AM ^ peak hour impacts to the ^ eastbound and westbound ^ First Street approaches could be mitigated by modifying the traffic signal timing plan. ^ Midday peak hour impacts to the northbound Mineola Boulevard approach could be mitigated by ^ extending curbside stopping prohibition regulations on the northbound Mineola Boulevard approach to all hours between 7:30 AM and 6:00 PM Monday through Friday to allow for two travel lanes. PM peak hour impacts to the northbound Mineola Boulevard and eastbound First Street approaches would remain unmitigated. It should be noted that this Option is not the preferred alternative.

- Main Street at Second Street—PM peak hour impacts to three of the four approaches to the intersection could be mitigated by shifting the centerline five feet to the north and prohibiting parking on the eastbound Second Street approach for approximately 250 feet from the stopbar and for approximately 50 feet on the receiving side of the intersection; restriping the eastbound Second Street approach as one 10 foot left-turn lane and one 14 foot through lane; prohibiting parking on the westbound Second Street approach for approximately 250 feet from the stopbar and for approximately 250 feet on the westbound receiving side of the intersection; restriping the westbound Second Street approach as a 15 foot lane and a 4 foot shoulder; shifting the centerline five feet to the east and prohibiting parking on the southbound Main Street approach for approximately 250 feet from the stopbar; restriping the southbound Main Street approach as one 12 foot left-turn lane and one 10 foot right-turn lane; prohibiting parking along the east curb of the northbound Main Street receiving side of the intersection for approximately 250 feet; and modifying the signal timing and phasing plan.
- Willis Avenue at Second Street—AM and PM peak hour impacts to the eastbound and westbound Second Street approaches could be mitigated by prohibiting parking for approximately 150 feet from the stopbar on the southbound Willis Avenue approach and

restriping the approach as one 10 foot left-turn lane and one 10 foot shared through-right lane; and by modifying the signal phasing and timing plan.

- Roslyn Road at Second Street—PM peak hour impacts to southbound Roslyn Road could be mitigated by modifying the traffic signal timing plan.
- ^ Willis Avenue at First Street—AM and PM peak hour impacts would occur along eastbound First Street and could be mitigated by prohibiting parking for approximately 150 feet from the stopbar on the northbound Willis Avenue approach and for approximately 100 feet on the northbound Willis Avenue receiving side of the intersection; restriping the northbound Willis Avenue approach as one 10 foot left-turn pocket lane and one 10 foot through lane; and by installing an actuated traffic signal.

In addition, the intersections of Willis Avenue at Third Street and Main Street at Second Street would be signalized as part of the Proposed Project.

The above mitigation measures would reduce any increases in traffic delay for critical movements operating at unacceptable LOS D, E, or F to fewer than ten seconds above No Build traffic delays, which are not considered significant. Detailed traffic level of service tables and schematic drawings of proposed traffic mitigation measures are presented in **Appendix 10**.

Average and 95th Percentile queue lengths are presented below in **Table 10-^ 35**. Queues at the two grade crossings in Mineola extend to as many as approximately 13 vehicles per lane on Southbound Willis Avenue during the PM peak hour under Existing conditions and could be expected to grow by fewer than 10 vehicles per lane in each direction during peak hours between Existing and 2040 No Build conditions. Queues would grow longer in the 2040 No Build condition due to the growth in vehicular traffic volumes and additional time that LIRR gates are in the down position due to additional trains operating along the LIRR Main Line, particularly with the completed East Side Access Project. Queues at each of the grade crossings would be eliminated^ with Build Option 1 and Build Option 2 due to the elimination of existing grade crossings and proposed underpasses. Elimination of queues at the grade crossings could be expected to result in smoother traffic flow along these corridors.

Table 10-^ 35
Queue Lengths at LIRR Grade Crossings, Mineola

LIRR Grade Crossing Approach	Queues	AM Peak Hour				Midday Peak Hour				PM Peak Hour			
		Existing	2040 No Build	2040 Build Option 1	2040 Build Option 2	Existing	2040 No Build	2040 Build Option 1	2040 Build Option 2	Existing	2040 No Build	2040 Build Option 1	2040 Build Option 2
NB Main Street	50th Percentile Queue (veh/lane)	4	5	-	-	4	6	-	-	4	7	-	-
	95th Percentile Queue (veh/lane)	5	8	-	-	6	8	-	-	6	10	-	-
SB Main Street	50th Percentile Queue (veh/lane)	2	3	-	-	2	3	-	-	1	2	-	-
	95th Percentile Queue (veh/lane)	3	5	-	-	3	4	-	-	2	4	-	-
NB Willis Avenue	50th Percentile Queue (veh/lane)	6	10	-	-	6	8	-	-	8	16	-	-
	95th Percentile Queue (veh/lane)	8	14	-	-	8	10	-	-	12	20	-	-
SB Willis Avenue	50th Percentile Queue (veh/lane)	6	12	-	-	10	12	-	-	10	14	-	-
	95th Percentile Queue (veh/lane)	9	16	-	-	11	14	-	-	13	18	-	-

Note: The 95th percentile queue is the queue length (in vehicles per lane) that has a 95% probability of not being exceeded during the peak hour. The 50th percentile queue is the average queue length (in vehicles per lane) during a typical gate down condition.

WESTBURY ^ STATION AREA/NEW CASSEL

In addition to traffic diversions that would result from the grade crossing configurations in 2040, station ridership projections for the 2040 condition with the Proposed Project are as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—2 vehicles from the station in the AM peak hour and 2 vehicles to the station in the PM peak hour.
- Additional taxi trips serving new LIRR riders—4 in each of the AM and PM peak hours (2 vehicles to and from the station during each of the AM and PM peak hours)
- Additional auto pick-up or drop-off trips serving new riders—26 in the AM peak hour (13 vehicles to and from the station) and 18 in the PM peak hour (9 vehicles to and from the station).

These new trips were assigned to the station area for taxi and auto pick-ups and drop-offs and to station parking facilities, including new facilities that would be built as part of the Proposed Project. Detailed traffic volume maps for the AM and PM peak hours are presented in **Appendix 10**. **Table 10-^ 36** presents the overall level of service at each intersection as well as specific traffic movements that currently operate at unacceptable levels of service E or F. Additional detailed information is available in **Appendix 10**.

