8. Natural Resources

This chapter assesses the potential for the Proposed Project to affect natural resources in the Proposed Project study area. Natural resources are defined as plant and animal species and any areas capable of either providing habitat for plant and animal species or functioning to support ecological systems and to maintain an environmental balance, including surface waters, wetlands, floodplains, terrestrial and aquatic resources, and ecologically sensitive areas.

8.1 KEY CONCLUSIONS

This analysis finds that, based on the preliminary design, the Proposed Project would not result in significant adverse impacts on surface waters and aquatic resources, floodplains, wetlands, ecological communities, wildlife, endangered, threatened and species of special concern, or significant coastal fish and wildlife habitats.

A wetland delineation of the Hell Gate Line (HGL) has been completed and submitted to U.S. Army Corps of Engineers (USACE) as part of the permitting phase. The wetland delineation was conducted in March and April 2020, and included the following areas:

- The HGL from approximately East 141st Street (mile post 9.0) to the Pelham Bay/Split Rock Golf Courses (mile post 16.7) in the Bronx
- Location of proposed Co-op City Station and substation (Block 5131, Lot 1 and portion of Block 4335, Lot 1 in the Bronx)
- Location of proposed Woodside DC Substation (portion of Block 120, Lot 50 and portion of Block 119, Lot 32 in Queens)
- Location of proposed Gate DC Substation (portions of Block 1017, Lot 75 and Block 1024, Lot 66 in Queens).

Based on this assessment, the Proposed Project would affect less than 0.25 acre of wetland. Any construction work that would potentially occur in wetlands or wetland adjacent areas would be minor and would require appropriate regulatory permitting to avoid or mitigate impacts. As design advances, MTA and the design-builder would revise the impacts to wetlands, if necessary, and compensatory mitigation would be addressed in the permitting process. Measures to minimize harm would be evaluated in accordance with state and federal regulations and guidance.

Permits for in-water bridge work adjacent to the existing Bronx River Bridge and construction of other project elements—including permit(s) from the USACE, a U.S. Coast Guard (USCG) Bridge permit, and a water quality certificate from New York State Department of Environmental Conservation (NYSDEC)—could may be required and will be pursued during the advanced design phase. Consultation with USACE, USCG, and NYSDEC is underway and MTA will continue to coordinate closely with these natural resources agencies during the permitting process. MTA anticipates that any adverse effects to essential fish habitat would be minimal and would plan minimization measures, implementing mitigation if necessary. Shortnose sturgeon,

Atlantic sturgeon, and four species of sea turtles are found seasonally within one mile of the Action Area;[1] however, the Action Area is not within the range of breeding or overwintering habitat for these species. If individuals of these species were present, it would be a transient presence with a limited temporal duration. Overall, all potential effects of the Proposed Project would be insignificant; therefore, the Proposed Project could affect, but would likely not adversely affect any listed species or critical habitat under National Marine Fisheries Service (NMFS) jurisdiction.

8.2 METHODOLOGY

Natural resources evaluated in this chapter include surface waters, floodplains, wetlands, wildlife, threatened and endangered species, species of special concern, and significant coastal fish and wildlife habitats.[2] This chapter documents existing conditions along the HGL Corridor and the four proposed station sites and evaluates the anticipated environmental consequences that would result with the No Action Alternative and the Proposed Project. The assessment is based on the desktop review of mapped resources and conceptual design for the Proposed Project as well as correspondence with the NYSDEC Natural Heritage Program (NYNHP), U.S. Fish and Wildlife Services (USFWS), and the National Oceanic and Atmospheric Administration (NOAA) NMFS (see Appendix F, "Natural Resources").

8.2.1 Surface Waters and Aquatic Resources

MTA identified surface waters within the Proposed Project study area using the NYSDEC Environmental Resource Mapper.[3] Surface waters include streams, rivers, ponds, and lakes. MTA defined the study areas used to identify surface waters 0.5-mile and 500-foot radii for the four proposed station areas and HGL Corridor, respectively. For this analysis, the Action Area is confined to the portion of the Bronx River surrounding the proposed cofferdams, including waters where spud barges could be deployed.

8.2.2 Floodplains

A floodplain is any land area susceptible to being inundated by riverine or coastal flood waters. The 100-year floodplain is the area that has a 1 percent chance of flooding in any given year. The Federal Emergency Management Agency (FEMA) maps the floodplain on Flood Insurance Rate Maps. Existing flood levels reported are based on FEMA's Preliminary Flood Insurance Rate Maps (PFIRMs), released in 2015 as part of a New York City's flood map update. FEMA's maps also indicate the Base Flood Elevation (BFE), which is the height of flooding that can be expected in the 100-year flood within the floodplain. The BFE is measured not from ground or sea level, but from a fixed tidal benchmark the NOAA established and refers to as the North American Vertical Datum of 1988 (NAVD88). The floodplains analysis focuses on the portions of the rail corridor where the Proposed Project would introduce new elements or modify existing infrastructure. Where relevant, MTA identifies areas that are likely to be within the future projected floodplain.[4] MTA defined

[1] The Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq. (50CFR§402.02) defines "Action Area" as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action".
[2] Significant Coastal Fish and Wildlife Habitats are coastal habitats designated by the New York State Department of State based on the uniqueness of the habitat; presence of protected or vulnerable species; recreational, education, and other uses; abundance of ecologically important species; and habitat irreplaceability.
[3] New York State, Environmental Resource Mapper: http://www.dec.ny.gov/gis/erm/
[4] NYC Department of City Planning, NYC Flood Hazard Mapper.

the study areas used to identify floodplains 0.5-mile and 500-foot radii for the four proposed station areas and HGL Corridor, respectively.

8.2.3 Wetlands

For the wetlands analysis, MTA reviewed the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) and NYSDEC Environmental Resource Mapper. MTA defined the study areas used to identify wetlands as 0.5-mile and 500-foot radii for the four proposed station areas and HGL Corridor, respectively. NYSDEC regulates wetlands, as well as activities within tidal wetland adjacent areas. In New York state, the regulated adjacent area extends 300 feet (or 150 feet within the boundaries of New York City) from the tidal wetlands unless there is a closer functional and substantial fabricated structure (including, but not limited to, paved streets and highways, railroads, bulkheads and sea walls, and rip-rap walls) or an elevation contour of 10 feet above mean sea level that serves as the wetland or adjacent area boundary, in accordance with 6 NYCRR Part 661.[5] In addition, Matrix New World conducted a wetland delineation of the corridor in March and April 2020. MTA submitted the delineation to USACE as part of permitting consultation.

8.2.4 Ecological Communities

Ecological Communities of New York State provided the classifications for the ecological communities in the study area.[6] MTA defined the study areas used to identify ecological communities 0.5-mile and 500-foot radii for the four proposed station areas and HGL Corridor, respectively.

8.2.5 Wildlife

The assessment of effects on wildlife is based on hard copy research,[7,8] desktop research, and resource agency correspondence. MTA defined the study areas used to identify wildlife 0.5-mile and 500-foot radii for the four proposed station areas and HGL Corridor, respectively.

8.2.6 Endangered, Threatened, and Special Concern Species

The Information for Planning and Consultation (IPaC) system for federally threatened and endangered species (http://ecos.fws.gov/ipac) and threatened and endangered species identified by NYSDEC Environmental Resource Mapper as well as correspondence with both agencies provided the data to evaluate endangered, threatened and special concern species.

Section 7(a)(2) of the ESA requires federal agencies to consult on any action that could affect a federally listed endangered or threatened species. Initial stages of this process typically begin with a request to NMFS and/or USFWS for information on listed species in the vicinity of the Proposed Project. This stage may be followed by formal or informal consultation with NMFS or USFWS depending on the degree of potential impacts to listed species as determined by the federal sponsor. Alternatively, if the federal sponsor concludes that the Proposed Project will have "no effect" on listed species, consultation with NMFS or USFWS is not initiated. In the event that consultation is necessary, the lead federal agency evaluates the potential effects of the Proposed

5 New York Code, Rules and Regulations Part 661 Tidal Wetlands--Land Use Regulations

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

7 *The Second Atlas of the Breeding Birds of New York State.*2008. McGowan, K. and K. Corwin (editors). Cornell University Press, Ithaca, NY.

8 New York State Amphibian & Reptile Atlas Project (Herp Atlas), https://www.dec.ny.gov/animals/7140.html, Accessed August 2018.

Project on listed species, makes a determination, and requests concurrence from NMFS or USFWS. MTA defined the study areas used to identify endangered, threatened and special concern species as 0.5-mile and 500-foot radii for the four proposed station areas and HGL Corridor, respectively.

8.2.7 Significant Coastal Fish and Wildlife Habitat

The New York State Department of State designates significant coastal fish and wildlife habitats as coastal habitats based on the following:

- Uniqueness of the habitat
- Presence of protected or vulnerable species
- Recreational, education, and other uses
- Abundance of ecologically important species
- Habitat irreplaceability

MTA evaluated the potential for habitat impairment based on the Coastal Fish and Wildlife Habitat Rating Form.[9] MTA defined the study areas used to identify significant coastal fish and wildlife habitat as 0.5-mile and 500-foot radii for the four proposed station areas and HGL Corridor, respectively.

8.3 REGULATORY CONTEXT

Several federal and state agencies have jurisdiction over elements of the aquatic and terrestrial environments within the study areas and are charged with protecting and regulating the use of natural resources. These include, but are not limited to, U.S. Environmental Protection Agency (EPA), USACE, USFWS, NMFS, NYSDEC, New York State Department of State, and the USCG. A number of federal and state laws, regulations, and federal executive orders apply to natural resources within the vicinity of the Proposed Project. They include the following:

- Federal
  - Clean Water Act (33 USC §§ 1251 – 1387)
  - Rivers and Harbors Act of 1899 (33 USC § 403)
  - Federal Coastal Zone Management Act of 1972 (16 USC §§ 1451 – 1464)
  - Magnuson-Stevens Fishery Conservation and Management Act (16 USC §§ 1801 – 1883)
  - Endangered Species Act of 1973 (16 USC §§ 1531 – 1544)
  - Fish and Wildlife Coordination Act (PL 85-624; 16 USC §§ 661 – 667d)
  - Migratory Bird Treaty Act of 1918 (50 C.F.R. Parts 10, 20, 21, Executive Order 13186)
  - Bald and Golden Eagle Protection Act (16 USC §§ 668 – 668c)
  - Marine Mammals Protection Act of 1972 (16 USC § 31)
  - National Flood Insurance Act of 1968 (44 C.F.R. § 59)
  - Executive Order 11988: Floodplain Management
  - Executive Order 11990: Protection of Wetlands
  - Executive Order 13112: Invasive Species

[9] https://www.dos.ny.gov/opd/programs/consistency/scfwhabitats.html#nyc

- State
  - Freshwater Wetlands Act (Article 24, Environmental Conservation Law (ECL), 6 NYCRR Part 662)
  - Tidal Wetlands Act (Article 25, ECL; 6 NYCRR Part 661)
  - New York State Pollution Discharge Elimination System (ECL Article 3, Title 3; Article 15; Article 17, Titles 3, 5, 7, 8; Article 21; Article 70, Title 1; Article 71, Title 19; Implementing Regulations 6 NYCRR Part 750)
  - Rare, Endangered, or Threatened Species and Species of Special Concern (ECL, Sections 11-0535[1]-[2], 11-0536[2], [4]; 6 NYCRR Part 182)

8.4 EXISTING CONDITIONS

8.4.1 Surface Waters and Aquatic Resources

The HGL Corridor crosses the East River (Segment 1 Corridor), the Bronx Kill (Segment 1 Corridor), the Bronx River (Segment 2 Corridor), and the Hutchinson River and Pelham Bay (Segments 3sand 4 Corridors, and Co-op City Station area).

