



**JERSEY CITY MUNICIPAL UTILITIES AUTHORITY  
HUDSON COUNTY, NEW JERSEY**

**PLANNING DOCUMENT FOR  
BAYFRONT REDEVELOPMENT – PHASE 1A**

**NEW JERSEY ENVIRONMENTAL INFRASTRUCTURE TRUST**

**DECEMBER 2020**

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## TABLE OF CONTENTS

	<u>Page No.</u>
1. Introduction .....	1
2. Proposed Improvements .....	3
3. Project Purpose and Need .....	9
4. Planning Area .....	9
5. Existing Facilities .....	10
6. “No Action” Alternative .....	13
7. Selected Plan .....	13
8. Environmental Review .....	13
9. Required Permits .....	22
10. Design Standards .....	22
11. Project Costs .....	22
12. Public Participation .....	23
13. Cost Analysis .....	23
14. Project Schedule .....	23

### APPENDIX

Figure 1 - Location Map

Figure 7 – Water Service Area Map

Figure 2 – USGS Quad Map

Figure 8 – Sewer Service Area Map

Figure 3 – Surficial Geology Map

Figure 4 – Soil Survey Map

Figure 5 – Cultural Resources Map

Figure 6 – FEMA Map



## 1. INTRODUCTION

The Jersey City Municipal Utilities Authority (JCMUA) is applying to the New Jersey Department of Environmental Protection (NJDEP) for Financial Assistance through the New Jersey Infrastructure Bank (NJ I-Bank) Financing Program. The proposed Project generally consists of onsite and offsite infrastructure improvements for Phase 1A of the Bayfront Redevelopment Project.

The Bayfront Redevelopment Project is part of the Bayside Plan for the redevelopment of the City's west side situated along the Hackensack River. The Bayfront Redevelopment site is a former brownfield in Jersey City located along Route 440, between Culver Avenue on the east side of the Hackensack River approximately 1.5 miles north of the 1-78 Newark Bay Bridge and Kellogg Street as shown in Figure 1. The Bayfront Redevelopment is proposed on approximately 100 acres of existing industrial, commercial and municipal sites that are proposed to be urbanized with a focus on the Hackensack River and self-sustainability. The Redevelopment Plan is proposed to consist of twenty-two parcels for use as residential housing and mixed-use commercial buildings. In addition, eleven parcels will be utilized for open space. Commuter bus routes, a Light Rail stop and a continuation of the City's Riverwalk along the Hackensack River for pedestrian and cyclist use are proposed as part of the Bayfront Redevelopment. The site is presently in the completion stage of an environmental remediation program and consists of mostly vacant and undeveloped land. Construction of the Bayfront Redevelopment is proposed to be completed in multiple phases with Phase 1A being the initial phase. All construction proposed herein will occur in non-vegetated and previously disturbed areas.



**Figure 1 - Bayfront Redevelopment Location Plan**

The Project for which funding is being sought is for the infrastructure improvements associated with Phase 1A of the Bayfront Redevelopment. Phase 1A consists of the construction of the proposed infrastructure to service four (4) future residential development lots and two (2) future open space lots. In addition, offsite improvements will be performed to address flooding issues in the area. The infrastructure improvements consist of onsite green infrastructure, stormwater collection systems, sanitary sewerage collection systems and their associated components. The offsite infrastructure improvements consist of upgrading the existing stormwater collection



system along Kellogg Street, from Route 440 to the Hackensack River including a Stormwater Pump Station. Prior to construction of the proposed infrastructure, the Project site will require a surcharging program to minimize post construction road embankment and sub-surface utility settlement.

The purpose of this Planning Document is to provide a description of the various elements that constitute the Project Scope.

## **2. PROPOSED IMPROVEMENTS**

### Onsite Infrastructure Improvements

The property on which the Bayfront Redevelopment Project Site is proposed was originally developed for industrial use by filling over a former tidal marsh, beginning in the early 20th century and completed in the 1940's and 1950's. Phase 1A, the initial phase of the Project, includes the development of four (4) residential development parcels and two (2) open space parcels. The full build out of the remaining portion of the property will be performed in future phases.

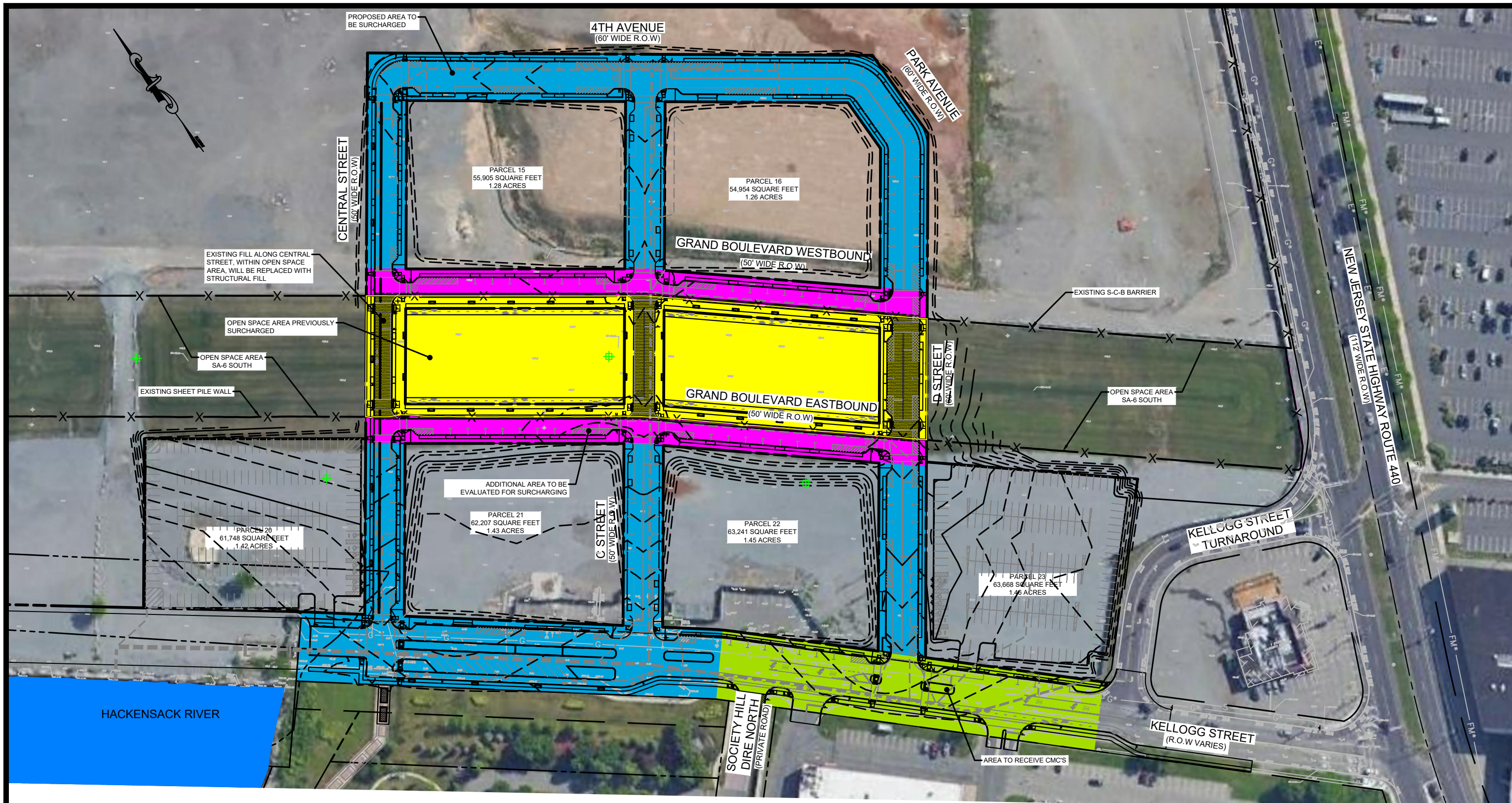
The underlying marsh soil deposits within the Bayfront Redevelopment Area are highly compressible. Site filling is necessary to bring the existing site above the 100-year flood plain of the Hackensack River. Current development plans consist of filling above the present grades by 6 to 12 feet in the roadway areas. Once filled, utility systems and bituminous concrete roadways will be installed to service the future residential and open space developments. Settlement due to compression of the marsh soils under the new fill layers are of concern since it will cause