Table 10-36
2040 Build Traffic Levels of Service Summary, Westbury

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Post Avenue at Maple Avenue	B	16.9	None	E	58.2	Post Av NB approach and SB left turn; Maple Av EB shared through & right
Post Avenue at Scally Place	A	1.5	None	A	1.9	None
Post Avenue at Union Avfenue	F	129.9	Post Av SB approach	F	119.9	Post Av SB approach
Post Avenue at Railroad Avenue	C	25.5	None	F	84.4	Post Av NB shared through & right
School Street at Maple Avenue	B	11.7	None	B	15.6	None
School Street at Union Avenue	B	19.3	None	C	26.6	None
School Street at Railroad Avenue	A	6.5	None	A	8.1	None
School Street at Old Country Road	F	81.9	School St NB and SB approaches; Old Country Rd WB shared through & right	E	72.9	School St NB and SB approaches; Old Country Rd EB approach
Urban Avenue at Prospect Avenue	B	14.6	None	B	18.3	None
Urban Avenue at Old Country Road	D	54.7	Old Country Rd EB left turn and WB shared through & right	D	38.1	Old Country Rd EB left turn and WB shared through & right
Old Country Road at Belmont Place/ Merillon Avenue	B	11.1	None	B	18.2	None
Urban Avenue at Broadway	B	11.5	None	E	40.8	Urban Ave NB approach
Urban Avenue at Main Street	B	13.3	None	D	31.7	Urban Ave NB and SB approaches

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement.
See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

There would be significant traffic impacts in year 2040 with the Proposed Project, since background traffic volumes would be substantially higher with 20 additional years of annual traffic growth plus additional trips generated in the Westbury/New Cassel area with East Side Access in place. Post Avenue at Union Avenue would have impacts on the southbound Post Avenue approach during the AM and PM peak hours, which could be mitigated by modifying the traffic signal timing plan. Urban Avenue at Broadway would have impacts on the

northbound Urban Avenue approach during the PM peak hour, which could be mitigated by installing an actuated traffic signal. In addition, the intersection of School Street and Railroad Avenue would be signalized as part of the Proposed Project and would operate at acceptable levels of service.

^ The above mitigation measures would reduce any increases in traffic delay for critical movements to fewer than ten seconds, which are not considered significant. Detailed traffic level of service tables are presented in **Appendix 10**.

Average and 95th Percentile queue lengths are presented below in **Table 10-^ 37**. Queues at the two grade crossings in Westbury extend to as many as approximately 16 vehicles per lane on Northbound Urban Avenue during the PM peak hour under Existing conditions and could be expected to grow by fewer than 10 vehicles per lane in each direction during peak hours between Existing and 2040 No Build conditions. Queues would grow longer in the 2040 No Build condition due to the growth in vehicular traffic volumes and additional time that LIRR gates are in the down position due to additional trains operating along the LIRR Main Line, particularly with the completed East Side Access Project. Queues at each of the grade crossings would be eliminated^ with Build Option 1 and Build Option 2 due to the elimination of existing grade crossings and proposed underpasses. Elimination of queues at the grade crossings could be expected to result in smoother traffic flow along these corridors.

Table 10-^ 37
Queue Lengths at LIRR Grade Crossings, Westbury

LIRR Grade Crossing Approach	Queues	AM Peak Hour			PM Peak Hour		
		Existing	2040 No Build	2040 Build	Existing	2040 No Build	2040 Build
NB School Street	50th Percentile Queue (veh/lane)	11	14	-	11	19	-
	95th Percentile Queue (veh/lane)	13	18	-	15	24	-
SB School Street	50th Percentile Queue (veh/lane)	6	12	-	12	16	-
	95th Percentile Queue (veh/lane)	8	15	-	15	20	-
NB Urban Avenue	50th Percentile Queue (veh/lane)	5	6	-	13	15	-
	95th Percentile Queue (veh/lane)	6	7	-	16	19	-
SB Urban Avenue	50th Percentile Queue (veh/lane)	5	6	-	9	11	-
	95th Percentile Queue (veh/lane)	7	8	-	11	13	-

Note: The 95th percentile queue is the queue length (in vehicles per lane) that has a 95% probability of not being exceeded during the peak hour. The 50th percentile queue is the average queue length (in vehicles per lane) during a typical gate down condition.

HICKSVILLE STATION AREA

Station ridership projections for the 2040 condition with the Proposed Project are as follows:

- Additional vehicle trips by new LIRR riders who would drive and park at the station—19 in the AM peak hour (4 vehicles to the station and 15 from the station) and 29 in the PM peak hour (25 vehicles to the station and 4 from the station).
- Additional taxi trips serving new LIRR riders—9 in the AM peak hour (4 vehicles to the station and 5 from the station) and 12 in the PM peak hour (6 vehicles to and from the station)

- Additional auto pick-up or drop-off trips serving new riders—40 in the AM peak hour (20 vehicles to and from the station) and 56 in the PM peak hour (28 vehicles to and from the station).
- There would not be any additional vehicle trips during the midday peak hour.

These new trips were assigned to the station area for taxi and auto pick-ups and drop-offs and to station parking facilities, including new facilities that would be built as part of the Proposed Project. Detailed traffic volume maps for the AM and PM peak hours are presented in **Appendix 10**. **Table 10-38** presents the overall level of service at each intersection as well as specific traffic movements that currently operate at levels of service E or F. Additional detailed information is available in **Appendix 10**.

Table 10-38
2040 Build Traffic Levels of Service Summary, Hicksville

Intersection	Overall LOS (AM)	Delay (AM)	Traffic Movements at LOS E or F (AM)	Overall LOS (PM)	Delay (PM)	Traffic Movements at LOS E or F (PM)
Newbridge Road at Duffy Avenue	F	112.6	Newbridge Rd NB shared through & right and SB right turn; Duffy Ave EB left turn	E	77.9	Newbridge Rd SB approach; Duffy Ave EB left turn and WB approach
Newbridge Road at Station Plaza	D	49.0	Station Plaza EB approach (north of the LIRR overpass) and WB approach (south of the LIRR overpass)	C	32.5	Station Plaza EB approach (north of the LIRR overpass) and WB approach (south of the LIRR overpass)
Newbridge Road at West John Street	F	308.6	Newbridge Rd NB left turn and SB shared through & right; West John Street EB left turn and WB shared approach	F	293.0	Newbridge Rd NB left turn and SB shared through & right; West John Street EB left turn & through and WB approach
Newbridge Road at West Barclay Street	A	0.6	None	A	1.5	None
West Barclay Street at West John Street	A	1.7	None	A	8.1	West Barclay St NB approach
Marion Place at West John Street	A	8.4	Marion Pl NB approach	F	188.8	Marion Pl NB approach
Marion Place at West Barclay Street	C	22.7	Marion Pl SB approach	F	119.2	LIRR Proposed Parking Garage Driveway NB approach; Marion Place SB approach
LIRR Parking Lot Exit at West John Street	A	6.5	LIRR Proposed Parking Garage Driveway NB approach	F	165.2	LIRR Proposed Parking Garage Driveway NB approach

Note: Delay measured in seconds per vehicle. See Appendix 10 for detailed LOS for each turning movement. See page 10-16 to 10-17 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

With the Proposed Project, there would be additional significant traffic impacts beyond those identified under year 2020 conditions with the Proposed Project since background traffic volumes would be substantially higher due to 20 additional years of annual background traffic growth combined with additional trips attracted to the Hicksville Station with East Side Access in place. These impacts could be mitigated as follows:

