

CHAPTER 11: NATURAL RESOURCES

11.1 Overview

This chapter describes the natural resources that have been identified within the Project Area, and evaluates the potential impacts on these resources that may result from implementation of the Proposed Action. Natural resources evaluated include freshwater and tidal wetlands, water quality, threatened and endangered species, floodplains, the coastal zone, geology and groundwater, and other ecologically-sensitive or significant areas.

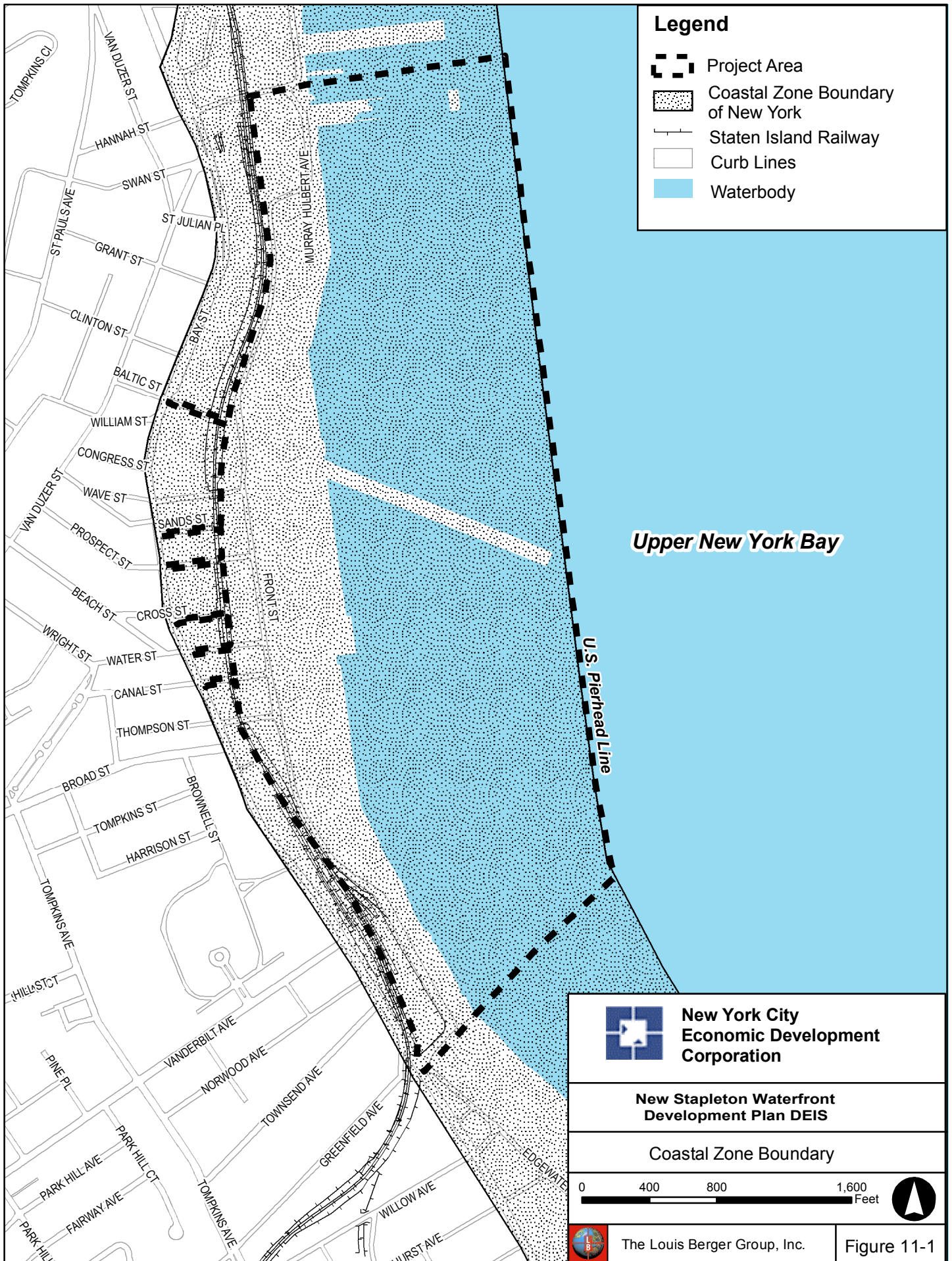
As detailed below, the Proposed Action is not expected to result in significant adverse impacts to wetlands, floodplains, threatened and endangered species, coastal resources, geology or groundwater therefore, it would not significantly and adversely affect natural resources. Additionally, it would add more pervious surface to the Homeport Site via the creation of additional green space, and the use of pervious materials and/or the potential use of bioswale and other sustainable design elements that might be incorporated into the development design guidelines. It would, however, direct additional stormwater flow into the sewer network thus affecting combined sewer overflow (CSO) volumes.

11.2 Methodology

The methodology outlined in the *CEQR Technical Manual* was used to evaluate the Proposed Action's potential to affect natural resources within the study area. Correspondence with Federal, State and local resource agencies, field visits, and existing reports and literature were used to identify and characterize the existing natural resources present in the Project Area (see Appendix A). Existing conditions are outlined, and then compared against the No Build and Build Conditions, in order to determine potential natural resources effects that the Proposed Action may generate.