premature failure of the infrastructure. Accordingly, soil stabilization by advance surcharging of the site and the installation of column supported embankments will be performed prior to the infrastructure construction.

Soil stabilization by surcharging includes the placement of imported fill above the proposed final grade elevations to promote compression of the existing soils. The fill placed above the final grades will be left in place until it has been confirmed that the required consolidation has been achieved. Through the placement of temporary excess fill, it is anticipated that the required consolidation may be accomplished within a minimum of 8 months, which includes a maximum duration of 3 months for surcharge placement and a minimum rest period duration of 5 months. Once the required consolidation has been achieved, the additional fill will be removed and the infrastructure can be installed with nominal settlement occurring in the future. Areas of proposed surcharging are indicated on Plate 1 - Surcharge Plan included herein.

The Clean Water Infrastructure is proposed to be constructed after the surcharging program of the site is completed. The improvements consist of green infrastructure, stormwater collection systems, sanitary sewerage collection systems and their associated components. To avoid disturbance of the capped contaminated material onsite, soil remediation was previously performed to a greater depth along the proposed roadway areas to create a corridor for utility installation. The below detail shows a typical cross section of the infrastructure to be installed along the roadway areas.



**LEGEND:**

- PROPOSED OPEN SPACE AREA PREVIOUSLY SURCHARGED
- PROPOSED AREA TO RECEIVE CONTROLLED MODULUS COLUMNS
- PROPOSED AREA TO BE SURCHARGED
- ADDITIONAL AREA TO BE EVALUATED FOR SURCHARGING

**GRAPHIC SCALE**



( IN FEET )  
1 inch = 120 ft.

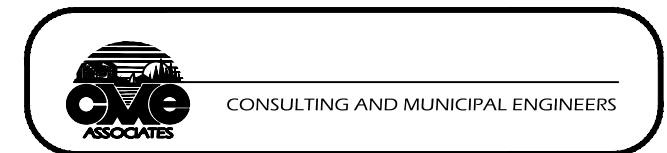
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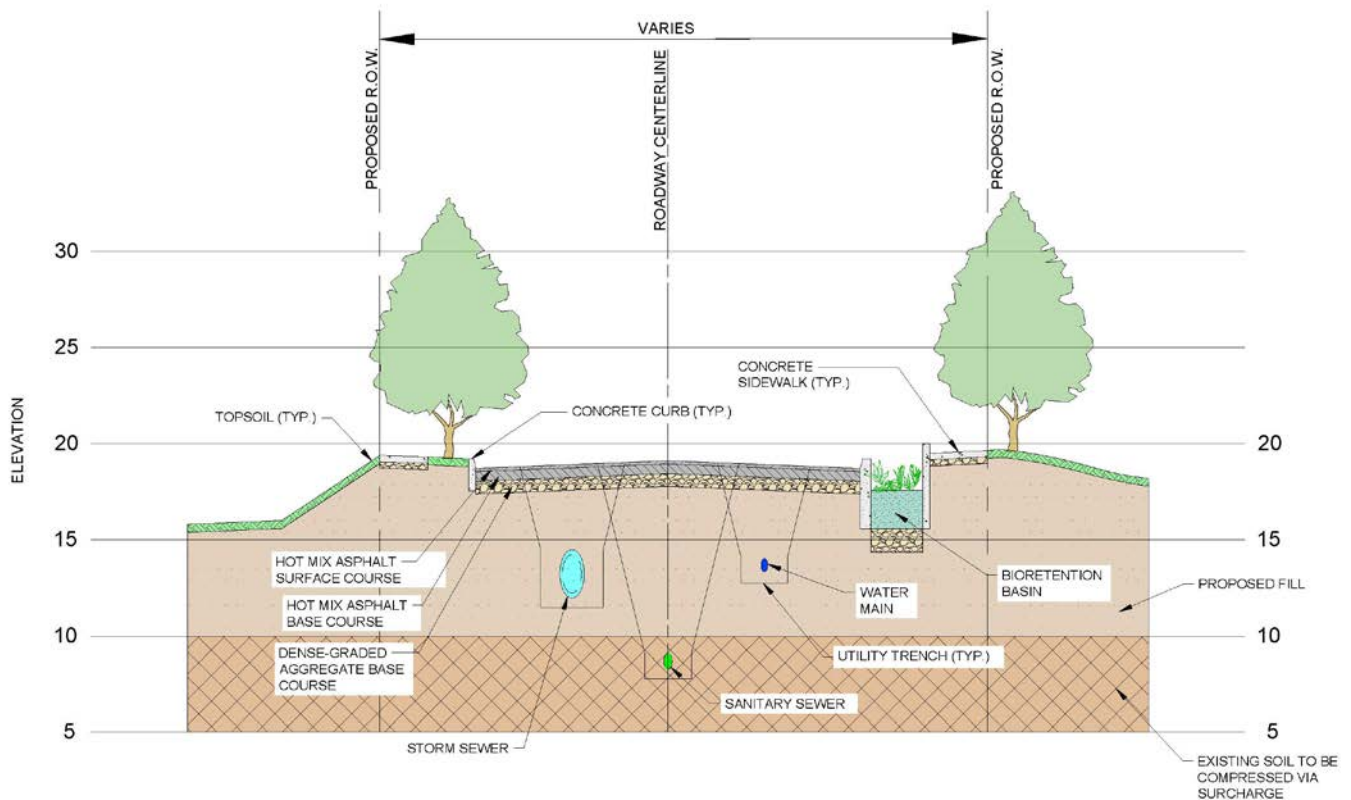
**BAYFRONT REDEVELOPMENT - PHASE 1A**

**PLATE 1 - SURCHARGE PLAN**

SCALE: N.T.S.