- Newbridge Road (Route 106) at Duffy Avenue—PM peak hour impacts would occur for the southbound Newbridge Road through movement and could be mitigated by modifying the traffic signal timing plan.
- Newbridge Road (Route 106) at Station Plaza—AM peak hour impacts to the eastbound Station Plaza approach (north side of the LIRR overpass) and westbound Station Plaza approach (south side of the LIRR overpass) could be mitigated by modifying the traffic signal timing plan.
- Newbridge Road (Route 106) at West John Street—AM and PM impacts to the northbound and southbound Newbridge Road and eastbound and westbound West John Street approaches could be mitigated by modifying the traffic signal phasing and timing plan; prohibiting curbside parking on the southbound Newbridge Road approach for an additional 75 feet beyond existing parking restrictions that currently extend for approximately 175 feet from the stopbar and restriping the southbound approach as one 10 foot left-turn lane, two 11 foot through lanes, and one 10 foot right-turn lane; and restriping the eastbound West John Street approach as two 10 foot left-turn lanes (thus adding an additional eastbound left turn lane), two 10 foot through lanes, and one 10 foot right-turn lane by reducing the existing 15 foot raised median to 5 feet to create a second left-turn lane.
- Marion Place at West John Street—PM peak hour impacts to the northbound Marion Place approach could be mitigated by installing an actuated traffic signal.
- Proposed LIRR Parking Garage Exit/Marion Place at West Barclay Street—AM and PM peak hour impacts would occur for the northbound exit from the proposed parking garage and the southbound Marion Place approaches and could be mitigated by installing stop signs on the eastbound and westbound West Barclay Street approaches.
- Proposed LIRR Parking Garage Exit at West John Street—AM and PM peak hour impacts to the northbound exit from the proposed parking garage could be mitigated by installing an actuated traffic signal.

The above mitigation measures would reduce any increases in traffic delay for critical movements operating at unacceptable LOS D, E, or F to fewer than ten seconds above No Build traffic delays, which are not considered significant. Detailed traffic level of service tables and schematic drawings of proposed traffic mitigation measures are presented in **Appendix 10**.

EMERGENCY VEHICLE AND SCHOOL BUS TRAVEL TIMES

This section of the Transportation chapter details future expected emergency vehicle response times and bus travel times along key north-south corridors in each of the three station areas—New Hyde Park, Mineola, and Westbury—with and without the Proposed Project. Travel times along the north-south corridors that currently have grade crossings will change with the proposed elimination of the grade crossings and construction of underpasses and the expected diversion of traffic away from LIRR crossings that are completely closed.

NEW HYDE PARK STATION AREA

Average existing travel times along Covert Avenue, South 12th Street, and New Hyde Park Road between Stewart Avenue and Jericho Turnpike range between 2.3 and 5.0 minutes, depending on the corridor, peak hour, and direction of travel. Travel times would increase in 2020 without the Proposed Project, i.e., the 2020 No Build condition, due to the growth in traffic volumes and additional gate down times at LIRR grade crossings. With the Proposed Project, the LIRR grade crossing at South 12th Street would be closed in Build Option 1 and Build Option 2 and all traffic, including emergency vehicles and school buses, would divert to Covert Avenue or New Hyde Park Road. These two parallel routes are approximately one-quarter mile west and east of South 12th Street, respectively, and underpasses are proposed for those two LIRR crossings. Travel times between on Covert Avenue and New Hyde Park Road, between Stewart Avenue and Jericho Turnpike, with Build Option 1 and Build Option 2 would remain comparable to existing travel times or improve with mitigation measures as proposed above implemented. Travel times are presented below in **Table 10-^ 39**.

Table 10-^ 39
Travel Times, New Hyde Park

	AM Peak Hour Travel Times (minutes)				PM Peak Hour Travel Times (minutes)			
	Existing	2020 No Build	2020 Build Option 1 With Mitigation	2020 Build Option. 2 With Mitigation	Existing	2020 No Build	2020 Build Option 1 With Mitigation	2020 Build Option 2 With Mitigation
NB Covert Avenue	4.7	4.8	4.0	4.0	2.4	2.4	2.1	2.1
SB Covert Avenue	4.4	4.4	3.9	3.9	3.2	3.2	2.7	2.7
NB South 12th Street	5.0	5.0	-	-	3.5	3.5	-	-
SB South 12th Street	4.7	4.7	-	-	3.2	3.3	-	-
NB New Hyde Park Road	4.5	4.6	4.3	4.2	2.6	2.6	2.4	2.3
SB New Hyde Park Road	2.8	2.9	4.3	2.5	2.3	2.3	2.0	2.0

Note: Travel times were calculated based on existing speed runs along each of the corridors during peak periods and the difference between existing and future delays in the Synchro model.

MINEOLA STATION AREA

Average existing travel times along Main Street and Willis Avenue, between Old Country Road and First Street, range between 0.9 and 2.6 minutes, depending on the corridor, peak hour, and direction of travel. Travel times would increase in 2020 without the Proposed Project, i.e., the 2020 No Build condition, due to the growth in traffic volumes and additional gate down times at LIRR grade crossings. The LIRR grade crossing at Main Street would be closed in Build Option 1 and all traffic, including emergency vehicles and school buses, would be diverted to Mineola Boulevard, which has an existing overpass over the LIRR tracks, and Willis Avenue, which would be grade-separated as part of the Proposed Project. These two parallel routes are approximately one quarter mile west and east of Main Street, respectively. Under Build Option 2, a one-way northbound under the LIRR tracks is proposed on Main Street and a one-way southbound underpass is proposed on Willis Avenue. Existing southbound Main Street traffic would divert to Willis Avenue and northbound Willis Avenue traffic would divert to Main Street. Travel times between on Willis Avenue and Main Street between Old Country Road and First Street would remain comparable to existing travel times or improve with mitigation measures as proposed above implemented. Travel times are presented below in **Table 10-^ 40**.

Table 10-^ 40
Travel Times, Mineola

	AM Peak Hour Travel Times (minutes)				Midday Peak Hour Travel Times (minutes)				PM Peak Hour Travel Times (minutes)			
	Existing	2020 No Build	2020 Build Option 1 With Mitigation	2020 Build Option 2 With Mitigation	Existing	2020 No Build	2020 Build Option 1 With Mitigation	2020 Build Option 2 With Mitigation	Existing	2020 No Build	2020 Build Option 1 With Mitigation	2020 Build Option 2 With Mitigation
NB Main Street	1.2	1.2	-	0.8	0.9	1.0	-	1.^ 0	1.1	1.2	-	0.^ 8
SB Main Street	0.9	0.9	-	-	0.9	1.0	-	-	1.^ 1	1.3	-	-
NB Willis Avenue	1.7	1.7	1.^ 4	-	0.9	1.0	1.^ 3	-	0.9	0.9	0.^ 8	-
SB Willis Avenue	2.6	2.7	2.2	2.^ 1	1.0	1.^ 2	1.^ 4	1.^ 1	2.0	2.^ 2	2.^ 1	1.9

Note: Travel times were calculated based on existing speed runs along each of the corridors during peak periods and the difference between existing and future delays in the Synchro model.

