

**A. INTRODUCTION**

This chapter discusses the existing ecological resources of the Master Plan area, assesses any potential changes to the plant and animal communities in the future without the proposed action, and analyzes the probable impacts of the Proposed Action on these resources. In preparing this assessment, New York State Department of Environmental Conservation (NYSDEC) Natural Heritage Program was contacted to verify whether any threatened or endangered species exist within the study area.

**B. EXISTING CONDITIONS**

The Master Plan area is fully developed, and has been primarily used as an industrial site for over a century. In addition, the site is mostly composed of urban fill materials. As a result, there are few areas of natural vegetation or wildlife habitat on the majority of the study area. The Hudson River forms the western boundary of the area, and the river shoreline is a combination of bulkhead and rip-rapped shoreline of steep or vertical grade. Due to the lack of stormwater and erosion controls, surface runoff from the area has likely been a source of non-point source pollutants to the Hudson River, historically and up to the present day.

**TERRESTRIAL ECOLOGY***VEGETATION*

The terrestrial ecological resources on the study area are largely confined to narrow strips of land on the periphery of developed areas and to isolated vacant lots that have been colonized by early successional plants – that is, those plants that are first to move in to recently disturbed or cleared areas. Where vegetation occurs, species are primarily non-native or invasive plants typical of an urbanized setting. A history of fill, excavation/grading or dumping activity is evident in all areas of the site not currently occupied by buildings or roadways. Excavated topography, gravel piles, construction and demolition debris, and refuse occupy all onsite buffer areas, adjacent to the rail line and vacant lots. This past and continuing disturbance has a determining effect on the plant and animal species assemblage throughout, limiting species diversity and favoring early successional and non-native species.

Most of the vegetated, undeveloped land onsite consists of a narrow buffer along either side of the Metro-North railroad tracks. These areas are heavily dominated by vines, including cat grape (*Vitis palmata*), oriental bittersweet (*Celastrus orbiculatus*), Japanese honeysuckle (*Lonicera Japonica*) and porcelainberry (*Ampelopsis brevipedunculata*), which cover much of the woody tree/shrub species. Mugwort (*Artemisia vulgaris*) is the dominant herbaceous plant covering a majority of open lands and limiting species diversity as a result. Other common herbaceous species include mullein (*Verbascum thapsus*), foxtail grass (*Alopecurus sp.*) and evening primrose (*Oenothera biennis*). Trees occur sporadically along the northern portions of the

Metro-North railroad line in the vicinity of JFK Marina Park and the former Glenwood Power Plant facility, including Norway maple (*Acer platanoides*), white mulberry (*Morus alba*), pin oak (*Quercus palustris*), and Tree-of-Heaven (*Ailanthus altissima*). Other tree species occur less frequently, including red oak (*Quercus rubra*), catalpa (*Catalpa bignonioides*), and black cherry (*Prunus serotina*). The dominant tree species range from 8 to 20 inches diameter at breast height (dbh), with some sapling sized trees of 2 to 5 inches dbh. Shrubs species include bush honeysuckle (*Lonicera maackii*) and staghorn sumac (*Rhus typhina*).

Immediately south of the former BICC Cable Corp. site and east of the existing bus depot, vacant parcels exist. These constitute the largest areas of undeveloped land on the site, and are primarily characterized by disturbed open ground (e.g., dirt, sand, and gravel) with a sparse cover of vegetation. Again, mugwort (*Artemisia vulgaris*) is the dominant herbaceous species, interspersed with queen anne's lace (*Daucus carota*), mullein (*Verbascum thapsus*), burdock (*Arctium minus*), knapweed (*Centaurea nigra*), foxtail grass (*Alopecurus sp*) little bluestem (*Andropogon soperius*), broom sedge (*Andropogon virginicus*), orchard grass (*Dactylis glomerata*), and goldenrods (*Solidago sp.*). Black locust (*Robinia pseudoacacia*) is the dominant tree species, with other generally smaller tree saplings occurring along the periphery of the site including pin oak (*Quercus palustris*), red oak (*Quercus rubra*), princess tree (*Paulownia tomentosa*), tree-of-heaven (*Ailanthus altissima*), cottonwood (*Populus deltoides*), and pin cherry (*Prunus pensylvanica*). Tree diameters in this area range from 2 to 10 inches dbh. Common shrub species include autumn olive (*Elaeagnus umbellata*) and staghorn sumac (*Rhus typhina*).

Remaining vegetation in the area consists of incidental trees adjacent to the rip-rap shoreline and planted (ornamental) street trees or landscape trees in areas of actively used open space and parkland areas. Along the Hudson River shoreline, such as the area behind the Excelsior Packaging Company, honey locust (*Gleditsia triacanthos*) and Bradford pear (*Pyrus calleryana*) trees occur sporadically. However, most of the shoreline in the central and southern portion of the area is cleared up to the bulkhead/rip-rap. Planted rows of street trees and landscape vegetation occur adjacent to buildings on Alexander Street, including individual blue spruce (*Picea pungens*), white mulberry (*Morus alba*) and Bradford pair (*Pyrus calleryana*). Ornamental trees also occur in JFK Marina Park, including several ornamental pear trees (*Pyrus sp.*) and locust (*Gleditsia triacanthos*), surrounded by mowed lawn and paved parking areas.