DATE: 11/19/2020





### Typical Roadway Section

The proposed Project is classified as a “major” development for stormwater management purposes and therefore is required to address water quantity, water quality and groundwater recharge standards. The Project is located within the Tidal Flood Hazard Area of the Hackensack River and while flow reductions are not required, green infrastructure is proposed to reduce stormwater runoff. The proposed green infrastructure consists of the construction of eleven (11) bioretention basins and tree plantings to enhance the quality of the stormwater runoff. The bioretention basins will be placed in landscaping islands along with associated sidewalks and curbs to direct the runoff to the basins. In addition, porous pavers will be installed in walkway and bikeway areas to minimize runoff to the stormwater collection system. Two (2) parcels within Phase 1A between Grand Boulevard Eastbound and Westbound will be utilized



for open space and will be graded to allow for runoff to infiltrate into the soil to reduce the runoff entering the stormwater collection system.

The proposed stormwater collection system will collect runoff associated with Phase 1A of the Bayfront Redevelopment Project and discharge to the Hackensack River through a new outfall. The stormwater system will be entirely separated from the sanitary sewerage system and stormwater will not discharge to the City's combined sewer system. The stormwater collection system consists of approximately 5,000 linear feet of 12-inch to 42-inch diameter reinforced concrete pipe (RCP) and approximately 600 linear feet of elliptical RCP pipe. The depths of the storm sewer mains are approximately 6-feet to 10-feet deep. Effluent from the eleven (11) bioretention basin underdrains and runoff from the two (2) temporary parking lots will be collected by the stormwater system. All stormwater runoff from Phase 1A will be treated by two (2) manufactured treatment devices prior to discharging to the outfall. A new 42-inch diameter outfall (River DP-4) will be constructed along the southern side of the Site to discharge stormwater to the Hackensack River. NJDEP approval of the new outfall is currently pending.

The sanitary sewerage system for the Site consists of approximately 3,150 linear feet of 10-inch to 18-inch diameter sewer mains proposed within the designated roadway areas on the Site. Sewer laterals will be extended from the sanitary sewer mains to each parcel for future connection. Connection to the existing downstream sanitary sewerage collection system will be made along Route 440. The depths of the sanitary sewer mains are approximately 10-feet deep. Due to the depth of excavation and the underlying soil conditions, it is recommended that the potable water distribution mains be installed concurrently with the sanitary sewer mains. The



potable water distribution consists of approximately 5,750 linear feet of 8-inch and 12-inch diameter cement lined ductile iron water mains.

### Offsite Infrastructure Improvements

Phase 1A of the Bayfront Redevelopment Project is located along Route 440, between Culver Avenue and Kellogg Street, on the east side of the Hackensack River. The only roadway access to Phase 1A of the Bayfront Redevelopment Project will be from Kellogg Street. Kellogg Street is a connecting road from Route 440 and terminates at the Hackensack River. The intersection of Kellogg Street and Route 440 is currently prone to severe flooding. During flood events, Route 440 in the area of Kellogg Street is inundated with stormwater restricting vehicle access along Route 440 and Kellogg Street. Drainage improvements along Kellogg Street are necessary to alleviate the flooding along Route 440 in order that the future residents can enter and exit the Development.

An investigation into the cause of the flooding was performed. The storm sewers in Route 440 along the frontage of Bayfront and the Kellogg Street intersection flow south to an existing outfall near Danforth Avenue. The investigation identified that the existing storm sewers along Route 440 are undersized. In addition, the connection to the downstream outfall near Danforth Avenue is below the mean high water line of the Hackensack River. As a result, during wet weather events, stormwater is unable to properly flow to the outfall and results in flooding along Route 440 and at Kellogg Street. The lowest grade elevation in the stormwater collection system north of the outfall is at the Kellogg Street intersection and as a result is the primary location of the flooding issues.



In order to address the flooding issues along Route 440 at Kellogg Street, improvements to the stormwater collection system are proposed. The improvements consist of a new stormwater collection system along Kellogg Street to convey stormwater from Route 440, west to a new outfall. A gravity outfall will function properly during normal and low tides however due to the elevation of the stormwater collection system and the tidal elevations of the Hackensack River, a gravity outfall is not feasible during high tide. In order to convey flow to the outfall during high tide, a new Stormwater Pump Station is required. Two locations for the Pump Station are currently being considered. The stormwater collection system along Kellogg Street is proposed to consist of approximately 1,400 linear feet of 66-inch storm sewer which will convey stormwater to the outfall and the Pump Station. In addition, storm inlets and manholes will be installed for the collection of the runoff along Route 440 and Kellogg Street. Two locations for the new Outfall are currently being evaluated. One Outfall location is at Droyers Cove near the terminus of Kellogg Street. The other Outfall location is to the Hackensack River at the southwestern portion of the Bayfront Development. The final location of the outfall will be determined during the Design Phase of the Project.

As previously mentioned, the location of the Pump Station has not yet been determined. The physical terminus of Kellogg Street, adjacent to Droyers Cove, tributary to the Hackensack River, is being considered as a possible location. The final location of the Pump Station will be determined during the Design Phase of the Project. The proposed stormwater collection system will convey flow from Route 440 to the Pump Station and the outfall. During low tide in the Hackensack River, flow will be conveyed by gravity through the new outfall without the use of



the Pump Station. During high tide or high flow events, the stormwater flow will be directed to the Pump Station for conveyance to the outfall. The Pump Station will consist of a below grade wet well, four (4) turbine stormwater pumps, influent screening facilities, a utility building, control systems, electrical equipment and a back-up generator. The total firm pumping capacity of the Pump Station is approximately 100 million gallons per day (MGD). A Site Plan for Phase 1A of the Bayfront Redevelopment Project is shown on Plate 2.

### **3. PROJECT PURPOSE AND NEED**

The Project is required to address existing flooding conditions along Route 440 and Kellogg Street and to provide the Bayfront Redevelopment Site with sustainable infrastructure to support future housing and open space. The former brownfield site will be redeveloped to provide reliable stormwater management, sanitary sewer collection and potable water as well as roadways, sidewalks and green infrastructure.