WESTBURY STATION AREA

Average existing travel times along School Street between Old Country Road and Union Avenue and along Urban Avenue between Old Country Road and Prospect Avenue, range between 2.5 and 3.5 minutes, depending on the corridor, peak hour, and direction of travel. Travel times would increase in 2020 without the Proposed Project, i.e., the 2020 No Build condition, due to the growth in traffic volumes and additional gate down times at LIRR grade crossings. Two-way underpasses beneath the LIRR tracks are proposed for both corridors. Travel times would remain comparable to existing travel times or improve with mitigation measures as proposed above implemented. Travel times are presented below in **Table 10-^ 41**.

Table 10-^ 41
Travel Times, Westbury

	AM Peak Hour Travel Times (minutes)			PM Peak Hour Travel Times (minutes)		
	Existing	2020 No Build	2020 Build With Mitigation	Existing	2020 No Build	2020 Build With Mitigation
NB School Street	2.5	2.5	2.^ 2	2.9	2.9	2.5
SB School Street	3.5	3.6	3.4	3.0	3.2	2.^ 9
NB Urban Avenue	2.8	2.9	2.7	3.2	3.3	3.^ 2
SB Urban Avenue	3.1	3.^ 2	3.0	^ 2.9	3.0	2.7

Note: Travel times were calculated based on existing speed runs along each of the corridors during peak periods and the difference between existing and future delays in the Synchro model.

F. PARKING

This section of the Transportation chapter identifies parking facilities available at each of the seven station areas in the Project corridor—Floral Park, New Hyde Park, Merillon Avenue, Mineola, Carle Place, Westbury, and Hicksville—to serve LIRR commuters, and the extent of parking facilities that would be available to accommodate projected future parking demands for: year 2020 conditions without the Proposed Project; year 2020 conditions with the Proposed Project; year 2040 conditions without the Proposed Project but with new parking needs generated with East Side Access service; and then year 2040 conditions with both the East Side Access and Proposed Project in place. Parking inventories provided below were obtained from

the LIRR. Parking projections developed and included as part of this EIS (see Section B above) were derived from ridership projections provided by the LIRR.

The overall findings of the parking assessment are: 1) parking lots and garages available to serve LIRR commuters today are nearly generally 90 to 100 percent occupied as the peak morning commute period ends with little if any capacity to accommodate significant additional parkers; 2) parking demands that would be generated by the Proposed Project itself are not substantial and would not generate the need for additional station area parking; and 3) the East Side Access project would generate a substantial need for more parking, not directly associated with the Proposed Project, However, the Proposed Project includes the addition of parking at several stations recognizing the overall need for more parking along the Project Corridor. As final design progresses, the total parking space count at each proposed garage location may change modestly.

EXISTING CONDITIONS

Table 10-^ 42 presents LIRR information for existing off-street and on-street parking facilities available to commuters at Floral Park, New Hyde Park, Merillon Avenue, Mineola, Carle Place, Westbury, and Hicksville ^ Stations.

Table 10-^ 42
Existing Station Parking Capacity and Usage

Station	Off-Street Capacity	Off-Street Usage	Percent Utilization	On-Street Capacity	On-Street Usage	Percent Utilization
Floral Park	^ 407	^ 330	^ 81.1	^ 230	^ 199	^ 86.5
New Hyde Park	488	471	96.5	100	83	83.0
Merillon Avenue	121	121	100.0	46	46	100.0
Mineola	1,^ 621	1,^ 508	93.0	213	61	28.6
Carle Place	13	13	100.0	0	0	0.0
Westbury	^ 610	^ 604	99.0	133	126	94.7
Hicksville	3,634	3,567	98.1	100	100	100.0

FLORAL PARK STATION AREA

LIRR riders who park at Floral Park are currently accommodated by a surface lot north of the station and two surface lots south of the station. There is also parking beneath the elevated LIRR tracks and on streets adjacent to the station. One surface parking lot south of the station is on the north side of Floral Boulevard between Carlton Street and Carnation Avenue and has a capacity of 120 head-in parking spaces that are metered for long-term daily parking. The other surface lot south of the station is further to the east, at the southeast corner of Plainfield Avenue and Magnolia Avenue and has a capacity of 27 spaces that are metered for long-term daily parking. The surface lot north of the station extends northwest-southeast between Jericho Turnpike and South Tyson Avenue and has a capacity of 260 long-term daily metered or "permit parking" spaces. The remaining 230 spaces are located on streets adjacent to or beneath the station and are "permit parking" or metered for long-term daily parking. Available off-street parking is approximately ^ 81 percent occupied.

The streets north and south of the station have a mix of residential and commercial uses. Parking near commercial uses are largely metered with time restrictions. Parking on some residential streets is prohibited from 9:00 AM to 4:00 PM, while parking on other streets has a four-hour time limit or is completed unrestricted.

NEW HYDE PARK ^ STATION AREA

Station parking at New Hyde Park is currently accommodated by surface lots at or near the station and parallel and head-in parking along the north and south sides of the station. The closest surface parking lot is Municipal Parking Lot No. 3 along the west side of South 12th Street just south of the LIRR tracks, which has a capacity for 126 spaces as "permit parking". There is also 12-hour metered parking available within a surface lot on the north side of Jericho Turnpike west of New Hyde Park, which provides 69 parking spaces. The parallel and head-in parking available along the north and south sides of the station and tracks provide an additional 419 spaces. These are long-term voucher parking zone spaces, as per regulations posted by the Village of New Hyde Park. There are also some additional on-street parking spaces signed for long-term voucher zone parking along South 11th and South 12th Streets and along Baer Place south of the station, and along Millers Lane north of the station, totaling approximately 100 spaces, according to data provided by the LIRR. The total of 488 off-street spaces are 96.5 percent utilized, while the 100 on-street spaces where long-term parking is allowed are 83 percent utilized.

The streets just north and south of the station are primarily residential with some commercial uses. The Village of New Hyde Park's streets are signed for a maximum of four-hour parking, which is intended to discourage long-term use by commuter parkers. Several streets allow for one-hour or two-hour parking from 8:00 AM to 6:00 PM, while others are signed with No Parking or No Standing regulations (either from 8:00 AM to 6:00 PM, 7:00 AM to 5:00 PM, or anytime).

MERILLON AVENUE STATION AREA

Parking for LIRR commuters and riders is limited to a surface lot north of the station and on-street parking along Main Avenue south of the station. The surface lot has a capacity of 121 spaces and parking is unrestricted. The 46 on-street parking spaces are restricted to Village of Garden City residents that hold parking permits. Commuter parking spaces are 100 percent occupied.

The streets south of the station are entirely residential, while streets north of the station have a mix of residential and commercial uses. On-street parking south of the station is prohibited between 8:00 AM and 12:00 PM. Parking restrictions on streets north of the station vary; parking is either prohibited with No Parking regulations (either from 7:00 AM to 7:00 PM, 8:00 AM to 10:00 AM, 8:00 AM to 12:00 PM, or 8:00 AM to 5:00 PM) or is short-term parking with two or three hour parking limits.