The largest trees within the study area occur as planted, ornamental species in the City of Yonkers' Trevor Park. Within the landscaped portions of the park, which consists of open lawn, ballfields and tennis courts, sizable white pine (*Pinus strobus*), European beech (*Fagus sylvatica*), silver maple (*Acer saccharinum*), London planetree (*Platanus acerifolia*), pignut hickory (*Carya glabra*), and blue spruce (*Picea pungens*) trees occur. Tree diameters range from 24 to 36 inches and greater dbh. Along the forested periphery of Trevor Park, remnant trees occur (not planted for ornamentation) primarily red oak (*Quercus rubra*), American basswood (*Tilia americana*), Norway maple (*Acer platanoides*) and pin oak (*Quercus palustris*). These range in size from 4 to 20 inches in diameter.

#### **WILDLIFE**

Terrestrial wildlife utilizing the area is limited to those species that can exist in heavily urbanized areas. No species expected to utilize area are unique to the area or rare. Mammals expected to use the site include raccoon (*Procyon lotor*), Virginia opossum (*Didlephis virginiana*), gray squirrel (*Scuirus carolinensis*), field mouse (*Microtus Pennsylvanicus*), norway

rat (*Tattus norvegicus*), chipmunk (*Tamias striatus*), woodchuck (*Marmota monax*), eastern mole (*Scalopus aquaticus*) and feral cats. Lack of wetlands and the urbanized setting preclude use of the site by most reptiles or amphibians, except those species that can tolerate such conditions such as the eastern garter snake (*Thamnophis sirtalis*) and northern brown snake (*Storeria d. dekayi*). No terrestrial animal species expected to utilize the area are unique to the area or rare.

Among the wildlife using the area bird use is likely to be the most diverse. Because of their ability to fly, impediments such as roadways, buildings and drainage structures do not pose as significant a detriment to birds as compared to terrestrial species. The area's proximity to the Hudson River, a north-south trending topographic feature, may also increase use of undeveloped or vacant portions of the site for foraging seeds/fruit during migration on a seasonal basis. Bird species sited during vegetation inventory include mockingbird (*Mimus polyglottos*), slate colored junco (*Junco hyemalis*), house sparrow (*Passer domesticus*), song sparrow (*Melospiza melodia*), northern cardinal (*Cardinalis cardinalis*) and ring billed gull (*Larus delawarensis*). Many other species can be expected to frequent the area including European starling (*Sturnus vulgaris*), goldfinch (*Carduelis tristis*), American crow (*Corvus brachyrhynchos*), black-capped chickadee (*Parus bicolor*), and downy woodpecker (*Picoides pubescens*) in uplands as well as waterfowl and shorebirds off the coast within the Hudson River, such as great blue heron (*Ardea herodias*), double-crested cormorant (*Phalacrocorax auritus*), black duck (*Anas rubripes*), black-crowned night heron (*Nycticorax nycticorax*), bufflehead (*Bucephala albeola*), and common merganser (*Mergus merganser*), among others. No threatened, endangered or rare bird species are expected to use the area for breeding or nesting due to its urbanized condition and paucity of habitat features.

## WATER QUALITY

The Hudson River at the Yonkers waterfront is located within the lower Hudson River Estuary, which is tidally influenced. Saltwater from Upper New York Bay enters the lower Hudson River Estuary during the flood phase of the tidal cycle and lower salinity water is discharged from the Estuary to the Bay during the ebb phase. Tidal flows are considerably larger than the range of fresh water flows. The mean tidal flow is approximately 425,000 cubic feet per second (cfs) at the Battery and freshwater flow is estimated at 19,000 to 20,000 cfs for the lower Hudson River.

The salinity of the lower Hudson River Estuary varies daily with the tidal cycle and seasonally with the volume of freshwater entering from upriver. The lighter freshwater tends to flow over the denser saltwater, but at Yonkers, the water column is vertically stratified. This means that the two waters mix, and no sharp boundary between them exists, even though the salinity (concentration of salts) increases with depth. The salinity varies with the stage of the tide and the volume of freshwater runoff. The water temperature varies with the seasons and volumes of fresh and saltwater flows.

The New York State Department of Environmental Conservation (NYSDEC), the primary regulatory agency for water quality in New York State, has classified the waters of the Hudson River at the site as class SB. This classification is for saline water. Section §701.11 of Environmental Conservation Law defines the best usages of class SB waters as “shellfishing for market purposes, primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.”

The water quality of the lower Hudson River Estuary is strongly affected by human activity upstream and the densely populated and industrialized land uses that surround it. Historically,

water quality problems included low dissolved oxygen (DO) content, high nutrient concentrations, algal blooms, excessive numbers of coliform bacteria, and the presence of floatables contributed to water quality impairment. However, the construction and upgrading of wastewater treatment facilities (WWTF), and implementation of water pollution control programs throughout New York has greatly reduced nutrient inputs and improved water quality.<sup>1</sup>

The New York Harbor (NYH) Water Quality Survey<sup>2</sup> provides data from a monitoring station (Station N1) situated just south of the Alexander Street area. The NYH Report indicates that this station, like the others in the Inner Harbor Area, meets water quality standards but is prone to short-lived increases in fecal coliform loading after storm events. Table 4-1 presents the water quality measurements taken from Station N1 by the New York City Department of Environmental Protection (NYCDEP) in 2004.