### **4. PLANNING AREA**

Jersey City is the second largest City in the State of New Jersey with a population of approximately 265,000 based on the estimated U.S. Census data. Jersey City is approximately 21 square miles and is bordered by Secaucus, North Bergen, Union City and Hoboken to the North and Bayonne to the South. Water supply and sewer collection is provided throughout the municipal limits of the City. The water system delivers, on average, approximately 52 million gallons of water per day (MGD) to the residents and businesses of Jersey City and the sewerage system conveys approximately 50 million gallons of sewage per day to the Passaic Valley Sewerage Commission (PVSC). The proposed improvements for Phase 1A will be consistent



**LEGEND:**

- - - - PROPOSED WATER MAIN
- - - - PROPOSED SANITARY SEWER
- - - - PROPOSED STORM SEWER
- FUTURE OPEN SPACE
- FUTURE BUILDING PARCEL
- PROPOSED SIDEWALK
- PROPOSED BIOSWALE

**GRAPHIC SCALE**



( IN FEET )  
1 inch = 200 ft.

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY  
HUDSON COUNTY, NEW JERSEY

**BAYFRONT REDEVELOPMENT PHASE 1A**

**PLATE 2 - SITE PLAN**

SCALE: N.T.S.

DATE: 11/19/2020





with the Wastewater Management Plan and the Stormwater Management Rules. Phase 1A meets runoff quantity control, water quality, groundwater recharge and soil erosion control standards in accordance with N.J.A.C. 7:8. The water and sewerage systems serve retail and wholesale customers.

## **5. EXISTING FACILITIES**

### **Sewer**

Begun as the Jersey City Sewerage Authority in 1949, the JCMUA built two Sewage Treatment Plants to meet early requirements for treating wastewater prior to discharging into the rivers. These Plants were built on Route 440, where the current JCMUA offices are located (the West Side Plant), and at the foot of Communipaw Avenue, adjacent to the Liberty Science Center (the East Side Plant).

These Treatment Plants served the residents of Jersey City until 1990, when more stringent rules required the treatment systems to be upgraded. Under a grant from the USEPA, the JCMUA converted its two Treatment Plants to pumping stations and began pumping wastewater under the Newark Bay to the PVSC Wastewater Treatment Plant in Newark, New Jersey. Currently the JCMUA pumps nearly 50 million gallons of wastewater per day to the PVSC plant through a 72-inch diameter pipe under the Newark Bay. The JCMUA owns more than 230 miles of sewers.



### Combined Sewer Overflow System

Portions of the JCMUA sewerage collection system operates as a combined sewer overflow (CSO) system. The sanitary and storm flows are conveyed through the system utilizing common sewer mains. The City contains two main drainage areas, the east side and the west side each consisting of gravity sewers, interceptor sewers, CSO regulators, netting facilities and outfalls. The gravity sewers collect flow from individual sanitary sewer connections and storm drains which convey the combined flows to the CSO regulators and outfalls. The regulators allow dry weather flows to be conveyed to the two pumping stations described above. During wet weather events, the higher flows are diverted at the regulator chambers to the outfalls. There are 25 regulators and 21 outfalls in the JCMUA system. Twenty (20) of the outfalls contain a netting facility and one contains a mechanical screen. The netting facilities and the screens remove solids and floatables from the combined sewer flow prior to outfall.

The City is currently performing a number of Projects to separate the sanitary and storm sewers throughout the City. Portions of the City currently have systems that are entirely separated. New developments are required to install separate sanitary and storm sewers to the sewer main in the street. This will allow for the future separation of these flows once dedicated sanitary and storm sewers are constructed.

### Water

The following description of existing water facilities was derived primarily from the JCMUA Water System Master Plan dated January 2008. The JCMUA owns a water supply system in northern New Jersey referred to as the Boonton Reservoir system that consists of two reservoirs (Boonton



and Split Rock), watershed lands, and a Water Treatment Plant at the base of the Boonton Reservoir in Parsippany – Troy Hills. The Plant is a conventional, surface Water Treatment Plant with a rated capacity of approximately 100 MGD, and a firm capacity (with the largest treatment unit out-of-service) of 80 MGD. Water from the Boonton Reservoir flows by gravity to the Raw Water Pump Station through the Upper Gate House and the Lower Gate House. Raw water is pumped to the rapid mix tanks where coagulant is added. The pretreated water flows to the flocculation tanks and then to the settling basins. The settling basins are equipped with tube settlers for high-rate clarification. Settled water flows to eight dual media filters and into two clearwell sections. Water is disinfected and then flows via gravity from the clearwell to the JCMUA Aqueducts.

Water flows by gravity from the Treatment Plant clearwell through an aqueduct system of pipes and tunnels that travel 22.8 miles from the Plant to Summit Avenue in Jersey City. The Aqueduct system consists of approximately 17.3 miles of two parallel 72-inch diameter steel pipes, 3.9 miles of 8'-6" concrete conduit, and 1.6 miles of tunnel. The tunnels pass through the Hook and Watchung Mountains. The Aqueduct system experiences open channel flow characteristics between the Plant and the Brookdale Gate House, which is approximately 11.5 miles downstream of the Treatment Plant. From this location, the pipe flows full, with a hydraulic grade line established at approximately 240 feet. Operators at the Plant adjust flow on a periodic basis in order to maintain a constant pressure in the Aqueducts.



## 6. **“NO ACTION” ALTERNATIVE**

Under the “No Action” Alternative, the Bayfront Redevelopment Area will remain an unused and undeveloped site. The current site consists of vacant land and formerly industrial property. The previous industrial and commercial uses now represent a deleterious land use given the ongoing redevelopment activity in the adjoining areas. The redevelopment area does not have streets or public rights-of-way and as a result the public has no access to the water’s edge along the Hackensack River. Without reliable infrastructure to support the proposed residential and recreational uses, the site cannot be developed as planned. In addition, the “No Action” Alternative will not address existing flooding issues in the area. Wet weather events will continue to cause flooding along Route 440 and Kellogg Street and will restrict access through Jersey City.

## 7. **SELECTED PLAN**

The selected plan will promote water-oriented commercial, residential and recreational uses. Onsite and offsite infrastructure improvements will be installed to improve the existing stormwater collection system and to support Phase 1A of the Redevelopment. The infrastructure improvements consist of green infrastructure, a Stormwater Pump Station, stormwater management and collection systems, water distribution systems, sanitary sewer collection systems, landscaping, roadways, curbing and sidewalks.