The natural resources study area contains all property, including lands under water, pier structures and the bulkhead, generally bounded by Hannah Street to the north, the Staten Island Railway (SIR) tracks and Bay Street to the west, Bay/Edgewater Streets to the south, and the U.S. Pierhead line to the east (including the waters of the Upper New York Bay), and the geology and hydrogeology beneath the Project Area.

The natural resources study area is located along the northeast shore of Staten Island, between the St. George Ferry terminal and the Verrazano-Narrows Bridge, and is situated within the Coastal Zone Boundary of the City of New York (see Figure 11-1). The upland portions of the study area are largely developed and paved. However, vacant lots supporting trees, native vegetation, bushes and some invasive vegetation are interspersed between roadways and buildings. The Upper New York Bay shoreline consists of man-made structures such as bulkheads, piers, CSO outlets and riprap. The near-shore area of the bay is currently used for marine activities, while farther off-shore, the waters serve as a holding area for large transport ships and tankers.



Sources: Coastal Zone Boundary of New York: Section 21, NYC DCP; Landbase, NYC DoITT.

11.3 Existing Conditions

A reconnaissance of the natural areas present on the Homeport Site was completed on July 20, 2005. The primary purpose of the site reconnaissance was to delineate tidal and freshwater wetlands located at the Homeport Site. During the course of the field visit, predominant upland vegetative species were recorded (see Table 11-1) and photographs were taken (see Figure 11-2).

The primary natural resource in the study area is Upper New York Bay. The main upland effects on this aquatic resource are from overland storm water flow, tidal exchange with groundwater, and CSO discharges.

11.3.1 Tidal and Freshwater Wetlands

Based on the July 2005 site reconnaissance, no freshwater wetlands and no upland tidal wetlands were identified within the boundaries of the study area. However, areas of tidal open water were observed within the study area boundaries, as shown in Figure 11-2. These tidal open water areas consist of the waters of the Upper New York Bay that are present from the Staten Island shoreline to the U.S. Pierhead line (the easternmost boundary of the Project Area). The mean high tide line represents the landward extent of tidal open water. The Army Corps of Engineers (USACE) and the New York State Department of Environmental Conservation (NYSDEC) have jurisdiction over construction and dredge and fill activity in tidal wetlands, with NYSDEC having jurisdiction over wetland adjacent areas.

11.3.2 Floodplains

Floodplains occur along streams, rivers and coastal zones. Officially-designated floodplains and floodways, established and delineated by the Federal Emergency Management Agency (FEMA), are areas where substantial flooding may result in property damage or threaten public safety. A FEMA-designated floodplain is the area that will be inundated by a 100-year flood, a flood which has the probability of occurring once every 100 years. This is referred to as Zone A. Zone B is the area that will be inundated by a flood which has the probability of occurring once every 500 years. The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 designate coastal high hazard areas and floodways, and make Federal flood insurance available to buildings and structures within these areas that are constructed so as to minimize danger to human lives. FEMA only regulates the 100-year floodplain for channels that have a watershed (area that drains to them) greater than one square mile. Properties located in smaller watersheds are not part of FEMA mapping program.

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Table 11-1: Vegetation Observed within the Project Area

Common Name	Scientific Name	Wetland Indicator Status
red maple	<i>Acer rubrum</i>	FAC
common yarrow	<i>Achillea millefolium</i>	FACU
tree-of-heaven	<i>Ailanthus altissima</i>	NI
common mugwort	<i>Artemisia vulgaris</i>	UPL
milkweed	<i>Asclepias syriaca</i>	FACU-
chicory	<i>Cichorium intybus</i>	NI
dodder	<i>Cuscuta</i> sp.	- - -
Queen Anne's Lace	<i>Daucus carota</i>	NI
smooth bedstraw	<i>Galium aparine</i>	FACU
field pepperweed	<i>Lepidium campestre</i>	NI
Japanese honeysuckle	<i>Lonicera japonica</i>	FAC-
white sweet clover	<i>Melilotus alba</i>	NI
common evening primrose	<i>Oenothera laciniata</i>	FACU-
common reed	<i>Phragmites australis</i>	FACW
Japanese knotweed	<i>Polygonum cuspidatum</i>	FACU
Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>	FACW
black locust	<i>Robinia pseudoacacia</i>	FACU-
curly dock	<i>Rumex crispus</i>	FACU
yellow foxtail	<i>Setaria glauca</i>	FAC
bladder campion	<i>Silene cucubalus</i>	NL
bittersweet nightshade	<i>Solanum dulcamara</i>	FAC
goldenrod	<i>Solidago</i> sp.	- - -
annual sowthistle	<i>Sonchus oleraceus</i>	UPL
common dandelion	<i>Taraxacum officinale</i>	FACU
red clover	<i>Trifolium pretense</i>	FACU-
grape	<i>Vitis</i> sp.	- - -

Key to indicator categories

FACW: Facultative Wetland, usually occur in wetlands (estimated probability 67% - 99%), but occasionally found in non-wetlands.

FAC: Facultative, equally likely to occur in wetlands or non-wetlands (estimate probability 34% - 66%).

FACU: Facultative Upland, usually occur in non-wetlands (estimated probability 67% - 99%), but occasionally found in wetlands (estimate probability 1% - 33%).

UPL: Obligate Uplands, occur almost always (estimated probability, >99%) under natural conditions in uplands.