**Table 4-1**  
**Hudson River Water Quality Measurements at Station N1, 2004**

Parameter	NYSDEC Standard	NYCDEP Measurement
Temperature <sup>1</sup>	None	3.1 <sup>o</sup> to 25.8 <sup>o</sup>
Salinity <sup>2</sup>	None	2.3 to 22.1
pH	None	7.2 to 8.2
Fecal Coliform <sup>3</sup>	200 <sup>4</sup>	36.9 <sup>4</sup>
Dissolved Oxygen <sup>5</sup>	5.0	4.0 to 12.7
Enterococcus <sup>3</sup>	None <sup>6</sup>	5.0 <sup>4</sup>
Total Suspended Solids <sup>5</sup>	None	1.2 to 185
Chlorophyll "a"	None	3.7 <sup>4</sup>
<b>Notes:</b>		
<sup>1</sup> Degrees Celsius		
<sup>2</sup> Parts per thousand		
<sup>3</sup> Number of cells per 100 milliliters of water		
<sup>4</sup> Geometric mean		
<sup>5</sup> Parts per million		
<sup>6</sup> Environmental Protection Agency (EPA) has a standard of a geometric mean of 35 cells per 100 milliliters of water; New York State currently does not have a standard.		

**AQUATIC BIOTA**

The New York/New Jersey Harbor Estuary, including the lower Hudson River Estuary, supports a diverse and productive aquatic community of over 100 species of finfish, more than 100 invertebrate species, and a variety of phytoplankton and zooplankton.

The Hudson River is used by many fish, both migratory and resident. Anadromous fish (those that live at sea, but spawn in fresh water) and catadromous fish (those that live in fresh water,

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<sup>1</sup> Brosnan, T.M., and O’Shea, M.L. 1995. New York City Department of Environmental Protection, Marine Sciences Section, New York harbor Water Quality Survey: 1994. Wards Island, NY.

<sup>2</sup> New York City Department of Environmental Protection (NYCDEP). 2004. Harbor Water Quality Survey Data for 1995 through 2003. New York, NY.

and spawn at sea) are found migrating through the Hudson River. Over 100 species of resident fish have been recorded in the estuarine portion of the Hudson River. Nine species comprised nearly 95 percent of the total number of fish collected within the Harbor Estuary, with juvenile striped bass (*Morone saxatilis*) the most abundant followed by Atlantic tomcod (*Microgadus tomcod*), American eel (*Anguilla rostrata*), seaboard goby (*Gobiosoma ginsburgi*), cunner (*tautogolabrus americanus*), northern pipefish (*syngnathus fuscus*), naked goby (*gobiosoma bosci*), winter flounder (*pieoronectes americanus*), and tautog (*tautogolabrus adspersus*).<sup>3</sup>

The Beczak Environmental Education Center, located on the Hudson River at the southern end of the site, conducts monthly near-shore seining (fish capture/release) in the Hudson River immediately adjacent to the subject area. The following species of marine life recently retrieved from near-shore waters provide an indication of the typical variety of larger (able to be caught by seining) marine animals frequenting the waters off the site:

**Table 4-2**  
**Fish Species Caught in Hudson River between April 15 – August 15, 2005**

Common Name	Scientific Name
American eel	<i>Anguilla rostrata</i>
Atlantic needlefish	<i>Strongylura marina</i>
Atlantic silverside	<i>Menidia menidia</i>
Atlantic tomcod	<i>Gadus morhua</i>
Banded killfish	<i>Fundulus diaphanous</i>
Bluefish	<i>Pomatomus saltatrix</i>
Blue Crab	<i>Callinectes sapidus</i>
Comb jellies	<i>Mnemiopsis leidyi</i>
Golden shiner	<i>Notemigonus crysoleucas</i>
Goldfish	<i>Carrasius sp.</i>
Hogchoker	<i>Trinectes maculatus</i>
Jellyfish	<i>various</i>
Mummichog	<i>Fundulus heteroclitus</i>
Northern kingfish	<i>Menticirrhus saxatilis</i>
Northern pipefish	<i>Syngnathus fuscus</i>
Sand shrimp	<i>Crangon septemspinosa</i>
Shore shrimp	<i>Palaemonetes sp.</i>
Shorthead redhorse	<i>Moxostoma macrolepidotum</i>
Striped anchovy	<i>Anchoa hepsetus</i>
Striped bass	<i>Morone saxatilis</i>
Striped searobin	<i>Prionotus evolans</i>
White-fingered mud crab	<i>Rithropanopeus harrisi</i>
White perch	<i>Morone americana</i>
White sucker	<i>Catostomus commersoni</i>
Winter flounder	<i>Pseudopleuronectes americanus</i>
<b>Sources:</b> Beczak Environmental Education Center, Fall 2005 newsletter	

<sup>3</sup> Able, K.W., A.L. Studholme, and J.P. Manderson. 1995. Habitat quality in the New York/New Jersey Harbor Estuary: An evaluation of pier effects on fishes. Final Report. Hudson River Foundation, New York, NY.