The HGL crosses the East River via the Hell Gate Bridge, connecting Queens with Randall's and Wards Islands. The East River connects Upper New York Bay to Long Island Sound. The HGL also crosses the Bronx Kill via a rail bridge that carries two passenger tracks and one freight track. The Bronx Kill is a narrow strait that separates the South Bronx from Randall's and Wards Islands and connects the Harlem River to the East River. The HGL runs roughly parallel to the Bronx River from the Bruckner Expressway to the Bronx River Bridge, where the HGL Corridor crosses the Bronx River, and then continues to run roughly parallel to it to approximately East 177th Street. The Bronx River is a tributary of the East River and flows generally from north to south through Westchester and central Bronx. The New York State Department of Environmental Conservation (NYSDEC) has designated the tidal portion of the Bronx River as a Class I waterbody, which indicates best usages as secondary contact recreation and fishing, and submerged aquatic vegetation is not present. The headwaters of the Bronx River are at Davis Brook and the Kensico Dam and the mouth is between Hunts Point and Classon Point along the East River. The northern portion of the Bronx River upstream of East Tremont Avenue is freshwater. South of this point, tides influence the Bronx River, which is generally brackish. The HGL crosses the Hutchinson River and Pelham Bay via the Pelham Bay Bridge, which Amtrak proposes to replace independent of the Proposed Project. The Hutchinson River is a freshwater stream that forms in Scarsdale and empties into Eastchester Bay. The Hutchinson River is navigable within the Proposed Project study area.

In accordance with 6 NYCRR Part 701.11, the Hutchinson River is classified as SB saline surface waters—waters where primary and secondary contact recreation and fishing are permitted. The other surface waters within the study area are classified as I saline waters where secondary contact recreation and fishing is allowed. Both SB and I waters are suitable for fish, shellfish, and wildlife propagation and survival. The tidal reach of the Hutchinson River is assessed as an impaired waterbody for public bathing and other recreational uses, as well as aquatic life that are known to be impaired due to low dissolved oxygen, pathogens, floatables and other pollutants from combined sewer overflow, urban stormwater discharges, and illegal sanitary connections to storm sewers.

8.4.2 Floodplains

Portions of the Proposed Project study area are in the floodplain (Figure 8-1 and Appendix F, "Natural Resources"). The Segment 1 Corridor within the floodplain includes the Astoria Park waterfront, portions of Randall's and Wards Islands, and much of the study area in the Bronx. However, from the east end of Harold Interlocking in Queens, to just north of 141st Street in the Bronx, the HGL tracks are on a viaduct and well outside the 100-year and 500-year floodplains. Oak Point Yard, where the tracks are at grade, is within the 100-year floodplain (Zone AE). The 100-year flood elevation on the PFIRM for this zone is 13 feet (NAVD88).

In the Segment 2 Corridor, portions of the corridor parallel to Whitlock Avenue near the Bronx River Bridge are within the 500-year floodplain (Zone X). Mid-century and end-of-century projections indicate an expanded area within the 500-year floodplain and parts of the HGL Corridor within the future 100-year floodplain.[10]

Although a portion of the Hunts Point Station area is within the 100-year and 500-year floodplains, the proposed Hunts Point Station would be outside of these flood zones and the future projected floodplain.

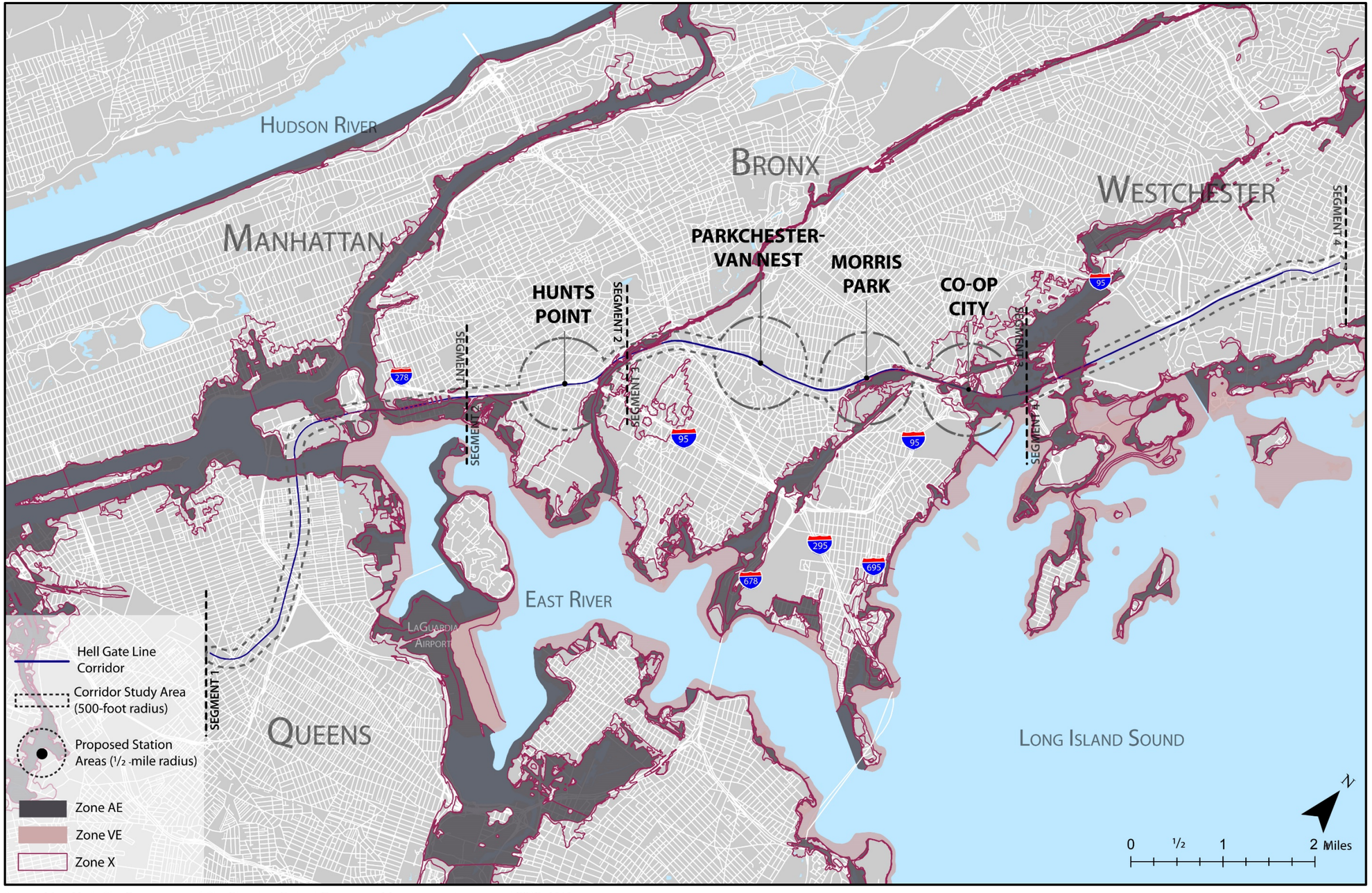
Portions of the Segment 3 Corridor are in the 100-year and the 500-year floodplains. The section of the corridor from just south of the Bronx and Pelham Parkway to the Pelham Bay Bridge is within the 100-year floodplain (Zone AE). The 100-year flood elevation on the PFIRM for this zone ranges from 13 to 14 feet (NAVD88). Farther south of the Bronx and Pelham Parkway, the corridor is within the 500-year floodplain. End-of-century projections indicate the future 100-year floodplain along the corridor would include the section of the corridor between Bronx River Bridge to just south of the Cross Bronx Expressway, as well as a larger section of the corridor south of the Bronx and Pelham Parkway, starting at approximately Wilkinson Avenue.

The Parkchester-Van Nest Station area is outside of the floodplains, while the Morris Park Station area is within both the 100-year and 500-year floodplains with the 100-year BFE being 13 feet (NAVD88). The Co-op City Station area is within the 100-year floodplain (Zone AE). The 100-year flood elevation on the PFIRM for this zone is 14 feet (NAVD88).

Within the Segment 4 Corridor, parts of the corridor between the Pelham Bay Bridge and the Pelham Lane Pathway Bridge are within the 100-year and the 500-year floodplains. The 100-year flood elevation on the PFIRM for this zone ranges from 13 to 14 feet (NAVD88).

[10] NYC Department of City Planning, NYC Flood Hazard Mapper.

Figure 8-1. Natural Resources (Existing): Federal Emergency Management Agency Flood Zones



Source: New York City Department of City Planning; Federal Emergency Management Agency; and WSP, 2019

THIS PAGE LEFT BLANK INTENTIONALLY.

8.4.3 Wetlands

Within the Segment 1 Corridor, the NYSDEC's Environmental Resource Mapper identifies two tidal wetland areas as SM-coastal shoals, bars, and mudflats within 500 feet of the HGL Corridor (Figure 8-2). The corridor crosses the East River, which the NWI identifies as an estuarine and marine deepwater wetland (E1UBL) (Figure 8-3). Specifically, this wetland code identifies estuarine, subtidal, unconsolidated bottom wetlands.

One NYSDEC tidal wetland zone (SM-coastal shoals, bars, and mudflats) and one intertidal marsh (IM) is within the Segment 2 Corridor (Figure 8-4). IM wetlands are those where the vegetated tidal wetland zone lies generally between average high and low tidal elevation in saline waters. The predominant vegetation in this zone is low marsh cordgrass (*Spartina alterniflora)*. Similar to the East River, the Bronx River within the Segment 2 Corridor is identified by the NWI as an estuarine and marine deepwater wetland (E1UBL)—estuarine, subtidal, unconsolidated bottom wetlands (Figure 8-5).

Three NYSDEC-mapped wetland types are within the Segment 3 Corridor and the Co-op City Station area:

- SM-coastal shoals, bars, and mudflats
- IM-intertidal marsh
- HM-high marsh

As described above, IM wetlands are those where the vegetated tidal wetland zone lies generally between average high and low tidal elevation in saline waters. HM is the normal uppermost tidal wetland zone that is usually dominated by salt meadow grass (*Spartina patens)* and spike grass (*Distichlis spicate*). Spring and storm tides periodically flood this zone, which is often vegetated by low vigor (*Spartina alterniflora*) and Seaside lavender (*Limonium carolinianum*). Upper limits of this zone often include black grass (*Juncus Gerardi*); chairmaker's rush (*Scirpus sp*); marsh elder (*Iva frutescens*and groundsel bush (*Baccharis halimifolia*).[1] The HGL tracks cross the mapped SM wetlands via the Pelham Bay Bridge (Figure 8-6). In addition to the NYSDEC-mapped wetlands, the preliminary wetland delineation identified Palustrine emergent, Phragmites-dominated wetlands (PEM5) within the right-of-way. The NWI identifies portions of the Segment 3 and Segment 4 Corridors as an estuarine and marine wetland (E2EM1P, E2EM1N, E2EM5Pd, and E2US2N)-estuarine, intertidal, emergent, persistent, irregularly flooded (see Figure 8-7). The corridors also cross the Hutchinson River, which the NWI identifies as an estuarine and marine deepwater wetland (E1UBL).