## 8. **ENVIRONMENTAL REVIEW**

Construction procedures will cause temporary disturbances such as noise, dust, traffic disruption, and air pollution. Installation of the necessary infrastructure improvements will not



impact any endangered and/or threatened species or their designated habitats. There will also not be any impacts to wetlands, as there are none located within the Project site. In addition, environmental protection measures contained in the “Environmental Assessment Requirements for State Assisted Environmental Infrastructure Facilities” (N.J.A.C. 7:22-10) will be incorporated into the design and construction of the Project. Please refer to Figure 1 for a general location map. Detailed below are existing conditions as well as any temporary impacts that can be expected during the construction activities:

### **Soil Erosion and Sediment Control**

During construction, soil erosion and sediment control measures will be implemented to minimize potential adverse, short-term impacts of sediment migration in accordance with the Soil Conservation Permit Requirements. Preventative measures for erosion such as silt fencing will be used to keep sediment from being carried offsite during construction.

All work will be performed in accordance with the New Jersey Standards for Soil Erosion and Sediment Control will be enforced by the Hudson-Essex and Passaic Soil Conservation District. A Soil Conservation Plan and any necessary approvals will be submitted for the Project prior to construction.

### **Aesthetics**

There are several maintained gravel roads throughout the site which is primarily covered in a layer of gravel. Two main areas of capped contaminated material are covered by maintained grass. Opaque fencing completely encloses the Project site. No artificial lighting sources



currently exist onsite. While the installation of infrastructure improvements will not immediately impact the aesthetics of the site, the overall redevelopment of the site into a residential community will be a positive influence on the overall aesthetic quality of the Hackensack River waterfront.

### **History and Archaeology**

Historically, the Project site was used for warehouses and other industrial storage. Historical aerial imagery shows that the area has been in various stages of development from at least 1931. The Project site is listed as a known contaminated site and has been the subject of past remediation efforts for chromium contamination. All onsite contaminated soils have been gathered together and capped appropriately in accordance with the Open Space Design Standards so that they can be utilized as public open space in the future. A search of the NJDEP's GeoWeb GIS database showed no known historical properties or districts within or in close proximity to the proposed Project site. In addition, the Project site is located within archaeological grid cells EV90 and EV91.

### **Noise**

The Project will cause short-term impacts to noise levels during construction. Earthmoving equipment such as front-end loaders, backhoes, trucks, and other machinery that is commonly associated with large construction projects will temporarily increase noise levels in the construction area. The hours of operation will be in conformance with City ordinance requirements. There will be some long-term noise impacts related to the proposed Project that are generally associated with residential urban areas. However, because of the highly urban



condition of the area, the proposed residential use is not likely to have any noticeable effect on the overall noise levels of the surrounding area. Route 440 borders the Project site as does another residential development to the south, and industrial warehouses to the north.

### **Water Quality**

The Project site is located along the Hackensack River waterfront to the west and no other water courses are located nearby. New stormwater management facilities will be installed as part of the Project. All stormwater from impervious surfaces that includes both vehicular and non-vehicular access will be treated in accordance with N.J.A.C. 7:8. A stormwater review was conducted by the Department as part of the previous submission for an Upland Waterfront Development Permit (NJDEP file no. 0906-12-0007.3).

### **Water Supply**

Jersey City is located within the Hackensack River Watershed. This watershed supplies the water that feeds the Jersey City Reservoir in Boonton, as well as the Split Rock Reservoir in Rockaway, from which the City draws its water supply. The Project site does not currently host any connections to potable water supplies. Connections will be made to the existing water distribution system to provide water service to the Project site. In addition, onsite water distribution mains, hydrants and valves will be installed as part of this Project to service the Phase 1A of the Bayfront Redevelopment Project.



## **Hydrology**

The site is flat to gently undulating such that surface water is mostly directed southwest across the site to the Hackensack River. An extensive site remediation effort has been completed such that all soils onsite have been excavated, and regraded.

## **Air Quality**

Temporary impacts to air quality are expected to include emissions from construction machinery. Construction of the proposed utilities and infrastructure improvements may result in short-term impacts on ambient air quality. Potential impacts would include fugitive dust and emissions generated by construction equipment and trucks. Fugitive dust emissions can result from the movement of construction equipment and the transportation of materials to and from the site. Dust emissions can also occur during site preparation such as saw cutting, staging and trench preparation. The extent of fugitive dust generated during the construction phase would depend on the level of construction activity and the moisture content and texture of the disturbed soils. Fugitive dust would generally be a problem during periods of intense construction and would be accentuated by windy and/or dry conditions. Dust suppression techniques such as wetting exposed areas, keeping truck tires clean as they leave the site and covering dust-producing materials during transport should minimize the fugitive dust impacts. Emissions from construction equipment and trucks should have an insignificant impact on the region's air quality. The use of efficient air pollution control devices that meet State and Federal standards on the construction equipment and prohibiting excessive vehicle idling will minimize adverse effects to local air quality. There are not expected to be any long term impacts to air quality from the proposed Project.



## **Geology and Soils**

The GeoWeb Project location map indicating surficial geology is attached hereto as Figure 5. In addition the USDA Soil Survey Map of Jersey City, Hudson County is attached hereto as Figure 6. As indicated on the Soil Survey Map, the proposed work is entirely located over Urban Land, Wet Substratum (URWETB). Other soils in close proximity include Laguardia Artifactual, Coarse Sandy Loam (LagA) soils and Urban Land, Till Substratum (URTILB).

The Urban Land, Wet Substratum soils consist of an area of 0-8% slopes and more than 60-inches of very artifactual coarse sandy loam. This soil type can be prone to ponding or flooding and makes up most of the Project site. The Project site is underlain by Salt-Marsh and Estuarine Deposits (Qmm) which is made up of silt, sand, peat, clay, and minor pebble gravel. It contains abundant organic matter; colors found in this formation include brown, dark-brown, gray, and black. The formation can be as much as 300-feet thick in the Hudson Valley.

Due to the fact that the Project area is located within a highly disturbed site, the classification of potential erosional impacts for the Project is not determined by the soil type. The area in which the Project is situated is highly disturbed by urban development. There will be a negligible amount of erosional impacts because of the impervious surface cover, urban land soil types and preventative measures. Such preventative measures will include the use of silt fences, avoidance of construction during periods of heavy rain, and previously mentioned dust control methods.



## **Sewerage Systems**

Currently the Project site, which is within the JCMUA Sewer Service Area, does not have existing public sewer connections. Connections will be made to the existing sewerage collection system to provide sanitary sewer service to the Project site. In addition, an onsite sanitary sewerage collection system will be installed as part of this Project to service Phase 1A of the Bayfront Redevelopment Project.

## **Cultural Resources**

According to the NJDEP GeoWeb GIS database, there are no historic properties or historic districts on the Project site. The Morris Canal historic district, which is currently occupied by Route 440, borders the Project site to the east. The Project site lies within historic archaeological site grid cells EV90 and EV91. These cells have a designated status of “Identified”. Heavy disturbance has already occurred on the site and any potential impacts to cultural resources on or near the site are highly unlikely. A map showing the locations of the cultural resources nearest the Project site is attached hereto as Figure 7.