NL: Not found on national listing of plants occurring in wetlands.

NI: No indicator – insufficient information available to determine an indicator status.

Sources: 1995 Supplement to the List of Plant species that Occur in Wetlands: Northeast (Region 1), U.S. Fish and Wildlife Service, August, 1995.

National List of Plant Species that Occur in Wetlands: Northeast (Region 1), U.S. Fish and Wildlife Service, May 1988.

The Louis Berger Group, 2005.



Photo 1.
View facing north,
showing tidal open
waters located with-
in the southern
portion of the
Project Area.



Photo 2.
View looking west,
showing upland
vegetative
communities
located within the
Project Area.



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Homeport Site Photographs



The Louis Berger Group, Inc.

Figure 11-2

Most of the Project Area is located within a FEMA-designated 100-year floodplain or Zone A (see Figure 11-3). Much smaller portions of the Project Area are located within Zone B, an area inundated by 500-year flooding. The largest Zone B portion that lies within the Project Area is in the vicinity of Front Street, from north of Wave Street to Canal Street. A small upland piece of the Homeport Site is situated within a FEMA-designated VE zone, which indicates that the area is inundated by 100-year flooding with velocity hazard (wave action). This section of the Project Area is situated along the shoreline, roughly from St. Julian Place to the USS The Sullivans Pier. A substantially larger in-water area is also designated VE. Finally, small isolated portions of the westernmost portions of the Project Area (generally west of Front Street), are located in a FEMA-designated Zone C, which indicates that these lands are not prone to flooding.

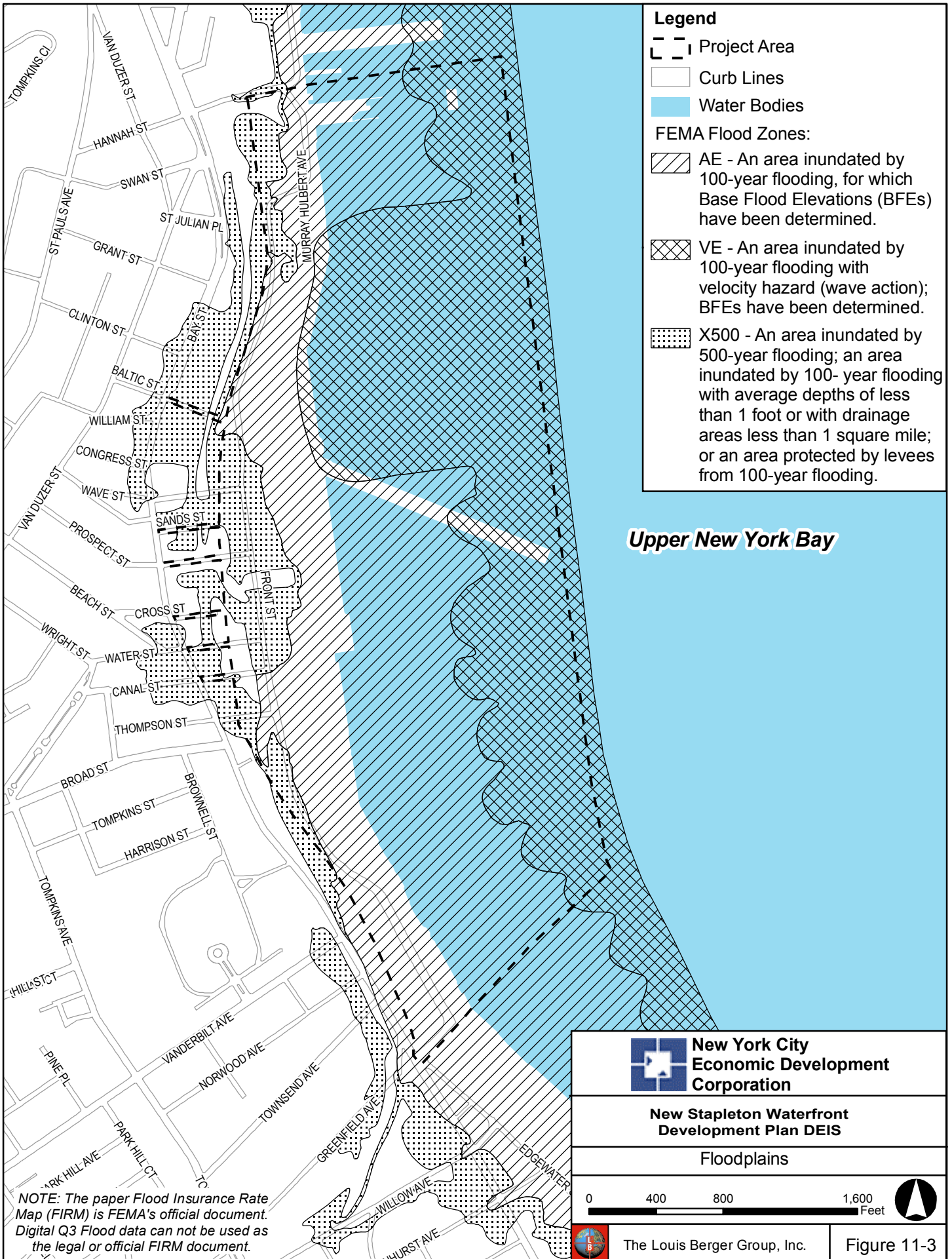
The FEMA-designated floodplain boundaries are approximations. The elevation used to determine 100-year floodplain boundaries is a National Geodetic Vertical Datum (NGVD) of 10.0. Within the Project Area, the elevation difference ranges between 0.3 and 2.3 feet below the 100-year flood elevation.