In addition to larger marine animals, smaller free floating species are found throughout the waters of the Hudson River. These species do not possess locomotion ability and rely on the currents to move them. These organisms include zooplankton (floating animals), phytoplankton (floating plants), and ichthyoplankton (fish eggs and larvae). These are important food sources for the fish and animals higher on the food chain.

Benthic (bottom dwelling) and attaching organisms are found throughout the area. Mussels and clams are typical benthic organisms. Sea squirts and barnacles are examples of attaching organisms that can be found on pilings and other hard substrate along the subject area's shoreline.

#### *RARE AND ENDANGERED SPECIES*

Requests for information on rare, threatened or endangered species within the immediate vicinity of the study area were submitted to U.S Fish and Wildlife Service (USFWS), National Marine Fisheries Services (NMFS), and the NY.SDEC Natural Heritage Program (NYNHP) on July 14, 2005. USFWS indicated in correspondence dated August 15, 2005, that except for occasional transient individuals, no federally listed or proposed endangered or threatened species, or habitat designated or proposed as "critical habitat" in accordance with provisions of the Endangered Species Act, are known to exist in the vicinity of the subject area. NYNHP and NMFS indicated in correspondence dated August 5, 2005, that the federally listed endangered shortnose sturgeon (*Acipenser brevirostrum*) is known to occur in the lower Hudson River.

The federally-listed and state-listed endangered shortnose sturgeon (*Acipenser brevirostrum*) is an anadromous bottom-feeding fish that can be found throughout the Hudson River system. These fish spawn, develop, and overwinter well upriver of the Yonkers waterfront, and prefer colder, deeper waters for all lifestages. Shortnose sturgeon have occasionally been documented in the Yonkers area between the months of July and October. However, their presence within the vicinity of the project is thought to be infrequent and rare.

#### *SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT*

The Yonkers waterfront area is adjacent to the "Lower Hudson Reach", a designated Significant Coastal Fish and Wildlife Habitat, which is part of New York State's Coastal Management Program (CMP) administered by the New York State Department of State (DOS). The area defined as the Lower Hudson Reach extends from Battery Park at the tip of Manhattan approximately 19 miles north to Yonkers in the vicinity of former Glenwood Power Station. This area includes deepwater, shallows, piers, and interpier basins. Most of the shoreline within the Lower Hudson Reach has been extensively disturbed through filling, bulkheading, and development including residential, commercial, industrial, and public uses. Natural shoreline and wetland vegetation is limited throughout the area with a notable exception on the Spuyten Duyvil at Inwood Hill Park. The Lower Hudson Reach was designated a Significant Coastal Fish and Wildlife Habitat because it provides an important wintering habitat for young-of-the-year, yearling, and older striped bass. Any component of the Proposed Action which could potentially affect this designated habitat would be reviewed by DOS for consistency with the CMP. (See Chapter 5: "Coastal Zone Consistency", for a complete discussion of the conformance of the Proposed Action with New York's coastal policies.)

In addition, the United States Fish and Wildlife Service (USFWS) has designated the Lower Hudson River Estuary (from the Battery at the southern tip of Manhattan up to Stony Point at river mile 41) as a Significant Habitat Complex because it is a regionally significant nursery and wintering habitat for a number of anadromous, estuarine, and marine fish species, including striped bass, and is a migratory and feeding area for birds and fish that feed on the abundant fish and benthic invertebrate resources found in this portion of the estuary.

*CRITICAL ENVIRONMENTAL AREA (CEA)*

The Hudson River shoreline, recognized as one of New York State's most outstanding natural resources, was designated by Westchester County as a critical environmental area (CEA) as defined by local law number 16 of 1989. Cited in the designation of the Hudson River shoreline is the river's importance as an historic and scenic resource and its ecological importance as a marine fishery and a river valued for its water recreation assets. All areas west of Broadway (Route 9), from Riverdale Avenue at the New York City line, northwards, are included as part of this designation. The Yonkers waterfront area is located within this designated Critical Environmental Area (CEA) bordering the Hudson River. Therefore, the potential impact of any Type I or Unlisted Action on the environmental characteristics of the CEA must be evaluated in the determination of significance prepared.

**WETLANDS**

Site inspection and review of New York State and federal wetland maps indicate that no freshwater wetlands occur within the upland, developed areas of the subject area. Only the Hudson River itself, along the area's western border, exhibits tidally influenced wetlands. The majority of the shoreline is composed of large stone rip rap. As such, little or no vegetation or natural shoreline occurs onsite. The exceptions to this include portions of the shoreline immediately south of the former Glenwood Power Station building which exhibit either rubble/cobble shoreline alternately submerged/exposed with the changing tides and areas of sandy beach below the rip-rap bulkhead line. Neither area contains vascular coastal or wetland vegetation, but both areas provide a substrate for intertidal benthic fauna (e.g., invertebrates living in sea floor sediment) and algae.