## **Wetlands**

A search of the NJDEP GeoWeb GIS database showed that there are no freshwater wetlands or coastal wetlands located within the Project site. Additionally, the soil types that are found onsite are not hydric soils, so the probability of wetlands existing onsite that are not mapped by the Department is low.



### **Aquatic Organisms**

No construction is proposed within the limits of the Hackensack River, therefore no impacts are expected to occur to any aquatic fish, reptile, or mammal species. Additionally, to avoid an increase in turbidity near the Project site, soil erosion and sediment control measures will prevent the transportation of excess sediment into the Hackensack River.

### **Flood Prone Areas**

A copy of the Flood Insurance Rate Map with the location of the construction area is attached hereto as Figure 8. The Project site is partially located within a Tidal Flood Hazard Area, Zones X and AE. Since these flood hazard areas are tidal, there is no NJDEP restriction on displacing flood water volume.

### **Vegetation**

All proposed construction lies within previously developed areas. The Project site is primarily covered in gravel with the exception to a maintained grass area which serves as part of the cap for contaminated soils. No other vegetation such as trees or shrubs exist on the Project site. Soil Erosion and Sediment Control Measures will be strictly adhered to during construction in accordance with Hudson-Essex and Passaic Soil Conservation District requirements.

### **Wildlife**

The urban condition of the Project site does not lend itself to being high quality habitat for wildlife species. NJ GeoWeb identifies part of the Project site as bald eagle habitat because there have been documented nests along the Hackensack River in the past. Bald eagles prefer large trees



and other woody vegetation for perching and nesting, however, there are no trees or substantial vegetation that would provide perching or nest building habitat on the Project site. Therefore, no disturbance to wildlife or their habitat is anticipated. The entirety of the Project site is within a highly developed, urban area, with no valuable habitat for threatened and endangered species in or around the Project area. The Project is also not expected to have a permanent adverse, or significant temporary adverse effect on the human environment. No other threatened or endangered wildlife habitat is recorded on the site.

### **Public Open Space**

As part of the future phases of the Project, several open spaces are proposed. These spaces include, Central Park, the Promenade, the Green and Waterfront Walk. Central Park and the Promenade will be constructed over the two capped chromium contamination areas. In order to use these areas as open space, the areas have been capped in accordance with the rules found in the Open Space Design Standards.

### **Human Environment**

In its completed form, the Project will increase the quality of life of the human environment in and around the Project area. Overall aesthetics of the waterfront area will be greatly improved and the amount of public access will increase as a result of this Project. Additional residential housing will be created which will increase the immediate population density in the area. However this will not have a noticeable impact on the amount of traffic or noise that the Project area experiences being that it is already located next to a major State highway to the east and an existing residential development to the south.



## 9. REQUIRED PERMITS

It is anticipated that the following permits will be required:

- Local Permits
- Soil Erosion and Sediment Control
- NJDEP Upland Waterfront Development
- Treatment Works Approval

The JCMUA has been issued a Master Permit for Water Main Construction (#WPC13002) by the NJDEP. Approval from the NJDEP Bureau of Water System Engineering is not required for the construction of water mains.

## 10. DESIGN STANDARDS

Project components will be designed in accordance with accepted industry standards, JCMUA Regulations, and NJDEP Standard Requirements for Construction.

## 11. PROJECT COSTS

The Preliminary Project Costs for the improvements described herein have been estimated to be the following and we anticipate all being funded through the Clean Water Program:

Category	Description of Work	Project Costs
<b>Water System</b> (Potable/Waste)	Furnishing and installation of sanitary sewer mains, sanitary manholes, laterals, potable water mains, valves, hydrants, service connections, pipe bedding, select backfill, bituminous concrete pavement and all other associated work.	\$ 7,000,000.00
<b>Stormwater System</b>	Furnishing and installation of storm sewer pipes, storm manholes, inlets, manufactured treatment devices, pipe bedding, select backfill, bituminous concrete pavement and all other associated work.	\$ 30,000,000.00



<b>Green Infrastructure (Bioretention Basins)</b>	Construction of bioretention basins including bio-swales, bio-retention filters, underdrains, landscaping, topsoil, seeding, curbs, sidewalks and all other associated work.	\$ 3,500,000.00
<b>Stormwater Pump Station</b>	Construction of a stormwater pump station including stormwater pumps, concrete wet well, utility building, electrical equipment, emergency generator and all other associated work.	\$75,000,000.00
<b>TOTAL</b>		<b>\$115,500,000.00</b>

## 12. PUBLIC PARTICIPATION

The JCMUA will publish a notice in the appropriate newspaper of general circulation in the planning area to announce the intent to implement an Infrastructure Bank Project and solicit input from the affected public. If required by the NJDEP, a public hearing and promulgation will be similarly noticed and documented. The notice will indicate that the Environmental Planning Document and the NJDEP Decision Statement are available at the offices of the JCMUA for public review.

## 13. COST ANALYSIS

The Census Bureau's 2014-2018 American Community Survey showed that (in 2018 dollars) median annual household income for the City of Jersey City was \$65,923.00. The current water user rate is \$4.58 per 100 cubic feet of water. The current sewer user rate is \$6.30 per 100 cubic feet. It is not anticipated that the current user rates will be adversely affected by this Project.

## 14. PROJECT SCHEDULE

As part of the New Jersey Infrastructure Bank Financing Program, a Clean Water Letter of Intent from the JCMUA to the New Jersey Department of Environmental Protection is included with the



Planning Documents submitted to the NJDEP. The Project submittal deadlines for the Financing Program are as follows:

- Planning Document and Letter of Intent November 2020
- Design Documents December 2020
- Advertise for Bids May 2021
- Receive Bids June 2021
- Award Contract July 2021
- Complete Contract July 2022