[1] https://www.dec.ny.gov/lands/5120.html, accessed June 4, 2018

Figure 8-2. Wetlands (Existing NYSDEC): Segment 1 Corridor

Source: New York State Department of Environmental Conservation wetlands shapefile and WSP, 2020

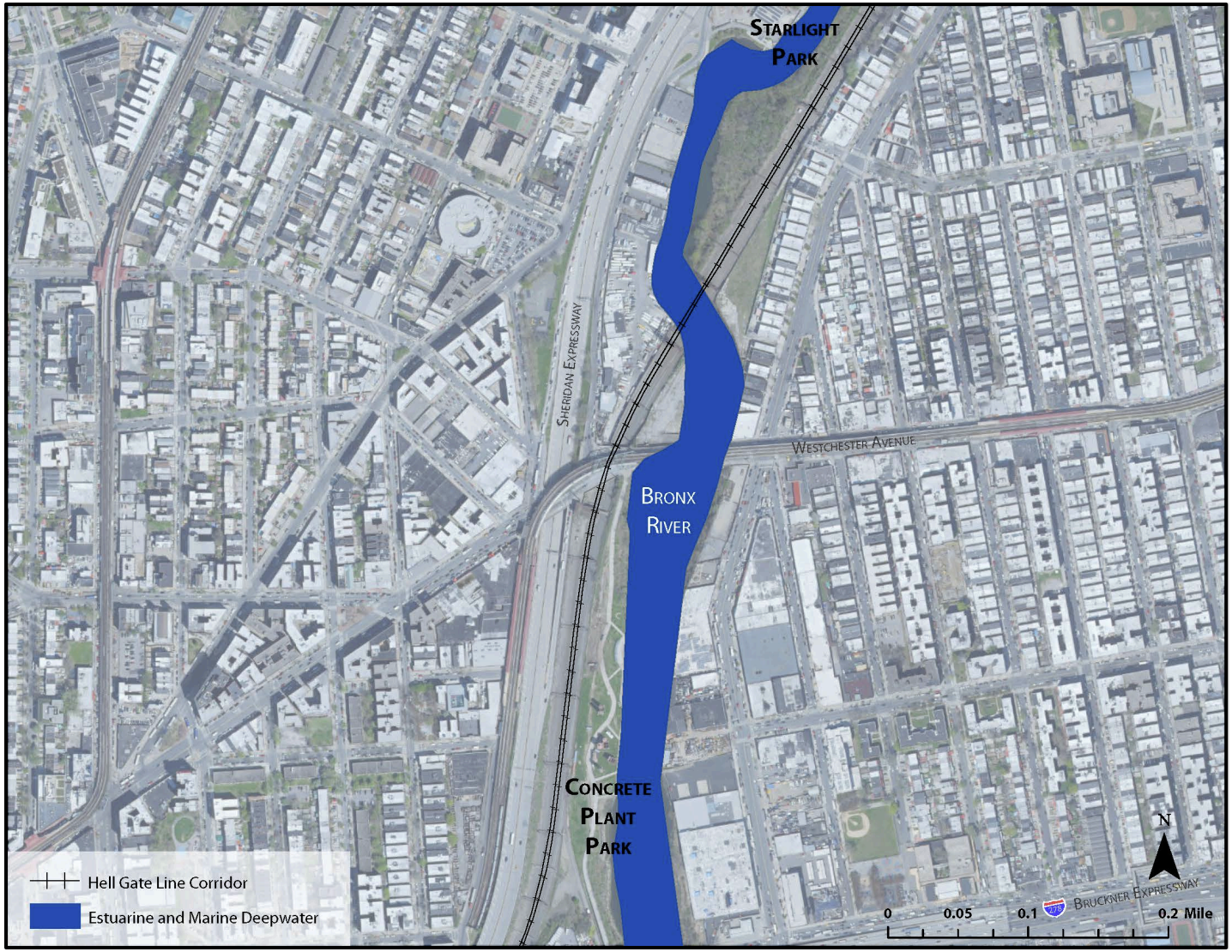
Figure 8-3. Wetlands (Existing NWI): Segment 1 Corridor

Source: National Wetlands Inventory wetlands shapefile and WSP, 2020

Figure 8-4. Wetlands (Existing NYSDEC): Segment 2 Corridor (along the Bronx River)

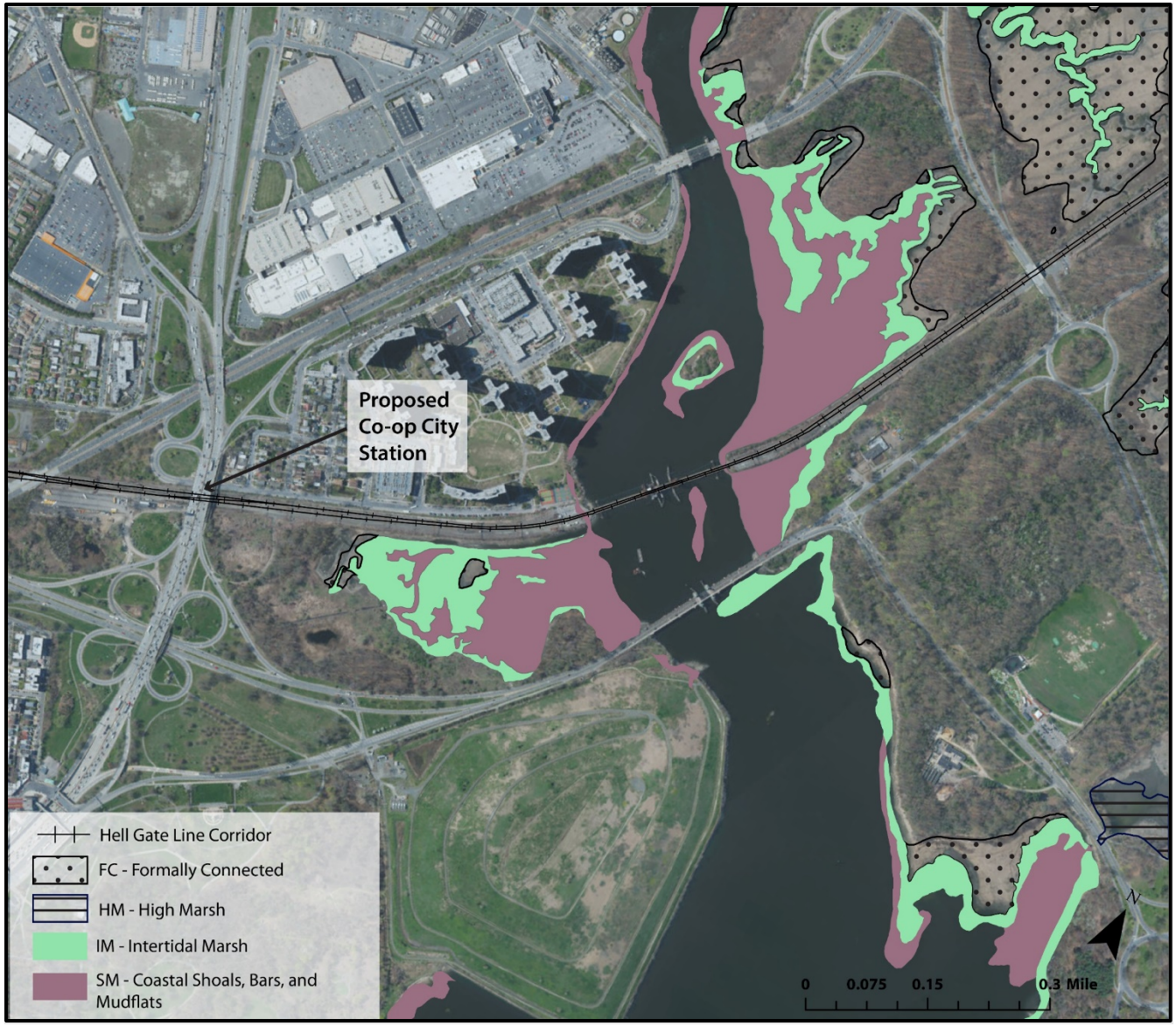
Source: New York State Department of Environmental Conservation wetlands shapefile and WSP, 2020

Figure 8-5. Wetlands (Existing NWI): Segment 2 Corridor (along the Bronx River)



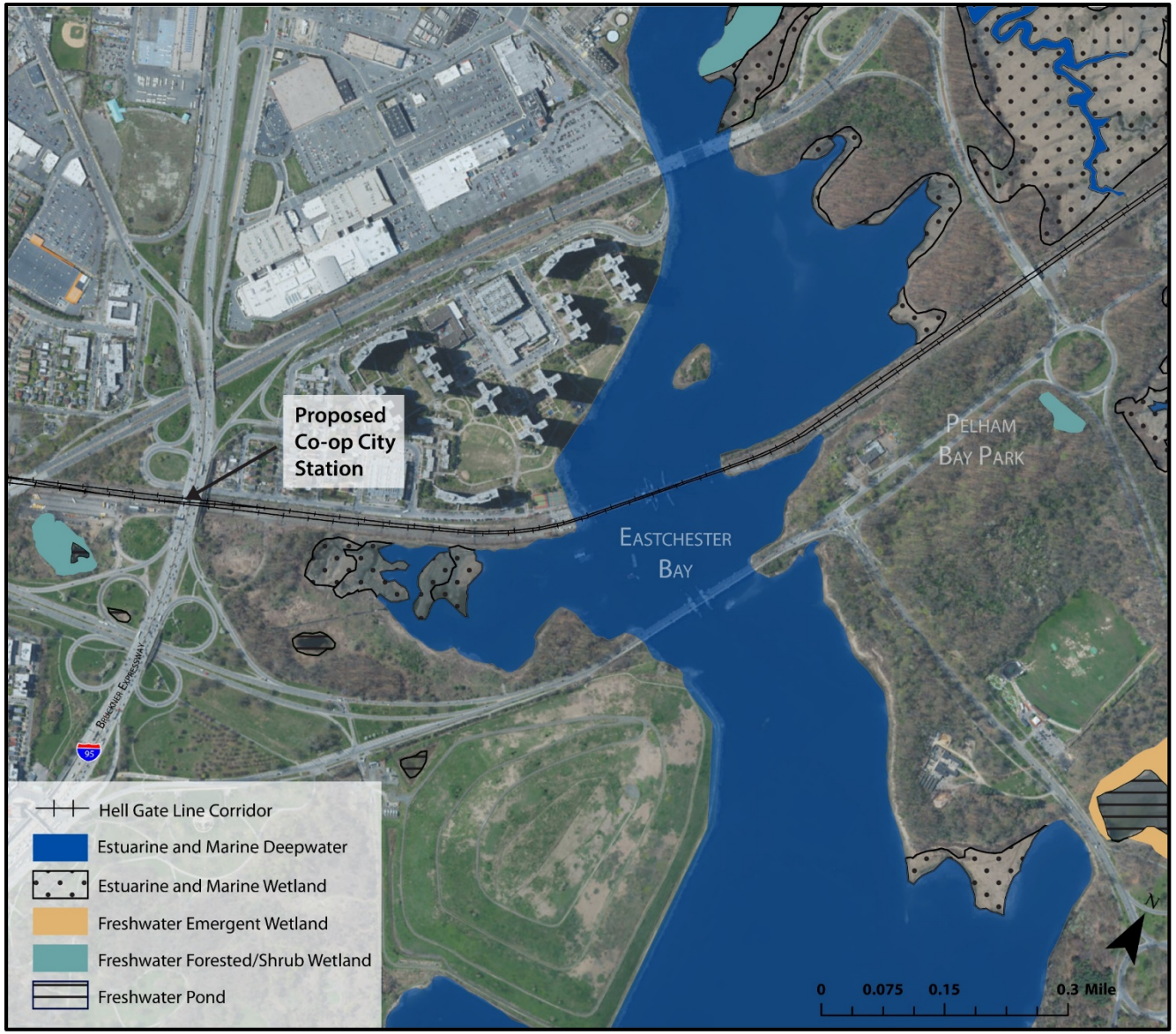
Source: National Wetlands Inventory wetlands shapefile and WSP, 2020