MINEOLA ^ STATION AREA

The Mineola ^ Station area is served by a number of surface parking lots, parking structures, and 12-hour on-street parking at select locations. The largest commuter parking facility is within the Mineola Intermodal Center situated immediately adjacent to the south side station platform. It provides 941 long-term parking spaces that are available to the general public. Village of Mineola Parking Field No. 3 provides 311 long-term parking spaces in structure parking along the north side of Third Street between Mineola Boulevard and Main Street. Parking Field No. 4 provides an additional 81 spaces along the south side of First Street between Mineola Boulevard and Main Street. A surface lot on the east side of 3rd avenue between First Street and Harrison Avenue provides 95 long-term parking spaces that are available to the general public. In addition, parking is also accommodated within Parking Field No. 1 along the west side of 3rd Avenue immediately on the north side of the station, and within on-street spaces along the north

and south sides of the station, including along Front Street on the south side of the tracks and along Station Road and several streets west of the Intermodal Center.

The Mineola ^ Station area has a total of approximately 1,^ 621 parking lot or garage spaces and an additional 213 long-term on-street parking spaces. According to LIRR survey data, the off-street parking lot and garage spaces are approximately 93 percent occupied on a given weekday, while the on-street spaces are just 29 percent occupied. The street network in the downtown Mineola ^ Station area serve its retail and commercial clientele, including Winthrop-University Hospital, with on-street spaces generally short-term metered parking.

CARLE PLACE STATION AREA

Parking for LIRR commuters is provided in an off-street surface lot north of the station that has a capacity of 13 parking spaces that are 100 percent occupied. Streets nears the station are largely residential with some commercial uses, and most on-street parking is prohibited with No Parking regulations (8:00 AM to 4:00 PM, 8:00 AM to 5:00 PM, or Midnight to 6:00 AM) or has parking limits of varying durations less than two hours.

WESTBURY ^ STATION AREA

There are two major surface parking lots available to LIRR commuters. The first is situated along the south side of the station and north of Railroad Avenue; its capacity is 302 spaces. The second is situated on a T-shaped property extending southward from Scally Place (one block north of the station) to Union Avenue immediately across from the station house. Its capacity is ^ 308 spaces and requires a Village of Westbury parking permit. The combined utilization of the two surface lots is 99 percent.

There is also 12-hour metered on-street parking available for commuter use along Railroad Avenue one block south of the station and along Post Avenue south of Railroad Avenue, with some additional 12-hour metered parking spaces along Scally Place. There are 133 such parking spaces and their combined utilization of these on-street spaces is approximately 95 percent.

The station is situated within the Village downtown shopping area to the north along Post Avenue with residential areas east and west of Post Avenue. There are also industrial uses, as well as a cemetery, south of the station. Two-hour metered parking is in place along Post Avenue and Maple Avenue north of the station, and parking regulations along residential blocks to the east and west have a mix of parking regulations intended to discourage longer-term commuter parking—e.g., two-hour parking from 8:00 AM to 4:00 PM or 9:00 AM to 5:00 PM on alternate days of the week, two-hour parking 9:00 AM to 6:00 PM Friday to Sunday, no parking 9:00 AM to 6:00 PM, and No Parking or No Standing Anytime. South of the station, residential street parking by commuters is also discouraged by regulations such as two-hour parking or by No Parking 12:00 Noon to 2:00 PM on alternate days of the week.

HICKSVILLE ^ STATION AREA

There are numerous surface parking lots and one multi-level parking structure in the vicinity of the Hicksville ^ Station that are available to LIRR commuters. There are also approximately 100 on-street "Permit parking" spaces for Town of Oyster Bay residents along the south side of West Barclay Street, west of Newbridge Road. The Town of Oyster Bay parking structure is situated at the southwest corner of Newbridge Road and ^ Duffy Avenue and is the largest commuter parking facility with a capacity of 1,465 spaces. All parking within the parking structure is "Permit parking" and is limited to Town of Oyster Bay residents. The remaining surface lots vary in size and are generally located south of East/West John Street and north of West Marie

Street and East/West Nicholai Street. Of the 2,169 spaces contained within the surface lots, 1,601 spaces are "Permit parking" spaces for Town of Oyster Bay residents only and 568 spaces are "Permit parking" spaces or metered for long-term daily parking. On-street and off-street parking commuter parking spaces are 98 percent occupied.

The streets south of West John Street and north of Duffy Avenue have mostly commercial uses; streets north of West John Street and south of Duffy Avenue have mostly residential uses. A large commercial use (Broadway Mall) begins two blocks north of West John Street. Streets that are lined with mostly commercial uses have short-term metered parking near those uses. In addition, most residential and many commercial streets have No Parking regulations during various hours of the day or short-term parking limits of four hours or less.

FUTURE CONDITIONS WITHOUT AND WITH THE PROPOSED PROJECT (YEAR 2020)

By year 2020, under conditions with background growth in LIRR ridership but before completion of the East Side Access project which is expected in 2023, parking demands at the stations are expected to increase as follows: 32 additional parking space demand at Floral Park; 34 additional parking space demand at New Hyde Park; 14 additional parking space demand at Merillon Avenue; 97 additional parking space demand at Mineola; 7 additional parking space demand at Carle Place; 49 additional parking space demand at Westbury; and 279 additional parking space demand at Hicksville. Assuming that these demands seek to park only at off-street station area parking facilities, **Table 10-^ 43** presents projected year 2020 utilization without East Side Access.

Table 10-^ 43
Projected Year 2020 Parking Demand without the Proposed Project

Station	Year 2020 Off-Street Capacity	Existing Off-Street Usage	Projected Additional Demand	Projected Total Demand	Projected Parking Space Shortfall
Floral Park	^ 407	^ 330	32	^ 362	0
New Hyde Park	488	471	34	505	17
Merillon Avenue	121	121	14	135	14
Mineola	1,^ 621	1,^ 508	97	1,^ 605	0
Carle Place	13	13	7	20	7
Westbury	^ 610	^ 604	49	^ 653	43
Hicksville	3,634	3,567	279	3,846	212

New Hyde Park, Merillon Avenue, and Carle Place ^ Stations would have nominal parking space shortfalls of 17, 14, and 7 spaces, respectively, and projected percent utilization of 103.5 percent, 111.6 percent, and 153.8 percent, respectively. Westbury and Hicksville would have larger parking space shortfalls of 43 and 212 spaces, respectively, and projected percent utilization of 107.^ 0percent and 105.8 percent, respectively. Existing parking space capacity in Floral Park and Mineola would be expected to accommodate additional demand in 2020 without the Proposed Project and would have a projected percent utilization of 88.^ 9 percent and 99.^ 0 percent, respectively.