The National Wetland Inventory (NWI) wetland maps prepared by the federal U.S. Fish and Wildlife Service classify the Hudson River as E1UBL (estuarine subtidal unconsolidated bottom). Such wetlands are continuously submerged at time of low water. This generally conforms with site conditions found during field inspection.

The NYSDEC Tidal Wetlands Map categorizes the Hudson River adjacent to the waterfront area as a littoral zone (LZ). This is defined as "the tidal wetlands zone designated LZ on an inventory map, that includes all lands under tidal waters which are not included in any other category except as otherwise determined in a specific case as provided in section 661.16. Provided there shall be no littoral zone under waters deeper than six feet at mean low water..." (6 NYCRR Part 661.4).

**SOIL**

The USDA Natural Resources Conservation Service (NRCS) identifies major classifications of soils that have similar characteristics, such as texture and drainage, into a series. Within each series, soils can differ in slope and other characteristics that affect their use. On the basis of these differences, soil series are further divided into phases. Different soil phases exhibit variable

water storage, erosion potential, and other characteristics significant from a development perspective.

The area consists of four different soil series as mapped by the NRCS. Each of the soil series is common to Westchester County. These include Urban land (Uf); Udorthents (Ub); Udorthents, wet substratum (Uc); and Riverhead loam, 15 to 25 percent slopes (RhD). Most of the subject area is classified as Urban Land (Uf), which is expected considering its developed condition. JFK Marina Park and the southern portion of the area are classified as Uc; and Trevor Park, just east of JFK Marina Park, is classified as both RhD and Ub.

Table 4-3 contains a complete list of soil names and characteristics found on the Alexander Street site.

**Table 4-3  
Surface Soils**

Symbol	Depth to Bedrock	Soil Series Name	Drainage Characteristics
RhD	More than 60 inches	Riverhead loam, 15 to 25 percent slopes	Moderately steep, very deep and well drained soils found on the sides of terraces and small hills adjacent to the uplands. Permeability moderately rapid in the surface layer and subsoil and very rapid in the substratum. Erosion hazard is severe, surface runoff rapid, and water capacity moderate.
Ub	Not available	Udorthents, smoothed	Very deep, excessively drained to moderately well-drained soils that have been altered by cutting and filling. Variable properties and characteristics: on-site investigation and evaluation required.
Uc	Not available	Udorthents, wet substratum	Somewhat poorly drained and very poorly drained soils that have been altered mainly by filling.
Uf	Not available	Urban land, 0 to 8 percent slopes	Consists of areas where at least 60 percent of the land is covered with buildings or other structures. The areas include parking lots and institutional sites. Also included are soils between buildings and structures that have not been appreciably altered such as Riverhead, Chatfield, Sutton, and Unadilla and areas of Udorthents. These areas make up 5 to 20 percent of the Uf area.
<b>Source:</b> Soil Survey of Putnam and Westchester Counties, New York. U.S.D.A. Soil Conservation Service.			

*Urban Land*

The Urban land series is the predominant soil on the waterfront area. The Urban land Series consists of areas where at least 60 percent of the land surface is covered with buildings or other structures. Within Urban land areas that have not been appreciably altered, pockets of soils such as Riverhead, Chatfield, Sutton, and Unadilla can be found. These pockets of soil will be located between buildings or other structures.

Two phases of the Urban land Series are found on the site: Urban land (Uf); and Urban land-Paxton complex (UpC). Slopes in Urban land range from 0 to 8 percent. Urban land-Paxton complex has slopes that range from 8 to 15 percent. UpC soil consists of Urban land and very deep, well drained, gently sloping Paxton soil. Permeability is moderate in the surface layer and slow or very slow in the substratum. Erosion hazard is moderate, surface runoff medium, and water capacity moderate.

Depending on past uses, Urban land soils may require reclamation if converted from present use. Typically, the natural soil layers in Urban land have been altered or mixed with manufactured materials such as bricks, concrete, or cinders.

#### *Udorthents Series*

Udorthents generally consist of soils that have been altered by cutting and filling and are excessively drained to somewhat poorly drained. Mainly in and adjacent to urban areas, highways, and borrow areas, they are made up of soil material in alternating layers ranging from sand to silt loam. Soil classified as “Udorthents smoothed” is located in the center of the southern boundary of the study area. This particular soil of the Udorthents Series is excessively drained to moderately well drained. The properties and characteristics of the Udorthents are so variable that on site investigation and evaluation are required to determine the suitability and limitations for proposed uses. Thus, the U.S. Soil Conservation Service does not list limitations for Udorthents with respect to building constraints or septic absorption fields. However, these soils are common urban fill found throughout Westchester County and occur in many developed areas.

#### *Riverhead Series*

The Riverhead series consists of very deep, well drained soils on stream terraces and outwash plains. These soils formed in sandy or gravelly deposits underlain by stratified sand and gravel. Slopes range from 0 to 50 percent. The rate of water movement is moderately rapid in the surface layer and subsoil and very rapid in the substratum. The depth to the bedrock is more than 60 inches.