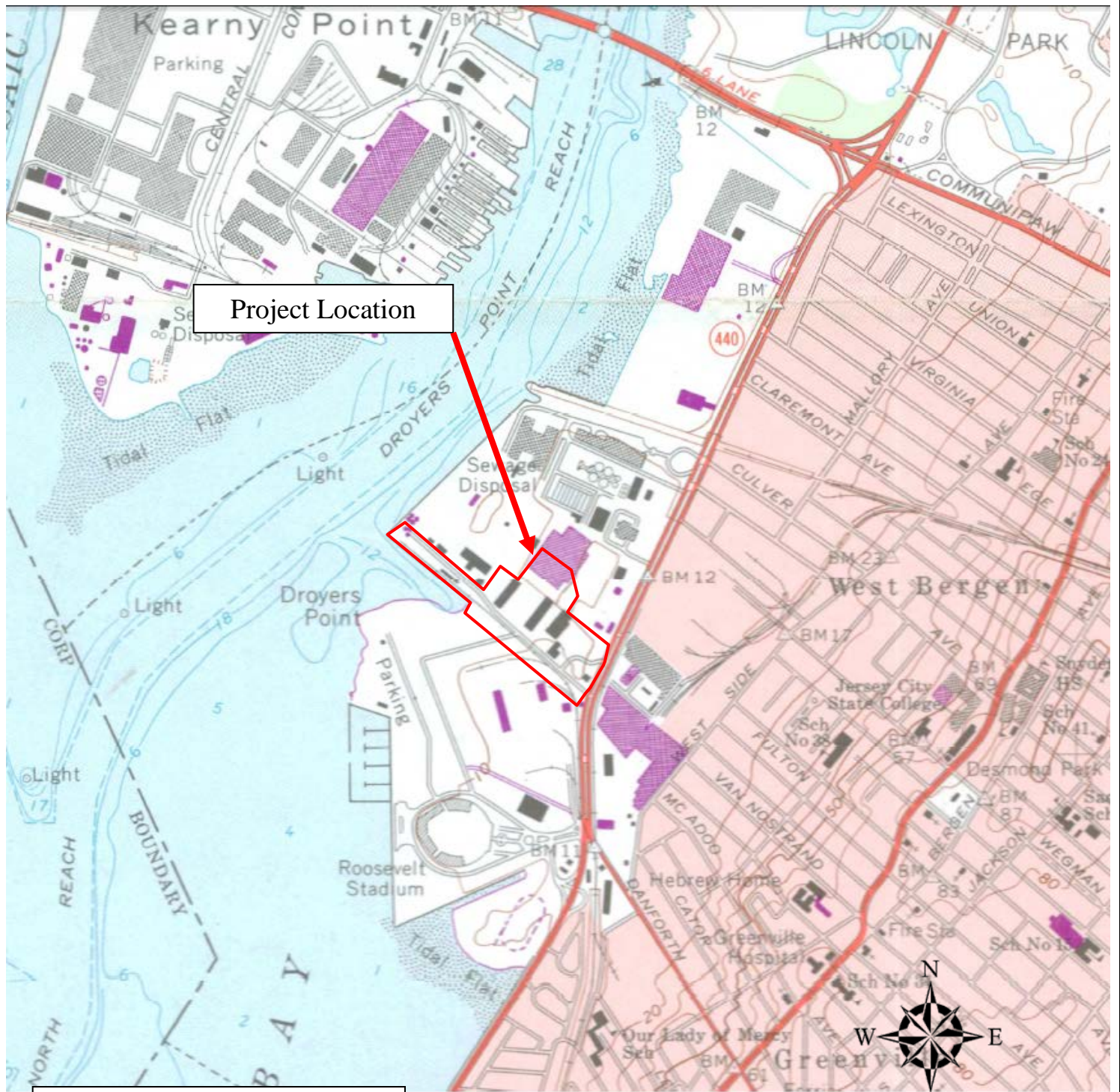


Note: This map was prepared using Google Maps.

**FIGURE 1 LOCATION MAP**  
Bayfront Redevelopment

**CLOSEST STREET:** Kellogg Street  
**MUNICIPALITY:** Jersey City  
**BLOCK 24601 LOTS 1-11**  
**BLOCK 21901 LOTS 5-10**  
**COUNTY:** Hudson County  
**FILE NO:** PJC02020.02





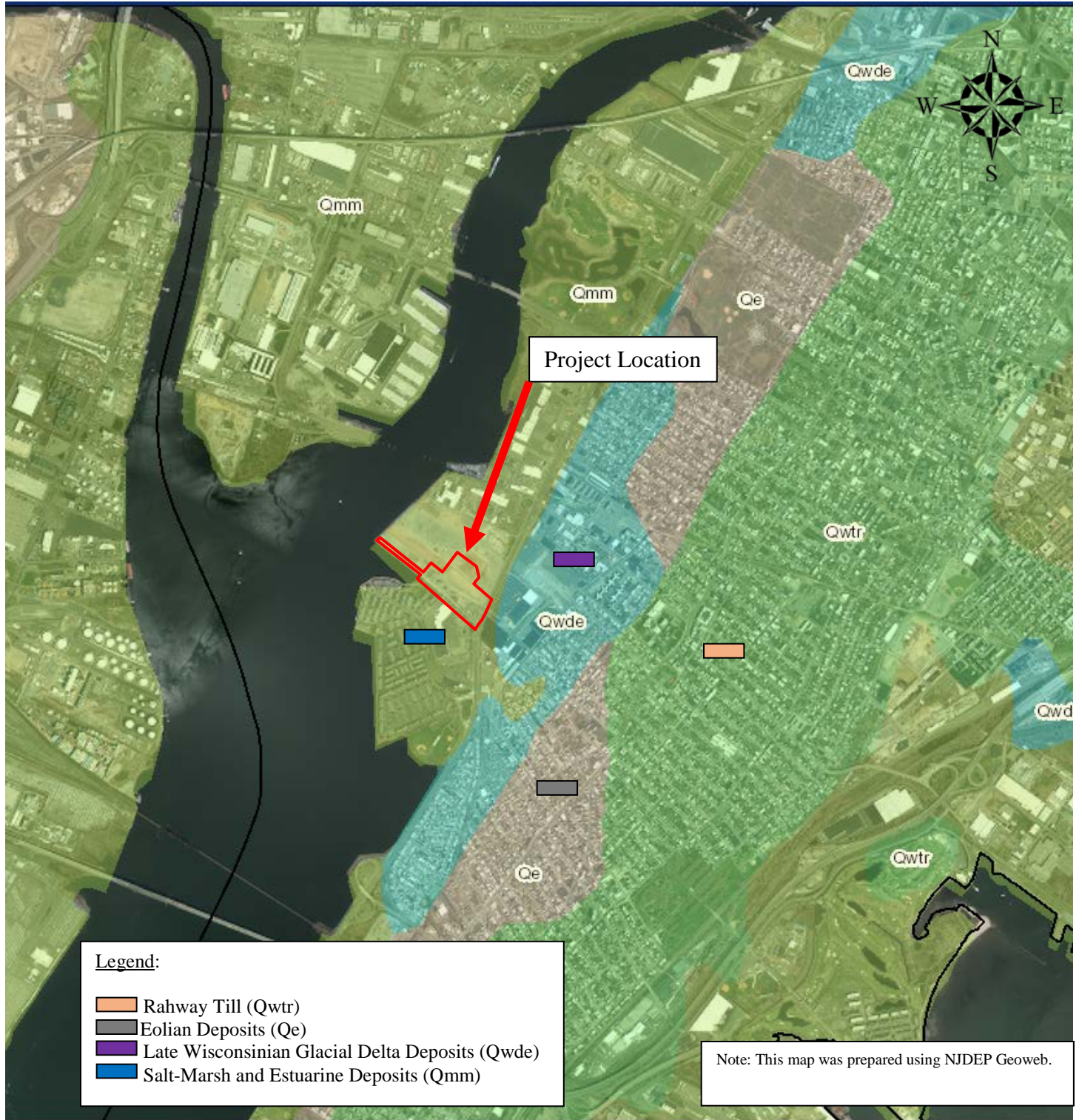
Project Location

Note: This map was prepared using NJDEP Geoweb.