Figure 8-6. Wetlands (Existing NYSDEC): Segment 3 and Segment 4 (Corridors and Co-op City)



Source: New York State Department of Environmental Conservation wetlands shapefile and WSP, 2020

Figure 8-7. Wetlands (Existing NWI): Segment 3 and Segment 4 (Corridors and Co-op City)



Source: National Wetlands Inventory wetlands shapefile and WSP, 2020

8.4.4 Ecological Communities

The Proposed Project study areas are largely within the manmade urban landscape that primarily includes roads, transportation and utility uses, buildings, and a few street trees. Vegetated areas along the HGL Corridor include Astoria Park, Randall's and Wards Islands, Starlight Park, Noble Playground, planted areas surrounding the Bronx River Parkway, lawns and playing fields associated with Bronx Psychiatric Center, the campus of Yeshiva University - Albert Einstein College of Medicine, and Pelham Bay Park. The areas where the access to the Parkchester-Van Nest and Morris Park Stations are proposed is vegetated. In addition, trees and other vegetation are on the embankments of the rail viaducts near the Harold Interlocking in Queens, to the south of Oak Point Yard in the Bronx, and on or near the rail right-of-way between Leggett Avenue and Faile Street. These portions of the HGL Corridor contain 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*), and crabgrass (*Digitaria sp.*).[1]

According to the NYSDEC, Segments 1, 2, and 3 are "terrestrial cultural" communities 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."[2] The terrestrial cultural communities that exist within the study areas include those defined as railroad, paved road/path and urban structure exterior, which include the unvegetated roads, railyards, and residential/commercial buildings along the corridors.

Common tree species include the following:

- Red pine (*Pinus resinosa*)
- Red oak(*Quercus rubra*)
- Pin oak (*Quercus palustris*)
- Norway maple(*Acer platanoides*)
- Dogwood (*Cornus sp.*)
- Sweetgum (*Liquidambar styraciflua*)
- Weeping willow (*Salix babylonica*)
- London plane (*Platanus × acerifolia*)
- Cherry (*Prunus sp.*)
- Chinese scholar tree (*Sophora japonica*)

[1] *Ecological Communities of New York State* (second edition). 2014. Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY. Accessed at: https://www.dec.ny.gov/docs/wildlife_pdf/ecocomm2014.pdf.

[2] *Ecological Communities of New York State* (second edition). 2014. Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY. Accessed at: https://www.dec.ny.gov/docs/wildlife_pdf/ecocomm2014.pdf.

Within the study area, the NYSDEC has confirmed the following plants as vulnerable natural resource of conservation concern:

- Field Beadgrass (*Paspalum laeve*)
- Yellow Giant-hyssop *(Agastache nepetoides*)
- Wild pink (*Silene caroliniana ssp. pennsylvanica*)

NYSDEC has also confirmed that the following threatened and endangered plants have historically been identified near the HGL at one time (see discussion under Section 8.2.6, Endangered, Threatened, and Special Concern Species):[3]

- Slender Blue Flag (*Iris prismatica*)
- Virginia Three-seeded Mercury (*Acalypha virginica*)
- Annual Saltmarsh Aster (*Symphyotrichum subulatum*)
- Violet Wood Sorrel (*Exalis violacea*)

Unlike other portions of the corridor, the Co-op City Station area is within the suburban landscape of the Co-op City neighborhood of the Bronx, which primarily includes roads, buildings, and a few street trees. According to the NYSDEC, the suburban portion of Co-op City Station area is a "terrestrial cultural"[4] community. The terrestrial cultural communities that exist in the study area include those defined as railroad, paved road/path, and urban structure exterior, which include the unvegetated roads, railyards, and residential/commercial buildings along the corridor. The study area also includes the natural landscape associated with Pelham Bay Park, which includes rocky shoreline, saltwater wetlands, mud flats, forest, and meadow.

Segment 4 is within the suburban landscape of the Bronx and Westchester County. Segment 4 primarily includes roads, buildings, and a few street trees, as well as the natural landscape associated with Pelham Bay Park and Split Rock Golf Courses, which includes rocky shoreline, saltwater wetlands, mud flats, forest, and meadow. According to the NYSDEC, Segment 4 is as a "terrestrial cultural" community. The golf course portions of Segment 4 are described as a "mowed lawn with trees community." [5]

8.4.5 Wildlife

As described above, the Proposed Project study areas are largely within the manmade urban landscape that primarily includes roads, transportation and utility uses, buildings, and a few street trees. Because most of Segments 1, 2, and 3 Corridors, and the Hunts Point, Parkchester-Van Nest, and Morris Park Station areas are best described as "terrestrial cultural" communities and are covered by buildings, roads, and other impervious surfaces, limited natural habitats are available to terrestrial wildlife and are limited primarily to building exteriors and trees. In general, wildlife occurring in the study area is largely limited to urban-adapted species that can

[3] New York State Department of Environmental Conservation, New York Natural Heritage Program Report. Letter dated 10/15/2018, Appendix F, "Natural Resources."

[4] *Ecological Communities of New York State* (second edition). 2014. Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY. Accessed at: https://www.dec.ny.gov/docs/wildlife_pdf/ecocomm2014.pdf.

[5] *Ecological Communities of New York State* (second edition). 2014. Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY. Accessed at: https://www.dec.ny.gov/docs/wildlife_pdf/ecocomm2014.pdf.

tolerate degraded environments and high levels of human activity. Appendix F, "Natural Resources," provides additional detail on wildlife.

The portion of the Segment 4 Corridor and Co-op City Station area that is covered by buildings, roads, and other impervious surfaces has limited natural habitats available to terrestrial wildlife, which is limited primarily to building exteriors and trees. However, the Segment 4 Corridor includes a portion of Pelham Bay Park, which contains some of New York City's most ecologically diverse public parkland, with habitats that include rocky seashore, salt marsh, meadows, and mature natural forest. More than 400 species of birds, mammals, reptiles, amphibians, fish, and insects populate the park.[6] Pelham Bay Park encompasses a multitude of recreational and open space areas, including Orchard Beach, the Pelham Bay Park Hunters Island Marine Sanctuary, and the Pelham Bay Park Thomas Pell Wildlife Refuge. The southernmost portions of the Thomas Pell Wildlife Refuge are adjacent to the HGL Corridor. The Thomas Pell Wildlife Refuge makes up the westerly part of Pelham Bay Park (2,764 acres), which includes Goose Creek Marsh and the saltwater wetlands adjoining the Hutchinson River as well as Goose Island, Split Rock, and the oak-hickory forests bordering the Split Rock Golf Course. The area is home to a variety of wildlife including raccoon, egrets, hawks, and the occasional ibis or coyote.[7]

8.4.5.1 Birds

MTA used the most recent periodic census (2000 to 2005) of the distribution of breeding birds across New York state to identify common bird species in the study area.[8] The Segment 1 Corridor falls within Block 5851D and Block 5851B. The Segment 2 Corridor and the Hunts Point Station fall within Block 5851B. The Segment 3 Corridor, and Parkchester-Van Nest Station, Morris Park Station, and Co-op City Station areas fall within portions of Block 5952C. The Segment 4 Corridor falls within portions of Block 5952CB. Appendix F documents the species than can occur in each survey block. Based on the *Breeding Bird Atlas*, a number of bird species have the potential to occur within the study area; however, the survey blocks encompass a larger area than what is present along each of the segments. Therefore, many bird species that appear in the survey block may be unlikely to breed in the study areas, which contains habitat that is primarily suitable for only a few of the most urban-adapted birds. Large natural open spaces in the study area that may be suitable for bird habitat include Pelham Bay Park and all of Hart Island in western Long Island Sound.

Based on October 15, 2018, correspondence with the NYSDEC NYNHP (see Appendix F), the HGL within the vicinity of Goose Island, Hutchinson River, Hutchinson River Bridge, and the Co-op City Station area is known to have five rare bird species that, while not listed by the State of New York as endangered or threatened, are of conservation concern (Table 8-1). In addition, the correspondence noted the presence of the endangered peregrine falcon (*Falco peregrinus*) nesting on the Hell Gate Railroad Bridge (see discussion under Section 8.2.6, Endangered, Threatened, and Special Concern Species).

[6] NYC Parks, Pelham Bay Park, https://www.nycgovparks.org/greening/nature-preserves/site?FWID=45, accessed August 2018.
[7] NYC Parks, Thomas Pell Wildlife Sanctuary/ Hunter Island Marine Zoology and Geology Sanctuary, https://www.nycgovparks.org/parks/pelham-bay-park/highlights/6350, accessed February 2020.
[8] T*he Second Atlas of the Breeding Birds of New York State*. 2008. McGowan, K. and K. Corwin (editors). Cornell University Press, Ithaca, NY.

Table 8-1. Rare Bird Species (Documented): Co-op City Station Area

Common Name	Scientific Name	New York State Listing/Heritage Conservation Status
Glossy Ibis	*Plegadis falcinellus*	Protected Bird/Imperiled in New York State
Little Blue Heron	*Egretta caerulea*	Protected Bird/Imperiled in New York State
Snowy Egret	*Egretta thula*	Protected Bird/Imperiled in New York State
Yellow-crowned Night-Heron	*Nyctanassa violacea*	Protected Bird/Imperiled in New York State
Barn Owl	*Tyto alba*	Protected Bird/Critically Imperiled in New York State

Source: New York State Department of Environmental Conservation, 2018; see Appendix F, "Natural Resources."