### **TOPOGRAPHY**

The City of Yonkers is comprised of a series of ridges running north-south in line with the Hudson River. Warburton Avenue, the easternmost boundary of portions of the waterfront area, runs along the ridge closest to the Hudson River. Lands in the vicinity of the study area descend westwards, sometimes steeply, to the Hudson River.

The area itself consists largely of urban fill along the banks of the Hudson River and is therefore mostly level. Elevations for the majority of the land west of the Metro-North railroad are generally 5 to 10 feet above sea level. Trevor Park is located at the highest elevations of the study area, ranging from 70 feet up to 100 feet adjacent to Warburton Avenue. This area contains slopes that descend westward to the river.

## **C. THE FUTURE WITHOUT THE PROPOSED ACTION**

### **SUBJECT AREA**

In the future without the Proposed Action it is likely that many of the current uses would continue to occur on the subject site. Certain uses are anticipated to be discontinued as a result of the planned relocation of the City of Yonkers City Jail and the relocation of the offices of the Westchester County Department of Social Services. Some redevelopment of individual sites in the subject may take place, but no formal applications for redevelopment have been filed.

## **PROJECT VICINITY**

In the future without the Proposed Action, a number of projects are currently planned in the surrounding neighborhoods that would result in the renovation and restoration of existing buildings and construction of new buildings in nearby areas. These projects are referred to as the “No-Build” projects in that they will proceed whether or not the Proposed Action is implemented. These projects are listed in Chapter 2, “Land Use, Zoning, and Public Policy.”

## **D. POTENTIAL IMPACTS OF THE PROPOSED ACTION**

This proposed Alexander Street Master Plan would replace existing commercial and industrial development with a mix of residential and commercial buildings and associated infrastructure, such as roads, as well as adding approximately 13 acres of new open space and parkland. As such, from the perspective of impacts to natural resources, the Proposed Action is largely a replacement-in-kind. That is, few, if any, undeveloped or undisturbed areas would be affected, and the general ratio of developed land area (e.g., pavement, buildings) to vegetated (e.g., landscaped and buffer areas) is expected to be similar in the future with the Proposed Action, with the amount of vegetated areas increasing.

As individual components of the Proposed Action are implemented, permits and approvals would be required from a number of federal, state and local agencies for review of site plans, in-water structures, supplemental studies and site-specific environmental assessments. These permits are listed in Chapter 1, “Project Description.”

## **TERRESTRIAL ECOLOGY**

The majority of the area, with the exception of Trevor Park, would be redeveloped under the Proposed Action. However, as discussed above, vegetation within the area is limited in its extent and diversity and does not provide habitat for any unique or endangered/threatened wildlife species. Therefore, no significant adverse impacts to vegetation would be expected to occur as a result of the Proposed Action.

## *VEGETATION*

The Master Plan would also be expected to encourage economic revitalization of the Alexander Street waterfront area, including the Hudson River shoreline. Therefore, the Proposed Action would result in capital investments in waterfront improvements including improvement in public access, landscaping, and ecological restoration. As part of the Master Plan, portions of the area would be redeveloped as open space and would be revegetated and landscaped. A shoreline esplanade, which would include landscaped areas, would be created for the entire length of the shoreline between the existing Habirshaw Park in the south and the northern edge of JFK Marina Park.

Individual components of the Proposed Action, upon the submission or development application, would include detailed landscape plans for public areas, including open space along the River’s edge. The landscape plans are intended to increase vegetative species diversity throughout the overall area. Plant diversity in the waterfront area is currently limited primarily to invasive trees and herbaceous plants that have colonized peripheral or vacant portions of the site. Elements of future landscaping plans would include native plant species and wetland vegetation in proposed stormwater treatment facilities.

*WILDLIFE*

Species observed within the subject area, as mentioned above, are common urban species typical of developed communities. From a wildlife or wildlife habitat perspective, the area is not unique in this area of Westchester County or within the Hudson River Valley.

The activities associated with the implementation of the Proposed Action are not expected to result in any significant adverse or long-term impacts to the existing wildlife communities on the study site or in surrounding habitats of the adjacent institutional, commercial, and residential areas. Any affected wildlife would consist of common urban species that are abundant in residential and similarly developed areas of Yonkers and the lower Hudson Valley.

**WATER QUALITY**

*STORMWATER MANAGEMENT*

To prevent the potential negative effects of soil erosion, all development activities that are proposed under the Proposed Action would adhere to the requirements of NYSDEC SPDES General Permit for Stormwater Discharges Associated with Construction Activities #GP-02-01. This permit requires that developments disturbing more than one acre of land prepare a Stormwater Pollution Prevention Plan (SPPP), containing both temporary erosion control measures during construction and post-construction stormwater management practices to avoid flooding and water quality impacts in the long term. To comply with this NYSDEC general permit, each element of the Proposed Action would be required to develop stormwater measures designed in conformance with the New York State Stormwater Management Design Manual, 2003. Erosion control plans would be developed as part of project elements' Site Plan Approval procedures in conformance the New York State Guidelines for Urban Erosion and Sediment Control, 2005.