11.3.3 Threatened, Endangered and Rare Species

The U.S. Department of the Interior, Fish and Wildlife Service (USFWS), NYSDEC Region 2 Office, and NYSDEC's Natural Heritage Program (NHP), were contacted regarding the presence of Federal- and State-listed or proposed rare, threatened or endangered species in the vicinity of the study area. Agency correspondence letters and responses are provided in Appendix A.

The USFWS response letter, dated March 30, 2005, indicates that no Federally-listed or proposed endangered or threatened species under the agency's jurisdiction are known to exist within the study area. However, in a letter dated April 27, 2005, the NHP identified four State-listed vascular plant species and the occurrence of one significant natural community on Staten Island.

The significant natural community identified by the NHP is located approximately 1,500 feet west of the Project Site. The three endangered plant species occur in habitats that are not found in the study area; one habitat type is magnolia swamps, the second is woods, and the third is open wet areas or damp meadows. Individuals of the fourth State-listed species, Slender Crabgrass (*Digitaria filiformis*), were not identified during field visits. Slender Crabgrass is a threatened vascular plant species in New York State. Its habitat is characterized by sandy soils or sterile open fields, a habitat type that the study area may support. This plant species also may occur along the upper borders of high salt marshes, a habitat type that is not found within the study area.



According to the NHP, Slender Crabgrass is identified as having occurred historically in the study area. The latest date that this species was observed and documented in this area was August, 1878; NHP has no recent report regarding the occurrence of this species. While the New York State rank for the Slender Crabgrass (S2) indicates that the species is very vulnerable in the State, the Global Rank is G5. A rank of G5 signifies that the species is demonstrably secure on the global level, although it may be quite rare in parts of its range, especially at the periphery.

The removal of State-protected plants is regulated under Article 9 of the Environmental Conservation Law (ECL) “by reason of their endangered, rare, threatened or exploitably vulnerable status”. ECL §9-1503.1 establishes the statutory definitions for protected plants. “Threatened species” are defined as “those species of plants are likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges within the State.” ECL §9-1503.3 prohibits any person from picking, plucking, severing, removing, damaging or carrying away protected native plants, without the consent of the owner of such plants.

11.3.4 Coastal Resources

The New York State Department of State (NYSDOS), Division of Coastal Resources delineates the State’s coastal zone boundary and identifies: Significant Coastal Fish and Wildlife Habitats; Scenic Areas of Statewide Significance; Federally-owned lands; and Native American-owned lands. New York State’s Coastal Area has been divided into four geographic regions: Long Island, New York City, Hudson Valley and Great Lakes. Given that the study area is located within New York City’s designated Coastal Zone, it is subject to a consistency review with respect to the New York City Waterfront Revitalization Program (see Chapter 13, “Waterfront Revitalization Program”). The study area’s Upper New York Bay waters are not designated as a Significant Coastal Fish and Wildlife Habitat. According to NYSDEC, the study area is neither located within, nor does it border, the Coastal Erosion Zone.

The study area waters of the Upper New York Bay are classified as B1 by the Interstate Sanitation Commission (1999) and Class I by NYSDEC. Both indicate that the water quality is suitable for secondary contact recreation (e.g., boating and fishing), but not for primary contact (e.g., swimming or shell fishing). The study area waters of the Upper New York Bay have not been identified as impaired.¹ Several New York City Department of Environmental Protection (NYCDEP) CSO outfalls that are located in the Port Richmond Water Pollution Control Plant (WPCP) drainage basin are also situated within the Project Area waters. These five CSO outfalls are depicted in Figure 11-4 and listed in Table 11-2.

¹ Section 303(d) List of Impaired Waters, *New York State Water Quality Section 305b Report (2004)*, NYSDEC.