8.4.5.2 Mammals

Because the terrestrial resources available in the Segment 1, 2, and 3 Corridors as well as the Hunts Point Station, Parkchester-Van Nest Station, and Morris Park Station areas are limited, mammals expected to occur are likely to be the following urban-adapted species: raccoon (*Procyon lotor*), house mouse (*Mus musculus),* gray squirrel (*Sciurus carolinensis*), Norway rat (*Rattus norvegicus*), and domestic cat (*Felis catus*).

Mammals that could occur in the in the Co-op City Station area and Segment 4 Corridor include raccoon (*Procyon lotor*), house mouse (*Mus musculus),* gray squirrel (*Sciurus carolinensis*), Norway rat (*Rattus norvegicus*), domestic cat (*Felis catus*), and white-tailed deer (*Odocoileus virginianus*). Marine mammals such as harbor seals (*Phoca vitulina*) occur in the waters. As stated above, more than 400 species of birds, mammals, reptiles, amphibians, fish, and insects populate Pelham Bay Park.[9]

8.4.5.3 Reptiles and Amphibians

The Segment 1, 2, and 3 Corridors, as well as the Hunts Point Station, Parkchester-Van Nest Station, and Morris Park Station areas, and much of the Co-op City Station area and Segment 4 Corridor are primarily covered by buildings, asphalt, and railyards in a heavily urbanized and residential/commercial setting; therefore, they do not provide habitat for reptiles or amphibians. As stated above, more than 400 species of birds, mammals, reptiles, amphibians, fish, and insects populate Pelham Bay Park.[10]

8.4.5.4 Aquatic Resources

As stated above, the HGL Corridor crosses the East River (Segment 1 Corridor), the Bronx Kill (Segment 1 Corridor), the Bronx River (Segment 2 Corridor), and the Hutchinson River and Pelham Bay (Segment 3 and 4 Corridors, and Co-op City Station area). MTA conducted an assessment of aquatic resources only for the Segment 2 Corridor portion of the Bronx River, because this is the only area where in-water work would occur. Macroinvertebrates and estuarine and anadromous fish are known to occur in the lower Bronx River. Macroinvertebrates include the following:

- Crabs (such as horseshoe crab (*Limulus polyphemus*)
- Blue crab (*Callinectes sapidus*)
- Green crab (*Carcinus*)
- Pacific grapsid shore crab (*Hemigrapsus*)
- Hermit crab (*Pagarus*)
- Fiddler crab (*Uca sp.*)
- Shrimp (sand shrimp (*Crangon*)

[9] NYC Parks, Pelham Bay Park, https://www.nycgovparks.org/greening/nature-preserves/site?FWID=45, accessed August 2018.
[10] NYC Parks, Pelham Bay Park, https://www.nycgovparks.org/greening/nature-preserves/site?FWID=45, accessed August 2018.

- Grass shrimp (*Palaemonetes*)
- Mantis (*Squilla empusa*)
- Sponges (*Microciona sp.*)
- Anemones (*Haliplanella sp.*)
- Comb jellies (*Mnemiopsis sp.*)
- Limpets (*Acmaea sp.*)
- Periwinkles (*Littorina sp.*)
- Mussels (*Mytilus* and *Modiolis sp.*)
- Oysters (*Crassostrea sp.*)
- Clams (*Spisula* and *Mya sp.*)
- Sand worms (*Nereis sp.*)

The lower Bronx River serves as a breeding ground and nursery to estuarine and anadromous fish such as the following:

- Striped bass (*Morone saxatilis*)
- Atlantic menhaden (*Brevoortia tyrannus*)
- Bluefish (*Pomatomus saltatrix*)
- Gizzard shad (*Dorosoma cepedianum*)
- Atlantic silversides (*Menidia menidia*)
- Winter flounder (*Pseudopleuronectes americanus*)[11]

According to NOAA's Essential Fish Habitat (EFH) Mapper, the Proposed Project in the vicinity of the new bridge over the Bronx River is designated as EFH for various life stages of 14 species. MTA evaluated the probability for various life stages of each species to occur in the vicinity of the new bridge over the Bronx River based on these species' preferences for water quality parameters (i.e., temperature and salinity), habitat preferences (i.e., sediment type, shelter, structure), seasonal migrations, and geographic ranges as described in the NMFS EFH Source Documents, EFH Designations, and Text Descriptions submitted with the EFH Worksheet to NOAA Fisheries Greater Atlantic Regional Fisheries Office (see Appendix F, "Natural Resources"). Based on this review and correspondence from NOAA on December 2, 2020, MTA expects EFH for various life stages of the following seven species to occur within the intertidal and low salinity estuarine habitat present in the vicinity of the new bridge over the Bronx River:

- Winter flounder (*Pseudopleuronectes americanus*)
- Atlantic herring (*Clupea harengus*)
- Red hake (*Urophycis chuss*)
- Windowpane flounder (*Scophthalmus aquosus*)
- Atlantic butterfish (*Peprilus triacanthus*)
- Bluefish (*Pomatamus saltatrix*)
- Summer flounder (*Paralichthys dentatus*)

[11] AKRF, Inc. Environmental Assessment Bronx River Greenway Westchester Avenue To East Tremont Avenue, November 2006

This area of the new bridge over the Bronx River also supports forage species, which are an important resource for EFH-designated fish species.

8.4.6 Endangered, Threatened, and Special Concern Species

Based on correspondence from the USFWS Long Island Ecological Services Field Office on July 14, 2020, five federally threatened, endangered, or candidate species may exist within the Proposed Project study area (Table 8-2). The USFWS provided a letter pursuant to Section 7 of the Endangered Species Act (ESA) that fulfills the requirement for federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action." Appendix F, "Natural Resources" describes these species in detail.

Table 8-2: Endangered, Threatened, or Candidate Species within Proposed Project Study Area

Common Name	Scientific Name	State or Federal	Status
Piping Plover	*Charadrius melodus*	Federal	Threatened
Red Knot	*Calidris canutus rufa*	Federal	Threatened
Roseate Tern	*Sterna dougallii*	Federal	Endangered
Bog Turtle	*Clemmys muhlenbergii*	Federal	Threatened
Seabeach Amaranth	*Amaranthus pumilus*	Federal	Threatened
Peregrine Falcon	*Falco peregrinus*	State	Endangered

Source: U.S. Fish and Wildlife Service, Long Island Ecological Services Field Office, July 2020; New York State Department of Environmental Conservation New York Natural Heritage Program, October 2018; see Appendix F, "Natural Resources"

Based on USFWS IPaC System, the piping plover (*Charadrius melodus*, threatened) has the potential to occur within the Segment 2, 3 and 4 Corridors. However, the HGL Corridor is outside of the critical habitat for the piping plover. Typical piping plover habitat includes beaches with sand or mud flats with no or very sparse vegetation. The Proposed Project study area does not include sand beaches or sparsely vegetated mud flats. Therefore, the piping plover would not be expected to occur within the study area.

The NYNHP has records of rare animals or plants along the HGL, within Pelham Bay Park, and within the vicinity of the proposed Co-op City Station. As discussed above, based on October 15, 2018, correspondence, the NYSDEC NYNHP (see Appendix F) documented peregrine falcon (*Falco peregrinus,* endangered) as nesting on the Hell Gate Railroad Bridge. In addition, according to the October 15, 2018, correspondence, the NYSDEC NYNHP documented seven rare vascular plant species in the vicinity of Pelham Bay and Pelham Bay Park, and within 500 feet of the HGL at one time (Table 8-3). However, the Annual Saltmarsh Aster (*Symphyotrichum subulatum var. subulatum*), Slender Blue Flag (*Iris prismatica)*, Violet Wood Sorrel (*Oxalis violacea)*, and Virginia Three-seeded Mercury (*Acalypha virginica)* have not been documented there since 1979. With the exception of the species listed in Table 8-1 and Table 8-3, the NYSDEC NYNHP did report the Seaside Dragonlet (*Erythrodiplax berenice*) and the Yellow Bumble Bee (*Bombus fervidus*) as two additional species of concern. The Seaside Dragonlet (*Erythrodiplax berenice)* is imperiled in New York state and found within Pelham Bay Park and the salt marsh adjacent to the HGL. The Yellow Bumble Bee (*Bombus fervidus*) is critically imperiled in New York state and found within Pelham Bay Park, along the HGL, and within the Co-op City Station area. The NYSDEC NYNHP did not report records of other rare or New York state-listed animals or plants, significant natural communities, or other significant habitats within or in the immediate vicinity of the study area. The study area is not within a New York state-designated Critical Environmental Area.

Table 8-3: Rare Plant Species (Historical Records): Co-op City Station Area

Common Name	Scientific Name	New York State Listing/Heritage Conservation Status
Wild Pink	*Silene caroliniana ssp. pensylvanica*	Threatened/Imperiled
Yellow Giant-hyssop	*Agastache nepetoides*	Threatened/Imperiled
Field Beadgrass	*Paspalum laeve*	Endangered/Critically Imperiled
Annual Saltmarsh Aster	*Symphyotrichum subulatum var. subulatum*	Threatened/Imperiled
Slender Blue Flag	*Iris prismatica*	Threatened/Imperiled
Violet Wood Sorrel	*Oxalis violacea*	Threatened/Imperiled
Virginia Three-seeded Mercury	*Acalypha virginica*	Endangered/Critically Imperiled

Source: New York State Department of Environmental Conservation, 2018; see Appendix F, "Natural Resources"

Table 8-4 lists the NOAA ESA species in the Greater Atlantic Region within a one-mile range of the Action Area according to the NOAA ESA Section 7 mapper[12] query results (included in Appendix F, "Natural Resources."). For this analysis, the Action Area is confined to the portion of the Bronx River surrounding the proposed cofferdams, including waters where spud barges may be deployed.

Table 8-4. Endangered Species Act Species within the Greater Atlantic Region

Species	Common Name	Scientific Name	Federal and State Listing	Action Area within One-Mile Buffer of Species Range
Fish	Atlantic salmon	*Salmon salar*	Endangered	No
	Shortnose sturgeon	*Acipenser brevirostrum*	Endangered	Yes
	Atlantic sturgeon	*Acipenser oxyrinchus*	Endangered	Yes
Sea Turtles	Green sea turtle	*Chelonia mydas*	Threatened	Yes
	Hawksbill turtle	*Eretmochelys imbricate*	Endangered	No
	Kemp's Ridley turtle	*Lepidochelys kempii*	Endangered	Yes
	Leatherback turtle	*Dermochelys coriacea*	Endangered	Yes
	Loggerhead turtle	*Caretta*	Threatened	Yes
Marine Mammals	Blue whale	*Balaenoptera musculus*	Endangered	No
	Fin whale	*Balaenoptera physalus*	Endangered	No
	North Atlantic right whale	*Eubalaena glacialis*	Endangered	No
	Sei whale	*Balaenoptera borealis*	Endangered	No
	Sperm whale	*Physeter microcephalus*	Endangered	No

Source: National Oceanic and Atmospheric Administration, 2020; see Appendix F, "Natural Resources"

[12] https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=1bc332edc5204e03b250ac11f9914a27

According to a review of NOAA critical habitat maps[13] and NOAA ESA Section 7[14] mapper, no critical habitat for any species exists in the Action Area. Waters within one mile of the Action Area are not within the range of Atlantic salmon (*Salmon salar*), hawksbill turtle (*Eretmochelys imbricate)*, blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), sei whale (*Balaenoptera borealis*), North Atlantic right whale (*Eubalaena glacialis*), or sperm whale (*Physeter microcephalus*). Based the NOAA ESA Section 7 mapper query results, the Action Area is within one mile (specifically 750 feet upstream) of waters potentially used by the following:

- Shortnose sturgeon (*Acipenser brevirostrum*)
- Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*)
- Green (*Chelonia mydas*) sea turtle
- Kemp's Ridley (*Lepidochelys kempii*) sea turtle
- Leatherback (*Dermochelys coriacea*) sea turtle
- Loggerhead (*Caretta caretta*) sea turtle

8.4.6.1 Shortnose Sturgeon

Adult shortnose sturgeon may migrate through and forage in the East River and its tributaries, including the Bronx River. The Action Area does not contain any known overwintering areas; thus, adult shortnose sturgeon would only potentially be present in the vicinity of the Action Area from April through November. Occurrence in waters within the Action Area would be tied to the presence of suitable benthic resources for foraging. Use of the Action Area by shortnose sturgeon is likely to be limited to transient individuals that are passing through due to lack of breeding, overwintering, and foraging habitat.