As detailed designs are developed to implement components of the Master Plan and submitted for review by the City and other regulatory agencies, it is the intention of the City that individual project sponsors provide for diverse stormwater amenities throughout the development area. These may include surface water quality detention basins and infiltration practices to convey and treat stormwater runoff. In many cases these measures can be incorporated in landscaped areas as biofiltration swales and depressions planted with diverse herbaceous and woody plant species, thereby adding to the aesthetic and ecological values of the Proposed Action. Rather than a single stormwater detention facility, a multitude of stormwater treatment practices can be interspersed throughout the area providing better water quality improvement and floral diversity.

As noted above, the current uses existing in the area have no stormwater detention or treatment practices, whereas, the Proposed Action will conform to the latest New York State stormwater requirements. Therefore, it is expected that the Proposed Action would significantly improve surface water runoff quality and reduce post-construction flow-rates as compared to the current site conditions. In addition, public access along the approximately 13 acres of new landscaped public shoreline open space would open up this recreational resource to the community and provide a wider, more pervious floodplain area than currently exists. The open space along the River's edge would improve water quality through sediment trapping and flood storage.

Review and approval of stormwater pollution prevention plans at the local and State level would be required as each component of the Master Plan is submitted, and this requirement would be

reflected in the SEQRA findings, requiring adherence to Local and State stormwater requirements and to the conceptual design guidelines discussed above.

### **AQUATIC BIOTA**

Potential impacts to the aquatic biota of the Hudson River from the Proposed Action would be limited to changes in water quality from stormwater runoff and sewage effluent from the proposed development, and to the construction of any in-water structures or dredging required by individual project components (e.g., bulkheads, dredging, marinas, etc.).

Regarding stormwater quality, as discussed above, the Proposed Action is expected to result in a net benefit to water quality because, unlike the existing development, it must conform with the latest stormwater treatment requirements of the NYSDEC, including such treatment practices as infiltration, surface detention, and biofiltration via planted landscape depressions.

Sewage effluent is discussed in Chapter 12: "Utilities, Infrastructure and Stormwater". Separate infrastructure would convey sewage effluent generated by the Proposed Action to the Yonkers Joint Treatment Plant where sufficient capacity exists to effectively treat this effluent. By creating separate stormwater and sewage conveyances, the Proposed Action would not contribute to the problem of stormflow releases that cause discharge of partially treated sewage from the Yonkers Plant and other sewage treatment plants on the Hudson River. Therefore, no impacts to Hudson River water quality and aquatic biota would result from the Proposed Action.

Regarding the need for in-water construction and potential impacts to aquatic biota, several components of the Master Plan may require some incidental fill or shading of unvegetated tidal wetland, primarily the littoral zone. This includes construction of marinas adjacent to the public esplanade, and the creation of the Alexander Street Causeway. In addition, establishment of a marina facility at JFK Marina Park would require that the floating dock field be sheltered from Hudson River currents. To do so, the existing northernmost earthwork pier of the park is proposed to be extended into the Hudson River by either adding a floating pier, or by depositing fill to create an approximately 350-foot breakwater, or protective pier. If fill is to be deposited, the Master Plan has identified an area of existing Hudson River fill within JFK Marina Park from which this breakwater fill could be obtained.

Impacts resulting from these project elements are expected to be minor and have no significant effect on any wetland or aquatic habitat or to any species of fish or other aquatic life. Nevertheless, at the time of initiation of these and other in-water project activities, supplemental assessments of potential aquatic and wetland impacts and permits would be required for all future work in and along the shoreline of the subject area. Specifically, Federal and State permitting would be required pursuant to the Clean Water Act (Sections 404 and 401) and Section 10 of the Rivers and Harbors Act. The Army Corps of Engineers (ACOE) and New York State Department of Environmental Conservation (NYSDEC) are the regulatory authorities governing impacts to wetlands and waters of the U.S. In addition, impacts to essential fish habitat (EFH) must be assessed by the National Marine Fisheries Service (NMFS) for any federally-permitted in-water activity having the potential to affect designated fisheries or their habitat in accordance with the Magnuson-Stevens Act (16 USC §§ 1801 to 1883).

Therefore, individual components of the Proposed Action involving in-water construction must obtain federal and state permits from the ACOE, NYSDEC and local approving authorities. In addition, an essential fish habitat assessment must be completed for the overall Proposed Action to examine potential project-wide (cumulative) impacts to EFH-designated fish species in the

Alexander Street area and associated aquatic habitat supporting these species as designated by the NMFS from all in-water components of the project.

#### *RARE AND ENDANGERED SPECIES*

The preference of shortnose sturgeons (*Acipenser brevirostrum*) for deep water habitat suggests that it is unlikely that individual species would occur in the vicinity of the Alexander Street waterfront except perhaps as occasional transients. Furthermore, the Proposed Action would not result in any water quality impacts or loss of preferred habitat. Therefore, no impacts would occur to this endangered species from the Proposed Action.