The Proposed Project is not expected to significantly increase station area parking demand for the following inter-related reasons: there would only be one additional train operating in the peak westbound direction in the AM Peak Period; and there would be more new riders alighting from eastbound trains in the AM Peak Period vacating parking spaces in the parking lots than

new riders parking in the lots and boarding eastbound trains. Additional parking facilities would be built at New Hyde Park, Mineola, Westbury, and Hicksville ^ Stations as part of the Proposed Project, as follows:

- New Hyde Park—Under Build Option 2 with a five-lane underpass on New Hyde Park Road, an addition of 95 parking spaces would be built at the northwest corner of Second Avenue and New Hyde Park Road (existing self-storage facility). ^
- Mineola—A ^ 365-space parking garage would be built to replace an existing surface parking lot on the south side of Second Street between Main Street and Willis Avenue (the Mineola South Parking Garage) and a ^ 551-space parking garage would be built to replace an existing surface parking lot on the east side of Third Avenue between First Street and Harrison Avenue^ (the Harrison Avenue Parking Garage).
- Westbury—A ^ 676-space parking garage would be built to replace an existing surface parking lot on the north side of Union Avenue between Post Avenue and Linden Avenue, and a ^ 679-space parking garage would replace part of the existing surface parking lot on the south side of the station. The existing surface lot on the south side of the station would retain 123 existing parking spaces on either side of the proposed ^ 679-space parking garage and the existing surface lot on the north side of the station would retain 106 existing parking spaces.
- Hicksville—Two parking garages would be built to replace existing surface parking lots on both sides of West Barclay Street^ . A ^ 583-space parking garage would replace an existing surface parking lot on the south side of West Barclay Street at Marion Place and a 675-space parking garage would be built on the north side of West Barclay Street between Marion Place and Newbridge Road.

These additional parking facilities, to be built as part of the Proposed Project in 2020 would be available to begin accommodating increased parking demand in 2023 when East Side Access is completed and operational.

With the new parking facilities that would be built as part of the Proposed Project at New Hyde Park, Mineola, Westbury, and Hicksville ^ Stations, the capacity of available off-street parking facilities and projected percent utilizations would change as follows:

- New Hyde Park—Off-street parking capacity would remain the same with Build Option 1 and would increase to 583 parking spaces with Build Option 2. Projected percent utilization would remain the same with Build Option 1 and would decrease from 103.5 percent in 2020 without the Proposed Project to 100.4 percent with Build Option 2.
- Mineola—Off-street parking capacity would increase to 2,^ 330 parking spaces with the Proposed Project, which would result in a decrease in projected percent utilization from 99.3 percent in 2020 without the Proposed Project to ^ 68.9 percent in 2020 with the Proposed Project.
- Westbury—Off-street parking capacity would increase to 1,^ 584 parking spaces with the Proposed Project, which would result in a decrease in projected percent utilization from 107.^ 0 percent in year 2020 without the Proposed Project to ^ 41.2 percent in year 2020 with the Proposed Project.
- Hicksville—Off-street parking capacity would increase to 4,^ 518 parking spaces with the Proposed Project, which would result in a decrease in projected percent utilization from

105.8 percent in year 2020 without the Proposed Project to ^ 85.1 percent in 2020 with the Proposed Project.

Available off-street parking capacity at Floral Park would satisfy the expected demand in Year 2020 with the Proposed Project. Parking shortfalls identified at Merillon Avenue and Carle Place ^ Stations in Year 2020 without the Proposed Project would remain in Year 2020 with the Proposed Project. As noted in the section below, parking utilization would increase by the Year 2040 condition with East Side Access in place.

FUTURE CONDITIONS WITHOUT AND WITH THE PROPOSED PROJECT (YEAR 2040)

Parking demand forecasts were made for year 2040, with new anticipated ridership due to completion of the East Side Access project and expected growth in existing ridership of approximately 1.5 percent annually. By year 2040, with completion of the East Side Access project and with continued annual growth in ridership but without the Proposed Project, parking demands at the seven stations are forecast to increase as follows: 314 additional parking space demand at Floral Park; 345 additional parking space demand at New Hyde Park; 138 additional parking space demand at Merillon Avenue; 986 additional parking space demand at Mineola; 76 additional parking space demand at Carle Place; 499 additional parking space demand at Westbury; and 2,831 additional parking space demand at Hicksville. There would be a parking shortfall, as shown in **Table 10-^ 44,** without the Proposed Project. The shortfall is attributable to new service provided by East Side Access plus continued annual growth in ridership. The parking demand forecasts for 24 years from now are conservative current projections of LIRR ridership. Parking needs at each of the stations would be monitored and assessed ^ in preparation for completion of East Side Access. Should the need for additional parking arise beyond the additional off-street parking capacity that would be built as part of the Proposed Project, approaches to provide further additional parking would be discussed with local jurisdictions to accommodate identified future parking needs.

Table 10-^ 44
Projected Year 2040 Parking Demand without the Proposed Project

Station	Year 2040 Off-Street Capacity	Year 2020 Off-Street Usage	Projected Additional Demand	Projected Total Demand	Projected Parking Space Shortfall
Floral Park	^ 407	^ 362	314	^ 676	^ 269
New Hyde Park	488	505	345	850	362
Merillon Avenue	121	135	138	273	152
Mineola	1,^ 621	1,^ 605	986	2,^ 591	^ 970
Carle Place	13	20	76	96	83
Westbury	^ 610	^ 653	499	1,^ 152	542
Hicksville	3,634	3,846	2,831	6,677	3,043

As shown in **Table 10-^ 43**, above, there would be a projected parking space shortfall of ^ 269 spaces at Floral Park, 362 spaces at New Hyde Park, 152 spaces at Merillon Avenue, ^ 970 spaces at Mineola, 83 spaces at Carle Place, 542 spaces at Westbury, and 3,043 spaces at Hicksville in year 2040 without the Proposed Project but with East Side Access in place and current project annual growth in ridership. These parking space shortfalls would be reduced or eliminated with construction of parking facilities planned as part of the Proposed Project at four of the seven stations identified with the largest parking space shortfalls. These parking improvements are described in the section below.

The Proposed Project is not expected to increase station area parking demand since there would not be additional trains operating in the peak westbound direction in the AM Peak Period and since it is expected that there would be more new riders alighting from eastbound trains in the AM Peak Period and vacating parking spaces in the parking lots than new riders parking in the lots and boarding eastbound trains.

The Proposed Project would reduce parking shortfalls in 2040 at New Hyde Park, Mineola, Westbury, and Hicksville ^ Stations. The capacity of available off-street parking facilities at these four stations would change as follows:

- New Hyde Park—Off-street parking capacity would remain the same with Build Option 1 and would increase to 583 parking spaces with Build Option 2. The parking space shortfall for Build Option 1 would remain the same as the shortfall of 362 spaces in 2040 without the Proposed Project and would decrease to 267 spaces with Build Option 2.
- Mineola—Off-street parking capacity would increase to 2,^ 330 parking spaces with the Proposed Project and the parking space shortfall would decrease from ^ 970 spaces in 2040 without the Proposed Project to ^ 261 spaces with the Proposed Project.
- Westbury—Off-street parking capacity at the Westbury ^ Station would increase to 1,^ 584 parking spaces and the parking space shortfall of 542 spaces in year 2040 without the Proposed Project would be eliminated and expected demand would be met. The projected excess of ^ 432 spaces at Westbury could be used by LIRR patrons who live in the Westbury area but currently commute from Hicksville.
- Hicksville—Off-street parking capacity would increase to 4,^ 518 parking spaces and the parking space shortfall would decrease from 3,043 spaces in year 2040 without the Proposed Project to 2,^ 159 spaces with the Proposed Project. Some of this shortfall could be further alleviated by the proposed addition of parking spaces at Westbury with Westbury area residents more able to obtain parking at Westbury than at Hicksville. The LIRR ^ will continue to work with local officials to monitor ^ ridership increases ^ and parking needs leading up to and after East Side Access implementation.