8.4.6.2 Atlantic Sturgeon

Atlantic sturgeon may migrate through and forage in the East River and its tributaries, including the Bronx River. Because the Action Area is in saline, tidally influenced waters, no eggs, larvae, or juvenile Atlantic sturgeon would be present. The Action Area does not contain any known overwintering areas; thus, only sub-adult and adult Atlantic sturgeon would potentially be present in the vicinity of the Action Area from April through November. Occurrence in waters within the Action Area would be tied to the presence of suitable benthic resources for foraging. Use of the Action Area by Atlantic sturgeon is likely to be limited to transient individuals that are passing through due to lack of breeding, overwintering, and foraging habitat.

8.4.6.3 Sea Turtles

Sea turtle species may migrate through and forage the coastal waters south of Cape Cod through Virginia seasonally (approximately May to December), with the highest concentrations of turtles occurring from June through October. Sea turtle occurrence in these waters would be tied to the presence of suitable foraging habitat. Satellite tracking studies of sea turtles in New York have found that foraging turtles mainly occurred in areas where the water depth was between approximately 16 and 49 feet.[15] This depth was interpreted not to be an upper physiological depth limit for turtles, but rather a natural limiting depth where light and food are most suitable for foraging turtles. The Action Area consists of shallow waters that range in depths from 0 to 10 feet and lack suitable prey items. Leatherback sea turtles feed almost exclusively on jellyfish in offshore

[13] https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-critical-habitat-information-maps-greater#species-and-critical-habitat-maps
[14] https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=1bc332edc5204e03b250ac11f9914a27
[15] Ruben, H.J. and Morreale, S.J., 1999. Draft biological assessment for sea turtles in New York and New Jersey harbor complex. Unpublished Biological Assessment submitted to National Marine Fisheries Service

marine environments, whereas green sea turtles tend to frequent seagrass beds. Loggerhead and Kemp's ridley sea turtles feed on mollusks and crustaceans. If sea turtles were present within the vicinity of the Action Area, it would be a transient presence with a limited temporal duration.

8.4.7 Significant Coastal Fish and Wildlife Habitat

Segments1, 2, 3, and 4 Corridors as well as the Hunts Point, Parkchester-Van Nest, and Morris Park Station areas, are outside of a significant coastal fish and wildlife habitat. The Co-op City Station area falls within the Pelham Bay Park wetlands, a significant coastal fish and wildlife habitat. A portion of the study area, generally south of Stillwell Avenue and east of Boller Avenue, is in the Upper East River/Long Island Sound Special Natural Waterfront Area (SNWA). As discussed in Chapter 3, "Land Use, Zoning and Public Policy," under Vision 2020: New York City Comprehensive Waterfront Plan, the SNWA was designated in New York City's preceding Comprehensive Waterfront Plan in 1992 for its large concentration of natural resources, including wetlands and other habitat areas, which are mostly contiguous and buffered from adjacent uses.

8.5 NO ACTION ALTERNATIVE

Amtrak and freight trains will continue to use the existing HGL right-of-way. Metro-North New Haven Line (NHL) trains will continue to use the corridor within a portion of Segment 4, including New Rochelle Station. Natural resources within the study area are not expected to change under the No Action Alternative. Because no changes will occur within the rail right-of-way or near the proposed train stations, the No Action Alternative will not result in any adverse effects to natural resources.

8.6 PROPOSED PROJECT

This section details the potential for the Proposed Project's operations to result in significant adverse impacts to natural resources. Chapter 19, "Construction and Construction Impacts" describes and examines temporary construction-related impacts.

8.6.1 Surface Waters and Aquatic Resources

The Proposed Project would not result in adverse effects on or change the water quality or aquatic resources of the East River, Bronx Kill, or Hutchinson River because no in-water or over-water work is proposed on the bridges that cross these waterbodies.

MTA anticipates that the deck and girders of the Bronx River Bridge would need to be strengthened to ensure proper load-bearing capacity for the additional train service that would be part of the Proposed Project. MTA would likely perform the required strengthening of the structure from land and the existing bridge deck. In addition, to accommodate a third passenger track as part of the Proposed Project, MTA would construct a new bridge (approximately 20 feet wide) over the Bronx River to the north of the existing Bronx River Bridge. The Fish and Wildlife Coordination Act requires that federal agencies consult with NOAA for activities that affect, control or modify waters of any stream or bodies of water, in order to minimize the adverse impacts of such actions on fish and wildlife resources and habitat. Implementation of the Proposed Project would not result in the modification to waters, such as impoundment, diversion, channel deepening, or any other control or modification to natural streams or bodies of water. The new bridge would be constructed in the location of a bridge span of the Bronx River Bridge that was demolished in the 1930s.

The proposed new bridge over the Bronx River is the only element of the Proposed Project that would involve construction activity within designated EFH. MTA submitted an EFH Worksheet for the Proposed Project to the NOAA Fisheries Greater Atlantic Regional Fisheries Office to document compliance with the Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act. MTA received correspondence from the NOAA on December 2, 2020 (see Appendix F, "Natural Resources").

MTA would construct the new bridge approximately 500 feet upstream of Westchester Avenue, immediately north of the existing drawbridges, in the location of a bridge span that was previously demolished. The new bridge would not need to function as a drawbridge; therefore, a through-girder superstructure is proposed. The new bridge would provide an 8-foot minimum clearance to centerline of track, which would adhere to Amtrak's standards for through-girder bridges and would be at the minimum existing vertical clearance of the existing bridge over the Bronx River.

Permanent impacts to EFH of the Proposed Project in the vicinity of the new bridge over the Bronx River would result from the loss of approximately 292.9 square feet (0.007 acre) of EFH from the placement of the new bridge pier and abutment within the Bronx River. Project implementation would be conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. MTA anticipates that any adverse effects to EFH would be no more than minimal; minimization measures would be planned with mitigation to be implemented if necessary. The Proposed Project would not result in a significant adverse effect on EFH-designated species or habitat, or forage species.

Chapter 19, "Construction and Construction Impacts" Describes and examines temporary construction-related impacts. As described in Chapter 19, "Construction and Construction Impacts," MTA has designed project activities to avoid and minimize impacts as practical, which would include limited in-water work and a construction schedule aimed to avoid and minimize adverse effects to winter flounder early life stage EFH and anadromous fish migratory runs. MTA proposes the following best management practices to support construction activities and minimize in-water disturbance:

- Installing cofferdams around the work area, working primarily by land
- Ensuring waterborne equipment floats at all stages of the tide
- Avoiding in-water work between January 1 and June 30

NOAA did not have any objections to the Proposed Project and additional EFH conservation recommendations are not warranted (see Appendix F "Natural Resources"). Therefore, MTA does not expect that the operation of the Proposed Project would result in any significant adverse impacts on surface waters or aquatic resources.

8.6.2 Floodplains

This section considers the changes to floodplains from tracks, interlockings, and substations; the new bridge over the Bronx River; and the new stations. Within the Segment 1 Corridor, portions of the HGL Corridor are within the 100-year floodplain; however, the existing tracks are on a viaduct above the BFE. All new project elements within this segment would be constructed above the floodplain and would not have an adverse effect on the flood zone. The following rail infrastructure components would be within the 100-year floodplain:

- Leggett Interlocking (Segment 2 Corridor)

- Oak AC Substation (Segment 2 Corridor)
- Pelham Bay Interlocking (Segment 3 Corridor)
- Co-op City AC Substation (Segment 3 Corridor)

The eastern portion of Leggett Interlocking lies below BFE; however, Leggett Interlocking's signal equipment and electrical equipment would be installed 2 feet above the flood elevation using steel platforms. The Pelham Bay Interlocking's signal equipment and electrical equipment would be installed 4 feet above BFE because of its proximity to a waterway. Young, Tremont, and Bronx Interlockings would be above the effective BFE. In order to protect critical infrastructure, the Oak and Co-op City AC Substations would either be constructed on an elevated platform or surrounded by flood walls. For example, the preliminary design of the Co-op City AC substation includes raising the existing grade to an elevation of 16 feet, which would be 2 feet above the BFE, and the surface of the substation would consist of pervious broken stone. The Proposed Project would minimize the amount of structure within the 100- and 500-year floodplains. These elements would be within areas that are currently covered by impervious surfaces or have limited amounts of vegetation; therefore, these Proposed Project elements would not impede flood waters or result in increased flooding in areas adjacent to the Proposed Project.

The new bridge over the Bronx River (Segment 2 Corridor) would be within a portion of the 100-year floodplain; however, because the Bronx River is tidally influenced, this fill would not affect the capacity of the river to absorb floodwaters. The Proposed Project would not constrict tidal flows, and would be designed to promote flood water throughput.

The Hunts Point, Parkchester-Van Nest, and Morris Park Stations would be outside of the 100-year floodplain. However, the Co-op City Station (Segment 3 Corridor) would be within the 100-year floodplain. The station would be within an area that is currently covered by impervious surfaces, and MTA would remove limited amounts of vegetation. The New York City Building Code requires the first habitable floor of a residential building to be at 2 feet above the BFE. Although it is not a residential building, the preliminary design of the Co-op City Station would comply with this requirement because critical equipment would be above the BFE. For example, the emergency generator room for the Co-op City Station would be 4 feet above the regulatory flood elevation. Because the source of floodwaters would be tidal in the floodplain location, the rail infrastructure that would be constructed within the floodplain would not affect the BFEs by displacement of floodplain storage or conveyance in the location of the proposed station. The proposed Co-op City Station would be designed to adhere to the Metro-North standards in terms of flood proofing and drainage. The proposed station would also be designed in accordance with NYSDEC Stormwater Management Design Manual guidelines and coordinated with the New York City Department of Environmental as necessary.[16]

The Proposed Project would minimize the amount of structure within the 100- and 500-year floodplains. These elements would be within areas that are currently covered by impervious surfaces or have limited amounts of vegetation. Proposed Project elements would adhere to floodplain regulations and would not impede flood waters or result in increased flooding in areas adjacent to the Proposed Project. Therefore, the Proposed Project would not result in significant adverse impacts to floodplains.