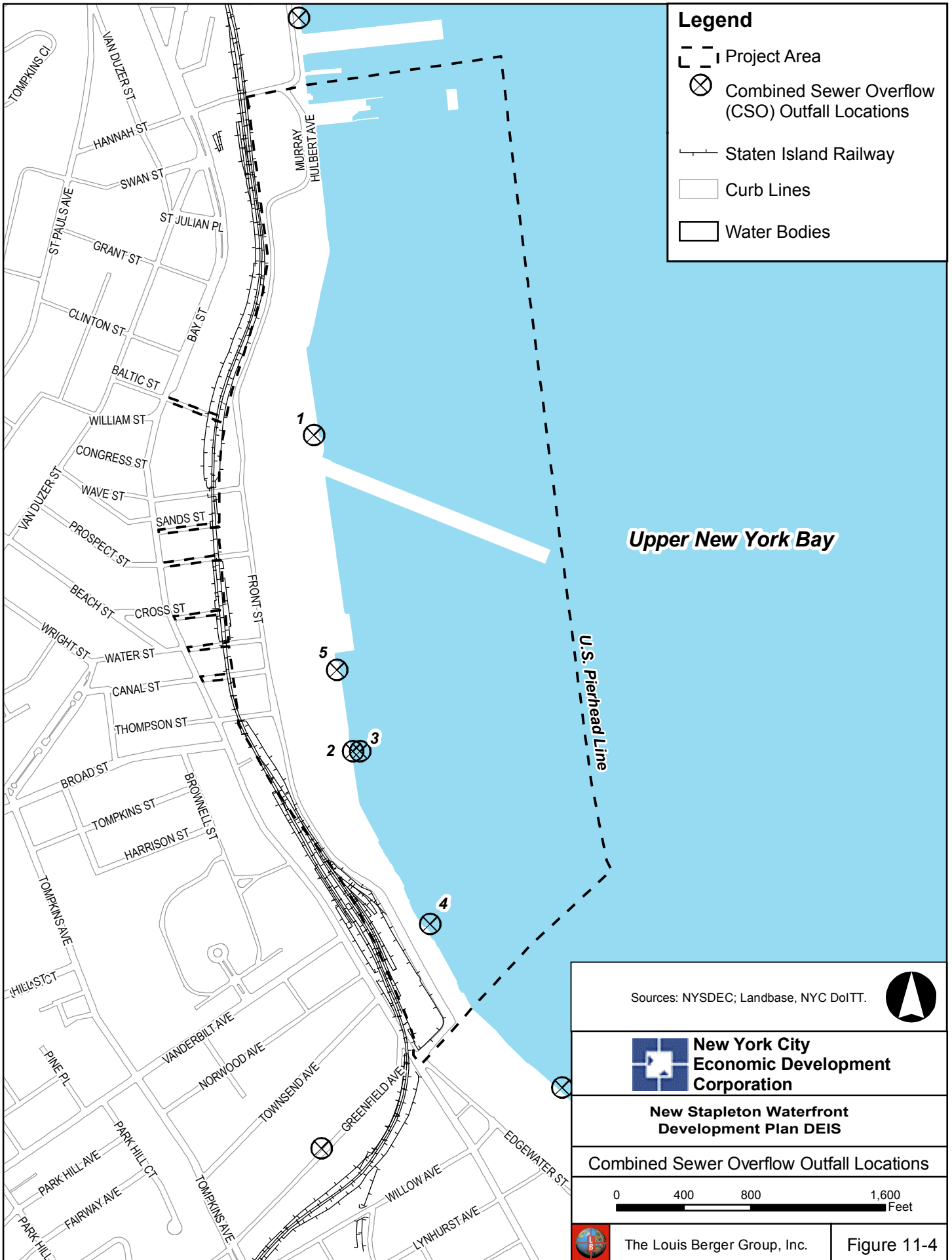


Table 11-2: CSO Outfall Locations within Project Area

Map ID	Permit Number	Approximate Street Location	Receiving Waters
1	NY0026107	Base of Baltic Street	Upper New York Bay
2	NY0026107	Base of Tompkins Street	Upper New York Bay
3	NY0026107	Base of Tompkins Street	Upper New York Bay
4	NY0026107	Base of Norwood Avenue	Upper New York Bay
5	NY0026107	Base of Canal Street	Upper New York Bay

Source: CSO GIS data, NYSDEC.

11.3.5 Geology

The northeastern portion of Staten Island is located in the Atlantic Coastal Plain physiographic province. Thick layers of soft, organic, silty clays overlie glacial and interglacial deposits. These glacial and interglacial deposits, consisting of unconsolidated Cretaceous clay, overlie Precambrian crystalline basement rocks. Modifications to the natural geology have occurred in modern times and include filling, grading and the installation of bulkheads and piers.

The study area is underlain by outwash deposits that are expected to have been reworked by wave action. The deposits are composed of particles of iron-stained quartz, brown sandstone, shale, arkose, diabase schist, granite gneiss, serpentine, biotite, and a variety of dark, heavy minerals. The outwash deposits have a known maximum thickness of about 90 feet have been overlain by anthropomorphic (man-made) fill.²

To the west of the study area, the deposits are mainly of terminal moraine of Pleistocene age. The terminal moraine is composed largely of a reddish-brown mixture of clay and sand, with boulders and sandstone, trap-rock (diabase and basalt), granite and gneiss. The Pleistocene deposits have a known maximum thickness of 75 feet. Terminal moraine lenses of water bearing sand and gravel may contain perched water bodies. Well records indicate that outwash material is present beneath the terminal moraine. These findings suggest either partial overriding of a newly formed outwash plain by advancing glaciers during the Wisconsin stage, or the presence of an earlier outwash deposit.³

11.3.6 Groundwater

Groundwater is found in the pore spaces between soil particles and in fissures and cracks in bedrock. Depth to groundwater in the study area is approximately five to ten feet below the surface. Pleistocene glacial deposits provide the primary water bearing formation in the area.

² Perlmutter, N. M. and Theodore Arnow. *Ground Water in Bronx, New York, Richmond Counties with Summary Data on Kings and Queens Counties, New York City, New York: Bulletin GW-32.* Water Power and Control Commission, U.S. Geological Survey in Cooperation with New York State Department of Conservation. 1953.

³ *Ibid.*

Groundwater in Staten Island is not used as public water supply. New York City's surface (reservoir) water supply system provides Staten Island residents with potable water. This vast system is comprised of a network of 19 reservoirs and three controlled lakes in a 1,972-square mile watershed extending 125 miles north and west of the City, and provides approximately 1.1 billion gallons of safe drinking water daily.