The parking shortfalls identified at Floral Park, Merillon Avenue, and Carle Place ^ Stations in year 2040 without the Proposed Project would remain the same in 2040 with the Proposed Project.

The additional parking demand forecasted at each of the seven stations due to East Side Access and continued annual growth will be monitored and assessed at each of the seven stations after completion of the East Side Access project and after completion of the additional off-street parking capacity to be built as part of the Proposed Project. The range of additional parking accommodation options could include one or more of the following on a station-by-station basis:

- Restriping of existing surface parking lots to increase capacity, expansion of existing lots, or construction of additional new lots beyond those described above.
- Construction of parking garages atop existing surface lots beyond those described above or at new locations.
- Modification of train service and schedules to improve or increase service at stations with available parking or where parking could be added more easily.
- Increase of existing bus service to stations to promote bus use. Free or heavily subsidized fares and combination fare tickets could also be considered.
- Implementation of new station-oriented feeder bus service or jitney service, with local input.

- Improvement and prioritization of kiss-and-ride facilities to increase pick-up/drop-off activity and reduce parking demand.
- Provision of preferential parking areas for carpoolers, with enforcement. Consideration could also be given to decreasing parking charges for carpoolers.
- Provision of additional bicycle racks and/or lockers to promote increased bicycle use for access to stations.

G. PEDESTRIAN CONNECTIVITY AND BICYCLE ACCESS

This section of the Transportation chapter addresses how pedestrian connectivity across the LIRR tracks and bicycle access will be maintained with the elimination of grade crossings as part of the Proposed Project. NYSDOT has determined that the Proposed Project has been designed to comply with NYSDOT Complete Streets policies and design standards.

PEDESTRIAN CONNECTIVITY

EXISTING CONDITIONS

In May and June of 2016, surveys of the number of pedestrians crossing the LIRR tracks were conducted at the seven grade crossings in the project area. At all locations surveys were conducted during the AM, midday, and PM peak periods. Peak hour pedestrian volumes are presented in **Table 10-^ 45**.

Table 10-^ 45
Existing Peak Hour Pedestrian Volumes at Grade Crossings

Grade Crossing	AM Peak Hour	Midday Peak Hour	PM Peak Hour
Covert Avenue	23	18	28
South 12th Street	238	42	143
New Hyde Park Road	80	39	50
Main Street	48	171	41
Willis Avenue	22	51	20
School Street	16	35	43
Urban Avenue	52	87	78

In the New Hyde Park area, the South 12th Street crossing has the highest volume of pedestrians crossing the tracks, primarily due to the surface parking lot located along the west side of South 12th Street just south of the tracks. This location is also used as a major pick-up/drop-off area for LIRR ^ Station users.

In Mineola, Main Street is the busiest of the two crossings, especially at midday. The two crossing locations in Westbury/New Cassel have modest pedestrian crossing volumes as there are no major trip generators or commuter parking facilities.

FUTURE CONDITIONS WITHOUT THE PROPOSED PROJECT (YEARS 2020 AND 2040)

The grade crossings would remain "as is" under future conditions without the Proposed Project. There would be no changes to station access nor to the grade crossings themselves. Pedestrian volumes would increase modestly in 2020 due to background growth in LIRR ridership from 2016 to 2020. With the institution of East Side Access in 2023, there would be a substantial increase in ridership and pedestrian crossings at the three New Hyde Park grade crossing locations (more so at South 12th Street which is the busiest pedestrian crossing location) and at the two Mineola grade crossings, but continued modest pedestrian increases at the two

Westbury/New Cassel grade crossings since they are not situated at the Westbury LIRR ^ Station.

However, when additional LIRR service is implemented as part of East Side Access in 2023, the number of times the crossing gates will be in the down position will increase, and the amount of time for pedestrians to cross at these locations will be reduced.

FUTURE CONDITIONS WITH THE PROPOSED PROJECT (YEARS 2020 AND 2040)

The Proposed Project would not significantly increase the volume of pedestrians crossing the tracks, but will provide for the safe crossing of pedestrians at locations where underpasses or pedestrian overpasses would be built or where street closures would occur. There would be no conflicts between pedestrians and vehicular traffic crossing from one side of the tracks to the other. Pedestrian connectivity would be maintained wherever underpasses are built.

For the proposed Covert Avenue underpass, there would be a sidewalk along the east side of the underpass to serve pedestrians crossing from one side to the other. For the proposed New Hyde Park Road underpass, sidewalks would be constructed along both sides of the underpass. For the closure of South 12th Street at the tracks, a pedestrian bridge or underpass would be built to accommodate crossing pedestrians. Should it be determined that construction of an underpass for South 12th Street is preferred over the street closure option, a sidewalk would be provided on the east side of the underpass.

For the Main Street crossing, should it be determined that closing Main Street is the preferred option or that an underpass be built under the tracks, a pedestrian bridge would be built to accommodate pedestrian crossings. For the Willis Avenue crossing, a pedestrian bridge would also be built whether a one-way or two-way underpass is the preferred vehicular traffic option.

For both the School Street and Urban Avenue crossings, sidewalks would be built to accommodate pedestrian crossings—along the east side of the School Street underpass and along the west side of the Urban Avenue underpass.

The Proposed Project would thus maintain pedestrian connectivity at all crossing locations while improving traffic and pedestrian safety at each crossing location by eliminating the potential for vehicular traffic or pedestrians to cross the tracks at-grade.

BICYCLE ACCESS

Bicycle racks for bicycle parking are currently provided adjacent to the station houses and westbound LIRR platforms at the New Hyde Park, Mineola, and Westbury ^ Stations. Bicycle racks are typically utilized by LIRR commuters who park their bicycles at the stations during the AM peak period and retrieve their bicycles during the PM peak period. Bicycle racks would remain available to LIRR riders in 2020 and 2040, with and without the Proposed Project.

Access to the New Hyde Park ^ Station would remain comparable to existing access to the station with the Proposed Project. Under both Build Option 1 and Build Option 2, Second Avenue would no longer intersect with New Hyde Park Road and cyclists would utilize Herkomer Street and Plaza Avenue to access New Hyde Park Road from the station. In addition, if the LIRR grade crossing at South 12th Street is closed, cyclists would use the proposed underpasses on New Hyde Park Road or Covert Avenue to cross from one side of the LIRR tracks to the other. If a one-way southbound underpass is constructed on South 12th Street, northbound cyclists would utilize New Hyde Park Road or Covert Avenue to cross the LIRR tracks.