[16] NYSDEC. (2015) New York State Stormwater Management Design Manual. Accessed at: https://www.dec.ny.gov/docs/water_pdf/swdm2015entire.pdf

8.6.3 Wetlands

No wetlands are within 0.25 mile of the proposed Hunts Point, Parkchester-Van Nest, and Morris Park Stations. NYSDEC and NWI wetlands are within the 500-foot corridor study areas for the Segment 1 and Segment 2 Corridors. While MTA would construct most of the Proposed Project elements on the elevated portion of the HGL and outside of the wetlands and the regulated adjacent areas, the new bridge over the Bronx River would require one new pier and one new abutment at the river's edge and one new upland abutment to the west of the Bronx River. Based on preliminary design, the pier would affect approximately 60 square feet of river bottom. Any construction work that would potentially occur in wetlands or wetland adjacent areas would be minor and require appropriate regulatory permitting to avoid or mitigate impacts.

The Segment 3 and Segment 4 Corridors, and Co-op City Station area include NYSDEC and NWI wetlands and regulated adjacent areas (see Figure 8-4 through Figure 8-7). As part of the permitting phase, MTA completed a wetland delineation in March and April 2020 and submitted with the pending USACE permit application. Based on this assessment, MTA estimates that the Proposed Project would permanently affect less than 0.25 acre of wetland.[17] As design advances, MTA and the design-builder would continue to refine the impacts to wetlands and compensatory mitigation would be addressed in the permitting process. MTA would evaluate measures to minimize harm in accordance with state and federal regulations and guidance. Consultation with USACE, USCG, and NYSDEC is underway, and MTA will continue to coordinate closely with these natural resources agencies during the permitting process.

Because the Proposed Project would contain no major project elements within any wetlands or wetland adjacent areas, and any construction work that would potentially occur in such areas would be minor and require appropriate regulatory permitting to minimize or mitigate impacts, the Proposed Project would not result in significant adverse impacts to wetlands or other aquatic resources.

8.6.4 Ecological Communities

The Proposed Project would primarily affect previously developed and disturbed areas along the HGL Corridor. As shown on Figure 8-8 and Figure 8-9, some project elements would require permanent tree removal within or adjacent to the HGL right-of-way; however, MTA anticipates that any removal would occur within parkland or other large, vegetated areas. As per NYCDPR requirements, where the Proposed Project would involve work on or within 50 feet of a tree under City jurisdiction, the design-builder would obtain a Tree Work Permit from NYCDPR prior to the start of construction, and perform all work in compliance with NYCDPR's Tree Valuation Protocol and Tree Protection Protocol. A Memorandum of Agreement between MTA and NYCDPR will establish the procedures for surveying the trees by a certified arborist, submitting project design plans for NYCDPR review, and determining restitution requirements.

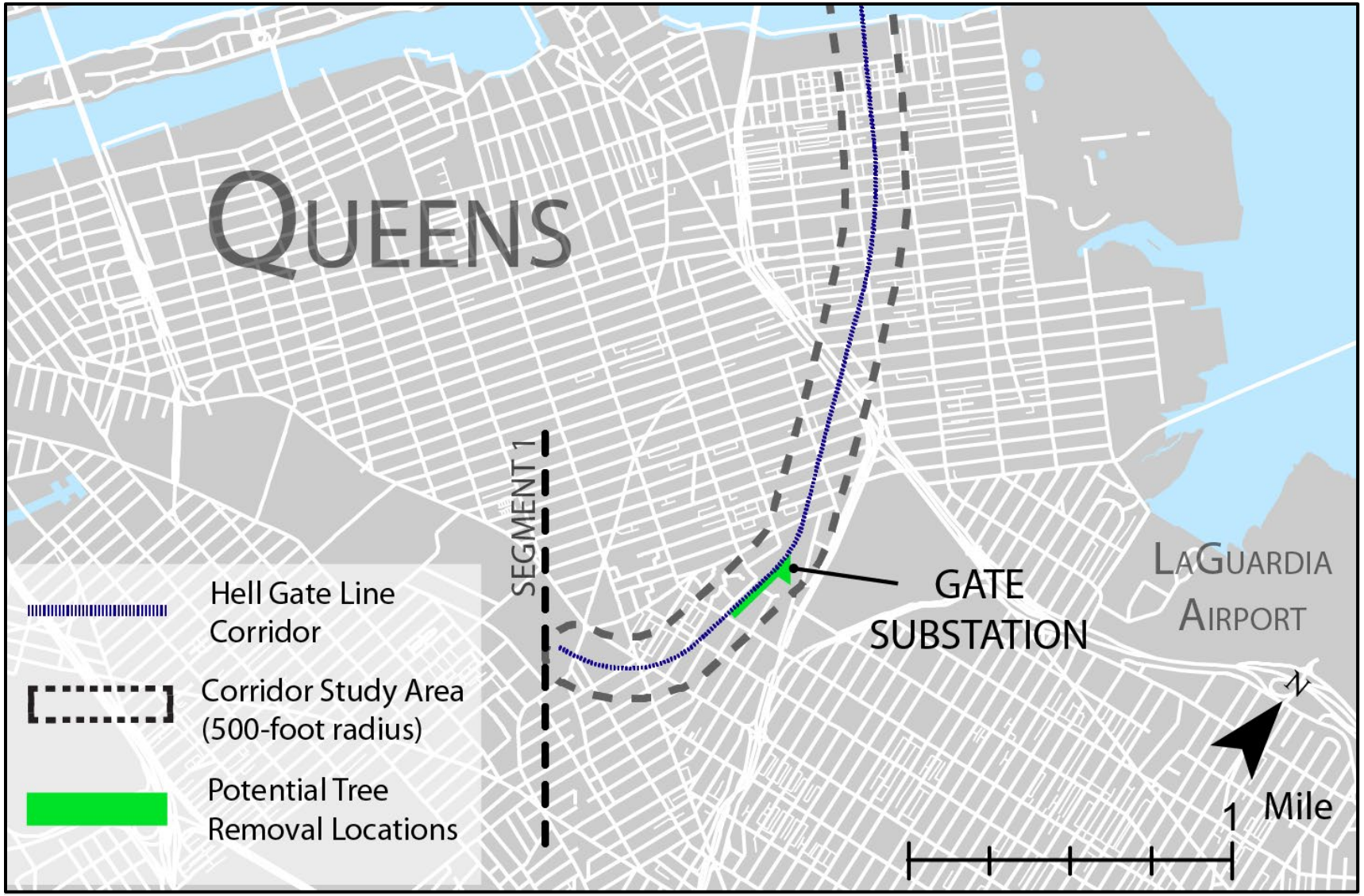
With the exception of the Gate Substation and Co-op City Substation, MTA would remove no more than 20 trees in a given area. The substations would require approximately 50 to 100 and 200 to 300 trees to be removed, respectively. These trees represent a mixture of young and mature trees. In addition, construction spread along the 15.4-mile HGL right-of-way could disturb approximately 1 acre of vegetated land. This would be at various points along the right-of-way, with no single location greater than 0.25 acre of disturbance. Consistent with the urban environment and defined ecological communities within most of the Proposed Project study area, the land is primarily asphalt and gravel, although some successional tree and shrub growth can be found within this area of disturbance. A preliminary analysis shows many of these trees are NYSDEC invasive species that

[17] MTA held a pre-application meeting with the U.S. Army Corps of Engineers on May 6, 2020.

provide little to no habitat value. Overall, the loss of these trees and vegetation would not significantly degrade or reduce the amount of habitat available to the generalist species of wildlife present within the right-of-way, where Proposed Project elements are proposed.

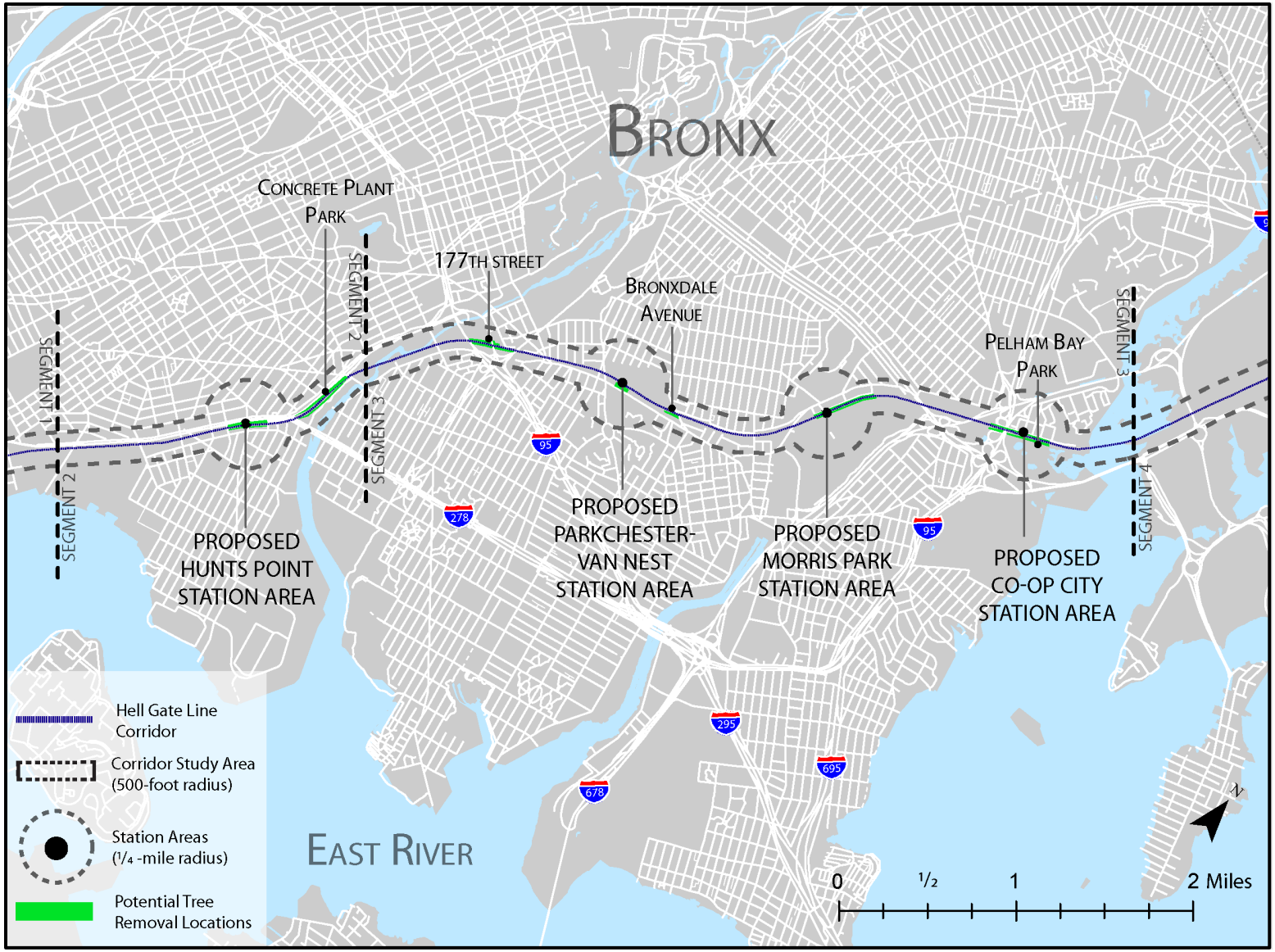
Photo 8-1. Proposed Co-op City Station Area: Typical Right-of-Way Vegetation