11.4 No Build Condition

The study area would remain largely paved or otherwise developed in the No Build Condition. The current community facility/institutional uses on the Homeport Site, consisting of the Richmond County State Supreme Civil Court, NYCDOT Marine Repair Unit, NYPD Staten Island Task Force and FDNY Marine Company No. 9, are temporary uses that would be relocated by 2015 independently of the Proposed Action. Thus, the Homeport Site would be effectively vacant under the No Build Condition, with the exception of the USS The Sullivans Pier. The Navy has berthing rights to the north side of the Pier for at least the next seven years.⁴ The area west of Front Street would not be rezoned under the No Build Condition; therefore, existing commercial, manufacturing and light industrial uses would likely remain.

Substantial changes to the study area's natural resources are not expected to occur under the No Build Condition. Under the No Build Condition, wetlands, floodplains, geology, coastal resources, groundwater, and plant and wildlife species are anticipated to function similar to under Existing Conditions.

11.5 Build Condition

Under the Build Condition, the study area would be redeveloped from its current uses with a mixture of new buildings, open space, landscaping, and infrastructure improvements. Residential, commercial, economic development and limited local retail uses would be developed under the Proposed Action. The City of New York has allocated \$66 million in capital funds to implement these infrastructure improvements, which include the creation of 12 acres of waterfront open space, shoreline stabilization, street and intersection realignments, installation of new water/sewer mains, and the rehabilitation, replacement or relocation of existing water/sewer mains. The new green space would incorporate landscaping with trees, shrubs, and low ground cover (e.g., vines, grasses, flowers, etc.). Landscaping elements would provide habitat for birds and other small animals.

The Proposed Action includes the construction of buildings that are taller than those currently present in the Project Area, and would incrementally increase the amount of shadows and sanitary sewer discharge. However, such incremental increases are not likely to result in significant and adverse impacts to natural resources. The development would not occur in critical natural habitat area, nor would it displace rare or endangered species.

⁴ Since its future use is unknown at this time, the Pier, while part of the Special District, currently is not part of the redevelopment plan.

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All development would be required to meet NYCDEP and NYSDEC criteria relating to sewage and stormwater disposal. The Proposed Action also includes the construction of new sanitary and storm sewers beneath a realigned Front Street. The existing pump station at Hannah Street would continue to transport the Project Area's wastewater to the Port Richmond WPCP located further north. Stormwater that does not percolate into the newly provided pervious surfaces, which will be inherent in the design of the open space and parking areas, would be captured and directed to the new area sewer network. This would result in an increase in the amount of stormwater reaching the municipal sewer network. Recent discussions with the NYCDEP indicate there are plans to upgrade the capacity of three of the four existing CSO outfalls within the Project Area, to accommodate the flows anticipated from the proposed development. The increase in peak stormwater flows and additional sanitary flow volumes from the Proposed Action would contribute to CSO overflow volumes. See Chapter 14, "Infrastructure," for an evaluation of the Proposed Action's effect on stormwater management and sewage wastewater treatment.

The design of the Homeport Site includes a continuous waterfront esplanade and two major public open spaces that would accommodate a mix of active and passive uses (see Figure 1-12). The approximately 100-foot-wide esplanade would generally extend from the extension of Swan Street in the north, to the extension of Greenfield Avenue in the south.

The two major public open spaces planned for the Homeport Site would serve to connect the waterfront esplanade to Front Street. One such area, referred to as Pier Place and to be located at the base of the USS The Sullivans Pier, would be comprised of a large lawn, native ornamental and marsh plantings, extensive sea walls, a small commercial retail area, and café tables and chairs in support of the adjacent restaurant and banquet hall.

The second major green space is a Cove area, which would be located along the waterfront in the vicinity of Canal and Water Streets. In this area, the design would expose 42,000 square feet of water at high tide by removing the debris of a failed timber platform. At low tide, a beach area would be exposed. The water area of the Cove would be bordered by public area that could include a boat house, kayak launch and café with outdoor dining which would help to activate the open space. The edges of this area would be formed using gabion walls and stepped concrete slabs, with both upland plantings and varied wetland environments to promote a broad range of aquatic flora and fauna. One NYCDEP CSO outfall (Map ID 5) is located within the bulkhead in the proposed Cove area.

The northern and southern ends of the Homeport Site would be developed as natural areas, with paths, seating, beach grass meadows and lower, tidal estuarine plantings. Landscaping would not feature tree plantings in this area, to foster broad views of the bay, lower Manhattan, Brooklyn, the Verrazano-Narrows Bridge, and boat and ship traffic on the water. A fishing pier between 50 and 75 feet in length is planned for the south end of the Project Area.

11.5.1 Freshwater and Tidal Wetlands

There are no freshwater or upland tidal wetlands within the study area; however, areas of tidal open water are located within the study area boundaries. The USACE and NYSDEC would be consulted to determine whether any element of the Proposed Action would require regulatory action (i.e., permits) or agency involvement. It is anticipated that the waterfront esplanade and Cove area development plans would involve construction activity that requires permits and agency involvement. For example, development of the Cove would likely involve construction in the Upper New York Bay or within a NYSDEC-regulated “adjacent area” (area adjacent to tidal open water), and portions of the esplanade may incorporate the use of rip-rap as a means of shoreline stabilization. See Section 11.7 below for a discussion of potential regulatory actions that may be required on behalf of the Proposed Action.