#### *SIGNIFICANT COASTAL FISH AND WILDLIFE HABITAT*

The Lower Hudson Reach has been identified as a Significant Coastal Fish and Wildlife Habitat primarily because of its use by large numbers of juvenile striped bass as wintering habitat. As discussed above, any work within the Hudson River such as the installation of piers, docks, pilings, bulkheads, or breakwaters would require an Essential Fish Habitat Assessment to be reviewed by the National Marine Fisheries Service (NMFS). This would include a discussion of potential impacts to the striped bass (*Morone saxatilis*). Significant adverse impacts would not be expected to occur to the Hudson River striped bass population and the designation of this portion of the estuary as Significant Coastal Fish and Wildlife Habitat due to the improvement stormwater discharge quality and the limited amount of fill required in tidal waters to accommodate the Proposed Action.

#### *CRITICAL ENVIRONMENTAL AREA (CEA)*

The Proposed Action would result in the redevelopment of 1.3 miles of the Hudson River shoreline which is presently largely comprised of underutilized formerly industrial parcels. Most of these parcels abut the River or are separated from the Hudson River shoreline by an existing roadway and a rip-rapped shoreline. Since most of the shoreline has already been extensively disturbed through filling, riprap, and bulkheading, the redevelopment of the area would not be expected to adversely affect any of the resources for which the Hudson River shoreline was designated a CEA. Further, rehabilitation of the shoreline would be expected to enhance the appearance of the subject area and increase its scenic value.

In addition, as part of the Proposed Action marina facilities and a waterfront open space esplanade would be created providing 1.3 miles and 13 acres of public access to the Hudson River, a CEA valued for its scenic, ecological, and cultural resources.

#### **WETLANDS**

As presently conceived, the Proposed Action would require several minor disturbances to Hudson River tidal wetland (littoral zone) habitat. These are limited to the construction of the proposed marina boat docks at JFK Park, the construction of other marina facilities adjacent to the public esplanade, the construction of a roadway linking the northern and southern portions of the site, and any incidental reconstruction of deteriorating bulkheads/riprap through the waterfront site as necessary. Work required to complete these components of the project would be undertaken to minimize the need for dredging and filling and resultant increases in water turbidity that may result. As discussed above, all applicable permits would be obtained for components of the project that could affect Hudson River wetlands, including, but not limited to, a NYSDEC tidal wetlands permit (6 NYCRR Part 661); and an ACOE permit (CWA Section

404 and 401); and permitting from the Westchester County Department of Environmental Facilities for wastewater contributions.

As part of the Proposed Action, opportunities for rehabilitated portions of the shoreline using a variety of treatments to achieve interest and promote public use at the water's edge will be explored. Steps, esplanades, walls, docks, piers, and natural vegetated slopes could all be employed. It is expected that some of the existing bulkheading and riprap could be removed to create more natural, vegetated intertidal wetland habitat as has been undertaken at the Beczak Center location at Habirshaw Park. The City of Yonkers intends to encourage individual project component site designs and engineering plans to incorporate treatments such as these.

Prior to approval of any component of the Proposed Action adjacent to the Hudson River waterfront, an assessment of the condition of shoreline bulkheading would be undertaken and provided to all involved agencies for review. The extent of any disturbance to the river shoreline, including bulkhead repair and fill or dredging within waters of the U.S., would be reviewed and regulated by the NYSDEC and ACOE. Opportunities for replacing existing rip-rap or sheet pile bulkheads with natural shoreline to improve wetland habitat will be explored and plans submitted for review by the lead agency and all federal, state and local permitting authorities. Individual components of the Proposed Action involving in-water construction must obtain federal and state permits from the ACOE, NYSDEC and Local approving authorities.

## **SOIL**

The Proposed Action will require soil disturbance for construction of the residential buildings throughout the waterfront area, and for the marina and related park improvements in the northern portion of the site, which may result in exposure of the soil to natural forces. The exposure of bare soil, on a temporary basis, accelerates the potential for erosion. This acceleration in soil erosion could potentially lead to siltation of the adjacent Hudson River, and could cause a reduction in water quality. In addition to exposure of bare soil, potential sources of erosion and sedimentation include soil that has been excavated from trenches and stored alongside the trench.

Therefore, measures to control soil erosion will be included as part of the construction process for all project components. Implementation of sediment and erosion control measures planned for the Alexander Street waterfront will avoid any significant amount of particulate matter being transported into the natural stream channel to the southwest that drains a majority of the site. Thus, the proposed grading and soil disturbance will not result in a significant adverse impact.

Long-term sediment and erosion control will be accomplished through the stormwater management plan, and the permanent reestablishment of vegetative cover on all exposed soil. Vegetation and landscaping will be established based on a site-specific landscape plans to be refined within the site plan approval processes for each project component. Landscape plans will be strictly adhered to by the contractor, thereby ensuring that appropriate plants are used to stabilize soil and prevent erosion in the long term.

Erosion control plans would be developed for review by NYSDEC and the City of Yonkers as part of Site Plan Approval in conformance with the New York State Guidelines for Urban Erosion and Sediment Control, 2005.

**TOPOGRAPHY**

The extent of regrading is expected to be minimal due to existing level topography. The Proposed Action would therefore not adversely impact the topography of the waterfront area.