Figure 8-8. Tree Removal Areas along the Hell Gate Line Right-of-Way (Segment 1)



Source: WSP, 2020

Figure 8-9. Tree Removal Areas along the Hell Gate Line Right-of-Way (Segments 2, 3, and 4)



Source: WSP, 2019

8.6.5 Wildlife

With the exception of portions of the Co-op City Station area and Pelham Bay Park, existing levels of human disturbance along the HGL and within the station areas are extremely high and the wildlife in the area is therefore limited to the most urban-adapted, synanthropic species (e.g., house sparrow, European starling, rock dove, Norway rat) or are species that have adapted to such environs. As described in Chapter 16, "Noise and Vibration," the operation of the Proposed Project would not result in noise impacts to Pelham Bay Park, the Split Rock Golf Courses, and the Thomas Pell Wildlife Refuge, which borders the existing rail lines. Operation of the Proposed Project would not increase noise levels to the extent that there would be alterations in species assemblages or otherwise negative changes to wildlife communities in the surrounding area. Because wildlife within the Co-op City Station area and Pelham Bay Park has co-existed with the active rail line for more than 100 years, MTA expects that the additional track and service along the HGL under the Proposed Project would adversely affect such resources.

8.6.6 Endangered, Threatened, and Special Concern Species

As stated above, the NYSDEC NYNHP has documented the endangered peregrine falcon (*Falco peregrinus*) nesting on the Hell Gate Railroad Bridge; however, the Proposed Project would not alter the bridge and therefore MTA does not anticipate any impacts to the falcon's breeding area. Although the USFWS and NYSDEC NYNHP identified several endangered, threatened, and special concern species within the area of the Proposed Project, these resource agencies did not identify any areas as having critical habitats for such species. The Proposed Project would not directly disturb any natural areas where these species are likely found. Further, because these species have co-existed with the active rail line for over 100 years, the Proposed Project would not be expected to indirectly impact any endangered, threatened, or special concern species. The Indiana bat (*Myotis sodalis*) is a federal and state endangered species. The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Trees (dead, dying, or alive) or snags with exfoliating or defoliating bark, or containing cracks or crevices that could be used as a roost characterize suitable potential summer roosting habitat.[1] As described in Section 8.6.4, although some successional tree and shrub growth is within the Proposed Project study area along the right-of-way, the MTA's preliminary analysis shows that many of these trees are NYSDEC invasive species that provide little to no habitat value. Therefore, MTA anticipates no adverse impacts to Indiana bats.

As stated above, based on the NOAA ESA Section 7 mapper query results, the Action Area is within one mile (specifically 750 feet upstream) of waters potentially used by shortnose sturgeon (*Acipenser brevirostrum*), Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus)* and green (*Chelonia mydas*), Kemp's Ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and loggerhead (*Caretta caretta)* sea turtles. NOAA recommends evaluating the following stressors, which could adversely affect ESA-listed species:

- Sound
- Habitat structure and disturbance
- Dredging
- Water quality
- Prey quality/quantity
- Vessels
- In-water structures

[1] https://www.fws.gov/northeast/nyfo/es/ibat.htm

The following sections summarize the effects of the Proposed Project on ESA-listed species, specifically sturgeon and sea turtles for each potential stressor.

Potential effects from sound and to water quality would be limited to in-water construction activity adjacent to the existing Bronx River Bridge associated with installing or removing cofferdams and barge spud deployment; therefore, the Proposed Project would not have a permanent effect on sturgeon or sea turtles. Chapter 19, "Construction and Construction Impacts" examines temporary construction-related impacts.

8.6.6.1 Habitat Structure & Disturbance

Suitable habitat for sturgeon or sea turtles within the Action Area would be tied to the presence of suitable benthic resources for foraging. The existing habitat characteristics of the Action Area are sub-optimal for sturgeon and sea turtle foraging (i.e., shallow waters, no known submerged aquatic vegetation, limited benthic resources). However, the area could be used opportunistically, because benthic habitats provide prey such as amphipods. The Action Area does not provide overwintering or breeding habitat. Effects to sea turtles and sturgeon from introducing a new abutment and pier immediately adjacent to the existing Bronx River Bridge drawbridge structure and in the location of a bridge span that was previously demolished would be too small to be meaningfully measured, detected, or evaluated. Therefore, effects would be insignificant.

8.6.6.2 Dredging

The Proposed Project would not involve dredging; therefore, it would have no effect on sturgeon or sea turtles from exposure to effects from dredging.

8.6.6.3 Prey Quantity/Quality

The existing habitat characteristics of the Action Area are sub-optimal for sturgeon and sea turtle foraging (i.e., shallow waters, no known submerged aquatic vegetation, limited benthic resources). However, the Action Area could be used opportunistically, because benthic habitats provide prey such as amphipods. After removing cofferdams and barge spuds, MTA expects that benthic invertebrates would rapidly recolonize the disturbed area near the Bronx River Bridge given the minimal size of the affected area compared to the large area of adjacent unimpacted habitat that would serve as a recruitment source for recolonization.[2] The Proposed Project would not result in the loss of submerged aquatic vegetation or shellfish beds and would have not have a significant effect on sturgeon or sea turtles from changes in the abundance, availability, accessibility, or quality of prey. The effects of the Proposed Project on prey quantity/quality for sea turtles and sturgeon would be too small to be meaningfully measured, detected, or evaluated. Therefore, effects would be insignificant.

[2] Van Dolah, R. F., D. R. Calder, and D. M. Knott. 1984. Effects of dredging and open-water disposal on benthic macroinvertebrates in a South Carolina estuary. Estuaries 7(1):28-37.
McCabe, G.T., S. A. Hinton, and R. L. Emmett. 1998. Benthic invertebrates and sediment characteristics in a shallow navigation channel of the lower Columbia River, before and after dredging Northwest Science 72(2):116-126.
Guerra-García, J.M., J. Corzo and J.C. García-Gómez. 2003. Short-term benthic recolonization after dredging in the harbour of Ceuta, North Africa. Marine Ecology 24(3): 217-229.
Schaffner, L. C. 2010. Patterns and rates of recovery of macrobenthic communities in a polyhaline temperate estuary following sediment disturbance: Effects of disturbance severity and potential importance of nonlocal processes. Estuaries and Coasts 33:1300-1313.

8.6.6.4 Vessels

There would be no increase in vessel traffic related to the Proposed Project after construction is complete. Any increase in the risk of vessel strike by deployment of a spud barge during the construction phase would be too small to be meaningful measured, detected, or evaluated. Therefore, effects would be insignificant.

8.6.6.5 In-Water Structures Including Aquaculture

The Proposed Project would result in new in-water structures, including an abutment and a pier, at the Bronx River, adjacent to the existing Bronx River Bridge. These new structures would be immediately adjacent to an existing drawbridge structure and in the location of a bridge span that was previously demolished. MTA does not anticipate these in-water structures to adversely affect sturgeon or sea turtles or their habitat.

Project implementation would be conditioned upon issuance of applicable federal and state permits (permits from USACE and USCG, and a water quality certificate from NYSDEC) and the Proposed Project would be constructed in accordance with federal and state permit conditions and NOAA recommendations. Those recommendations include the installation of cofferdams around the work area, working primarily by land, the use of spud barges, and the avoidance of in-water work between January 1 and June 30. No critical habitat for any NMFS ESA species us within the Action Area. Shortnose sturgeon, Atlantic sturgeon, and four species of sea turtles are found seasonally within one mile of the Action Area; however, the Action Area is not within the range of breeding or overwintering habitat for these species. If individuals of these species were present, it would be a transient presence with a limited temporal duration. Overall, all potential effects of the Proposed Project would be insignificant; therefore, MTA expects no significant adverse impacts on any listed species or critical habitat under NMFS jurisdiction. Appendix F. "Natural Resources" provides correspondence with NMFS.

8.6.7 Significant Coastal Fish and Wildlife Habitat

MTA would manage wastewater and stormwater from the proposed Co-op City Station in accordance with applicable regulations and best management practices. The Stormwater Pollution Prevention Plan would include measures such as sediment traps, silt fences, slope drains, water holding areas and other control measures. As described in Chapter 19, "Construction and Construction Impacts," proposed best management practices to support construction activities and minimize in-water disturbance include installing cofferdams around the work area (working primarily by land), ensuring waterborne equipment floats at all stages of the tide, and avoiding in-water work between January 1 and June 30. The new station would therefore not result in any activity that would degrade water quality or alter tidal fluctuations in Pelham Bay Park wetlands. In addition, because no significant in-water work is proposed within Hutchinson River, and the Proposed Project would not alter, impair, or destroy this significant coastal fish and wildlife habitat, MTA expects no adverse impacts to fish and wildlife populations in the area.

8.7 CONCLUSION

The Proposed Project would not result in significant adverse effects on surface waters and aquatic resources, floodplains, wetlands, ecological communities, wildlife, endangered, threatened, and species of special concern, or significant coastal fish and wildlife habitats. As part of the permitting phase, MTA completed a wetland delineation in March and April 2020 and submitted it to USACE with the pending permit application. Based on this assessment, MTA estimates that the Proposed Project would permanently affect less than 0.25 acre of wetland. Any construction work that would potentially occur in wetlands or wetland adjacent areas would be minor and would require appropriate regulatory permitting to avoid or mitigate impacts. As design advances, MTA and the design-builder would revise the impacts to wetlands, if necessary, and would address compensatory mitigation in the permitting process. MTA would evaluate measures to minimize harm in accordance with state and federal regulations and guidance. Permits for in-water bridge work adjacent to the existing Bronx River Bridge and construction of other project elements—including permit(s) from USACE, a USCG permit, and a water quality certificate from NYSDEC—could be required and would be pursued during the final design phase. MTA is consulting with USACE, USCG, and NYSDEC and will continue to coordinate closely with these natural resources agencies during the permitting process.

MTA anticipates that any adverse effects to EFH would be no more than minimal because MTA would require the design-builder to implement the following measures: minimize in-water disturbance including the installation of cofferdams around the work area, avoid in-water work between January 1 and June 30, and ensure waterborne equipment floats at all stages of the tide. The Proposed Project would not result in a significant adverse effect on EFH-designated species or habitat, or forage species. Shortnose sturgeon, Atlantic sturgeon, and four species of sea turtles are found seasonally within one mile of the Action Area; however, the Action Area is not within the range of breeding or overwintering habitat for these species. If individuals of these species were present, it would be a transient presence with a limited temporal duration. Overall, all potential effects of the Proposed Project would be insignificant; therefore, the Proposed Project may affect, but is not likely to adversely affect any listed species or critical habitat under NMFS jurisdiction.