11.5.2 Floodplains

Much of the study area is located within flood Zone A, and large portions are located within Zone B, as delineated by FEMA (see Figure 11-3). As previously stated, the FEMA-designated floodplain boundaries are approximations. The elevation used to determine 100-year floodplain boundaries is an NGVD of 10.0; the Project Area’s differential elevation ranges between 0.3 and 2.3 feet below the 100-year flood elevation. It is anticipated that the future developer(s) would set finished floor elevations above an NGVD of 10.0, in order to meet insurance requirements. Therefore, the Proposed Action would not impede flood waters, or raise the elevation level of flood waters.

11.5.3 Threatened, Endangered and Rare Species

According to correspondence with NYSDEC and field surveys, the only habitat in the study area that could support state-listed threatened, endangered or rare species is one that supports Slender Crabgrass (*Digitaria filiformis*). This habitat is characterized by sandy soils, sterile open fields, or high salt marshes. Although development associated with the Proposed Action could reduce the size of habitat that supports Slender Crabgrass, no individuals of the species were noted in the study area during field reconnaissance. Based on regulatory records, no occurrence of the species in the study area has been documented in over 125 years. In addition, significant development has occurred in the Project Area since the historical Slender Crabgrass siting in 1878, and the species is globally-secure. Furthermore, while the Proposed Action would increase the density of development at the Homeport Site with the creation of approximately 12 acres of publicly-accessible open space. Finally, any removal of any protected plant species would be done with permission of the owner, in compliance with ECL §9-1503. Thus, implementation of the Proposed Action is not expected to result in significant adverse impacts on threatened, endangered and rare species.

11.5.4 Coastal Resources

The Proposed Action includes development that would result in a change of activities within the designated Coastal Zone boundaries. As such, the Proposed Action would be assessed according to the Waterfront Revitalization Program (WRP), as adopted by the

City of New York (see Chapter 13, “Waterfront Revitalization Program”). The Proposed Action is not located within a designated Special Natural Waterfront Area or Significant Maritime and Industrial Area, and would be consistent with the City’s WRP.

At certain times during the year, shadows cast by buildings comprising the Proposed Action would reach the waters of the Upper New York Bay. Exposure to shadows could cause a decrease in light intensity and could affect primary productivity within affected waters. Primary productivity within the study area is generated mainly from phytoplankton. However, light requirements for phytoplankton are low, and the reduction in light within the shadow footprint would have a negligible impact on phytoplankton populations. Additionally, the phytoplankton communities would be carried by tidal currents and would be exposed to the shadows for a relatively short period, moving through the area in shadow to areas outside the shadow exposure.

Shadows would enter the bay in the late afternoon when the sun is low on the horizon. At this time of day, the incident angle of sunlight on the surface is acute and a large percentage of available energy is reflected. Additionally, due to the distance from the buildings to the water (likely between 100 and 150 feet), abundant diffuse light is available in the water and deep shadows are not anticipated. Shadows from the proposed buildings are not anticipated to result in significant impairment of the coastal habitat area. Please see Chapter 7, “Shadows,” for a detailed assessment of the Proposed Action’s potential shadow impacts on sunlight sensitive resources, including the study area waters.

With the possible exception of minor repairs to the bulkhead (waterfront esplanade) and potential construction activity in open water wetland areas or in a NYSDEC-regulated adjacent area (Cove area), the Proposed Action does not involve construction in the waters of the Upper New York Bay. Implementation of the Proposed Action is not expected to result in changes to the water quality of the bay, nor would it introduce substantial new elements within the bay waters. Development associated with the Proposed Action would increase the amount of sanitary sewage generated in the Project Area. However, the increases would be relatively small. Therefore, the Proposed Action would not result in significant adverse impacts to the water quality or existing uses of the Upper New York Bay. In addition, while design is not yet final, it is possible that the CSO outfall located within the Cove area (Map ID 5) may be relocated away from this area, thus alleviating associated issues.

11.5.5 Geology

The Proposed Action would involve some excavation for building foundations and basements. No significant resources are contained within the geology underlying the study area, and excavation is not expected to result in significant and adverse impacts to geological resources. Contaminated soil that may be encountered would be handled in compliance with all applicable laws and regulations (see Chapter 12, “Hazardous Materials”).

11.5.6 Groundwater

Groundwater is not used for potable water in Staten Island, and no land uses included in the Proposed Action would affect groundwater. Although some buildings could include basements that are situated below the water table, basements can be waterproofed or utilize underdrain technology in order to relieve hydrostatic pressure; therefore, permanent dewatering would not be necessary. Any temporary construction dewatering would be subject to NYCDEP and/or NYSDEC disposal regulations regarding water quality and volume; thus, no significant adverse impact to groundwater is anticipated.

11.6 Regulatory Actions

Various existing Federal, State and local laws, policies and programs impose requirements for activities adjacent to and within tidal open water areas (below mean high water line), with which the Proposed Action may need to demonstrate compliance. An overview of some of the permits that the Proposed Action may require is presented below. All of the agencies discussed below would be contacted regarding the specifics of the Proposed Action, to ensure that all required permits and/or approvals are obtained.