In Mineola, access to the station and bicycle racks would remain comparable to existing access via 2nd Street and the reconfigured Front Street/Station Plaza. Under Build Option 1, the grade crossing at Main Street would be eliminated and Main Street at the LIRR grade crossing would be closed. Cyclists would use the proposed two-way underpass on Willis Avenue or the existing viaduct on Mineola Boulevard to cross the tracks. Under Build Option 2, northbound cyclists would use the proposed one-way northbound Main Street underpass or the existing viaduct on Mineola Boulevard to cross the LIRR tracks; southbound cyclists would use the proposed one-way Willis Avenue underpass or the existing viaduct on Mineola Boulevard to cross the LIRR tracks. In Westbury, access to bicycle racks would remain unchanged from existing conditions.

H. VEHICULAR AND PEDESTRIAN SAFETY

SAFETY STUDY AREAS

This section summarizes the results of crash studies that were performed for study locations encompassing seven segments of roadway and two intersections nearby the New Hyde Park, Mineola and Westbury LIRR ^ Stations. These seven roadways are those within which grade crossing eliminations are being considered as part of the Proposed Project. The crash data obtained included vehicular and pedestrian crashes at the grade crossings (including any vehicle crashes into the gates at the crossings), along the section of each roadway leading to and from the grade crossings, and at two key intersections identified for evaluation by the NYSDOT. The safety study locations are as follows:

- Covert Avenue: from 7th Avenue to Jericho Turnpike
- South 12th Street: from 5th Avenue to Jericho Turnpike
- New Hyde Park Road: from 5th Avenue to Jericho Turnpike
- Main Street: from Old Country Road to 1st Street
- Willis Avenue: from Old Country Road to 1st Street
- Intersection of Mineola Boulevard/Franklin Avenue and Old Country Road
- Intersection of Mineola Boulevard and 2nd Street
- School Street: from Lowell Street to Maple Avenue
- Urban Avenue: from Main Street to Prospect Avenue

The elimination of the grade crossings would eliminate fatalities involving vehicular traffic being struck by trains. This section also describes crash histories along those sections of the seven roadways leading to and from the seven grade crossings.

METHODOLOGY

The crash analysis is based on methodology and procedures used by NYSDOT. This involved obtaining police accident reports (Form MV-104AN) and the New York State Department of Motor Vehicles (NYSDMV) accident reports (Form MV-104) for the study locations, recorded during the most recent and available three-year period from November 1, 2012 to October 31, 2015, The reports were obtained from the Safety Information Management System (SIMS) and were provided by the NYSDOT Traffic Safety and Mobility Division. The data were supplemented with rail crossing crash data obtained from the Public Transportation Safety Board and the Federal Railroad Administration. The rail crash data was reviewed for a 10-year period beginning November 1, 2005.

All crash reports were reviewed and sorted by location. The detailed information for each report was entered into a data base program that generated crash summary information including date, time of day, collision type, severity, weather, lighting, roadway surface condition, and apparent contributing factors to the accidents. Collision diagrams were prepared for each safety study location on aerial photograph imagery presenting crash types and spatial patterns in each area. The crash summary information and collision diagrams were reviewed to determine if there were significant patterns of crashes by type, location, or other identifiable factors or conditions. To supplement this, field investigations were conducted at each study location to review information on the existing roadway conditions and to identify physical and operational features including existing roadway geometrics and traffic control devices that may have contributed to any identified crash pattern. The analyses also sought to correlate identified safety issues at the safety study areas to observations made in the field.

SUMMARY FINDINGS

Table 10-^ 46 provides a summary of the total crashes, and a breakdown of crash severity and major crash types for each safety study location.

Table 10-^ 46
Summary of Crash Data for Safety Study Areas (November 2012^ —October 2015)

Safety Study Location	Total Crashes	Crash Severity				Crash Type			
		Fatal	Injury	Property Damage Only	Non-Reportable	Rear End	Overtake	Right Angle	Left Turn
Covert Avenue	99	2	22	43	32	33	15	20	7
South 12th Street	17	1	4	6	6	1	1	4	1
New Hyde Park Road	100	0	22	44	34	33	29	8	11
Main Street	34	0	3	15	16	5	6	2	3
Willis Avenue	68	1	12	21	34	21	15	13	3
Mineola Blvd/ Franklin Ave at Old Country Rd	95	0	20	42	33	40	26	6	6
Mineola Boulevard at 2nd Street	64	0	17	30	17	15	20	3	4
School Street	59	0	11	27	21	13	8	12	7
Urban Avenue	53	1	12	19	21	9	6	11	0

In addition to the three-year period from November 1, 2012 through October 31, 2015, ten years of crash records were reviewed for crashes resulting in a fatality at the seven crossing locations. There were a total of six crashes over the 10-year period that resulted in one fatality at the seven grade crossing locations and one additional crash resulting in one fatality that occurred at an intersection along the study roadways during the three-year period from November 1, 2012 through October 31, 2015, as follows:

- One crash that resulted in a fatality occurred at the Covert Avenue grade crossing and involved a westbound train striking a pedestrian who was reported to have jumped onto the tracks in August 2013.
- Another fatal crash occurred at the intersection of Covert Avenue and 2nd Avenue and involved a southbound vehicle that collided with a westbound vehicle in August 2014.
- A fatal crashed occurred at the South 12th Street grade crossing and involved a westbound train striking a pedestrian in December 2012.
- There was a fatality involving an incident with a train at the New Hyde Park Road grade crossing in May 2009.
- A fatal crash occurred along Willis Avenue involving a westbound train striking a pedestrian reported to be trespassing in January 2013.

- There was a crash along Urban Avenue in January 2006 involving a train (unknown direction) striking a pedestrian.
- Another fatal crash occurred along Urban Avenue in November 2012 involving an eastbound train striking a bicyclist reported to have ridden around the closed crossing gate.

Table 10-^ 47 presents a summary of total crashes, and the breakdown of crash severity and major crash types for crashes that occurred at or near each of the seven grade crossing locations.

Table 10-^ 47
Summary of Crash Data at or Near
Grade Crossing Locations (November 2012^ —October 2015)

Location	Total Crashes	Crash Severity			
		Fatal	Injury	Property Damage Only	Non-Reportable
Covert Avenue	28	2	5	13	8
South 12th Street	4	1	2	1	0
New Hyde Park Road	22	0	2	12	8
Main Street	1	0	0	0	1
Willis Avenue	2	1	0	1	0
School Street	1	0	0	0	1
Urban Avenue	8	1	2	3	2

The elimination of the existing grade crossings with the Proposed Project would significantly improve pedestrian and vehicular safety conditions at critical locations. For example, a significant number of crashes at the Covert Avenue grade crossing occurred when traffic was slowing for, or stopping at, a closed crossing gate. This condition would be eliminated by the Proposed Project. With the elimination of seven grade crossings, all rail-related crashes involving trains and pedestrians and/or vehicles would be ameliorated.

The detailed traffic analyses conducted for the Proposed Project, with mitigation, also concluded that vehicle delays would be significantly reduced and, as a result, traffic operating conditions improved. The Proposed Project and the elimination of the existing grade crossings will eliminate crashes that occur when traffic slows for, or stops at, a closed crossing gate, and will help to decrease the overall number of crashes within the study area.

Under projected future conditions without the Proposed Project, with conditions left unchanged and traffic volumes likely to increase, it can be expected that the frequency of crashes would also increase. ✷