11.6.1 Federal

USACE has regulatory authority over construction of structures, except bridges, and for discharge of dredged or fill material in navigable waters of the U.S. The USACE's regulatory program is governed by regulations published in 33 CFR 320 – 330.

The Clean Water Act (CWA) (33 USC §§1251 et seq.), which amends the Federal Water Pollution Act of 1972, was designed to assist in restoring and maintaining the chemical, physical and biological integrity of the nation's waters. The CWA regulates the discharge of pollutants, including dredge and fill material, into navigable waters and the protection of relevant fish, shellfish, and wildlife. Section 404 of the CWA requires approval of a Department of the Army (DA) permit for the discharge of dredge or fill material into jurisdictional waters and wetlands of the U.S.

Section 10 prohibits the obstruction of, alteration of, or work in, navigable waters of the U.S. without a permit from USACE. "Waters of the U.S." is a broader term that includes adjacent wetlands and tributaries to navigable waters of the U.S. and other waters where their destruction or degradation could affect foreign or interstate commerce. "Waters of the U.S." applies to both tidally influenced and nontidal wetlands. Structures and fill related to construction of the new Stapleton waterfront (e.g., piers, pilings used for mooring of work barges, delivery of materials, or discharges to modify the substrate of the bay) may require permits. Such structures would have to conform to the New York Coastal Zone Management Plan.

Section 401 of the CWA requires State issuance of a Water Quality Certificate for development, when such development might impact water quality negatively. It also requires certification that the permitted project complies with State water quality standards for actions within the waters of that State. Under Section 401, states must establish Water Quality Standards for State waters, including the territorial sea.

11.6.2 State

NYSDEC issues permits for a range of activities under the New York State ECL. The State program is governed under regulations known as the Environmental Conservation Regulation (6NYCRR 608) and by the Uniform Procedures Regulation (6NYCRR 621). Another State agency whose authorization(s) may be required is NYSDOS. See Chapter 13, “Waterfront Revitalization Program,” for a detailed discussion of NYSDOS regulations that apply to the Proposed Action (due to its location within New York City’s designated Coastal Zone).

Article 15 – Protection of Waters Permit

A Protection of Waters Permit is required for excavating or placing fill in navigable waters of the State, below the mean high water level, including adjacent and contiguous marshes and wetlands. Article 15, Title 5 ECL regulates activities occurring in or near designated protected waters. The program regulates three categories of activities: disturbance of the bed or banks of a protected stream or other watercourse, including adjacent wetlands; construction and maintenance of dams; and excavation and/or filling in navigable waters. The intent of the Protection of Waters program is to prevent undesirable activities on water bodies by establishing and enforcing regulations that are compatible with the preservation, protection, and enhancement of the present and potential values of the water resources, that protect the public health and welfare, and that are consistent with the reasonable economic and social development of the State.

Article 25 – Tidal Wetlands Permit

Under the Tidal Wetlands Act, NYSDEC administers a permit program regulating activities in tidal wetlands and their adjacent areas. In general, tidal wetlands consist of the salt marshes, and non-vegetated, as well as vegetated, flats and shorelines subject to the tide. Within New York City, the adjacent area may extend up to 150 feet inland (or up to certain structures as detailed in the regulations). NYSDEC requires a permit for almost any activity that will alter wetlands or adjacent areas. Article 25 ECL is designed to “preserve and protect” tidal wetlands, which are defined as coastal freshwater marshes, intertidal marshes, coastal shoals, bars and flats and littoral zone, high marshes and salt meadows, and formerly connected tidal wetlands (those in which normal tide flow is restricted by manmade causes). The Act allows NYSDEC to regulate activities within tidal wetlands and adjacent upland areas up to 300 feet (150 feet in New York City) in width adjoining such wetlands. NYSDEC also regulates the upland buffer zone, or adjacent area, upgradient of the tidal wetland littoral zone (lands under tidal water less than six feet deep at mean low water). Buffer zone definitions and regulations are described in NYCRR Section 661.4. It should be noted that a relatively small adjacent area is associated with the Project Area, since much of the waterfront is built and has been so prior to August 20, 1977 (6NYCRR 617).

11.7 Conclusion

The Proposed Action would add more pervious surface to the Homeport Site via the creation of additional green space, use of pervious materials and/or the potential use of bioswale and other sustainable design elements that might be incorporated into the

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development design guidelines. Stormwater that does not percolate into the newly provided pervious surfaces inherent in the design of the open space and parking areas would be captured and directed to the municipal sewer network, resulting in an increase in the amount of stormwater reaching the municipal sewer network. The increase in peak stormwater flows and additional sanitary flow volumes from the Proposed Action would contribute to CSO overflow volumes. However, recent discussions with the NYCDEP indicate there are plans to upgrade the capacity of three of the four existing CSO outfalls within the Project Area, to accommodate the flows anticipated from the proposed development. The Proposed Action would be coordinated with Federal, State and City agencies, as necessary, and would comply with all applicable rules and regulations. Contaminated soil or groundwater encountered during construction would be handled according to all applicable laws and regulations. Furthermore, as the Proposed Action is not expected to result in significant adverse impacts to wetlands, floodplains, threatened and endangered species, coastal resources, geology or groundwater, it would not have a significant adverse affect natural resources.