**FIGURE 2 U.S.G.S. QUAD MAP**  
Bayfront Redevelopment

**SHEET:** Jersey City Quadrangle  
**CLOSEST STREET:** Kellogg Street  
**MUNICIPALITY:** Jersey City  
**BLOCK 24601 LOTS 1-11**  
**BLOCK 21901 LOTS 5-10**  
**COUNTY:** Hudson County  
**FILE NO:** PJC02020.02





**FIGURE 3 SURFICIAL GEOLOGY MAP**  
Bayfront Redevelopment

**CLOSEST STREET:** Kellog Street  
**MUNICIPALITY:** Jersey City  
**BLOCK 24601 LOTS 1-11**  
**BLOCK 21901 LOTS 5-10**  
**COUNTY:** Hudson County  
**FILE NO:** PJC02020.02



**CONSULTING AND MUNICIPAL ENGINEERS**

8141 BORDENTOWN AVENUE, PARLIN, NEW JERSEY 08859 — 1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731



**Legend:**

- Laguardia Artifactual Coasre Sandy Loam (LagA)
- Urban Land, Wet Substratum (URWETB)
- Urban Land, till substratum (URTILB)

**Notes:**

- 0 to 3 percent slopes
- 0 to 8 percent slopes
- 0 to 8 percent slopes

Note: This map was prepared using NJDEP Geoweb.

**FIGURE 4 SOIL SURVEY MAP**  
Bayfront Redevelopment

**CLOSEST STREET:** Kellog Street  
**MUNICIPALITY:** Jersey City  
**BLOCK 24601 LOTS 1-11**  
**BLOCK 21901 LOTS 5-10**  
**COUNTY:** Hudson County  
**FILE NO:** PJC02020.02





Project Location

EV90

EV91

Legend:

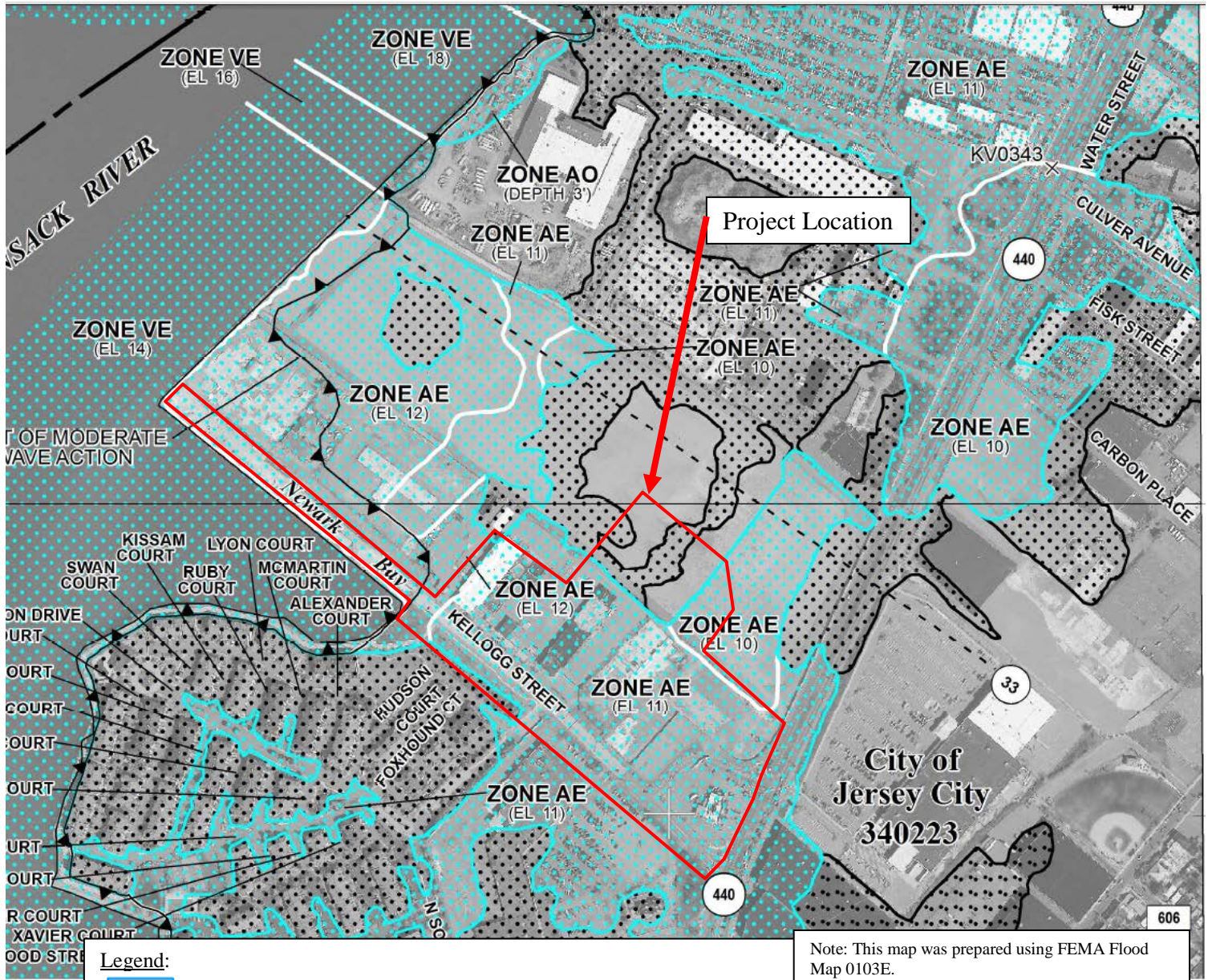
- Archeological Site Grid
- Historic District




Note: This map was prepared using NJDEP Geoweb.

**FIGURE 5 CULTURAL RESOURCES MAP**  
Bayfront Redevelopment

**CLOSEST STREET:** Kellog Street  
**MUNICIPALITY:** Jersey City  
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**BLOCK 21901 LOTS 5-10**  
**COUNTY:** Hudson County  
**FILE NO:** PJC02020.02





- Legend:**
-  Zone AE (1% annual chance flood)– Base Flood Elevations determined
  -  Zone X (0.2% annual chance flood)
  -  Zone X – Areas outside the 0.2% annual chance flood plain

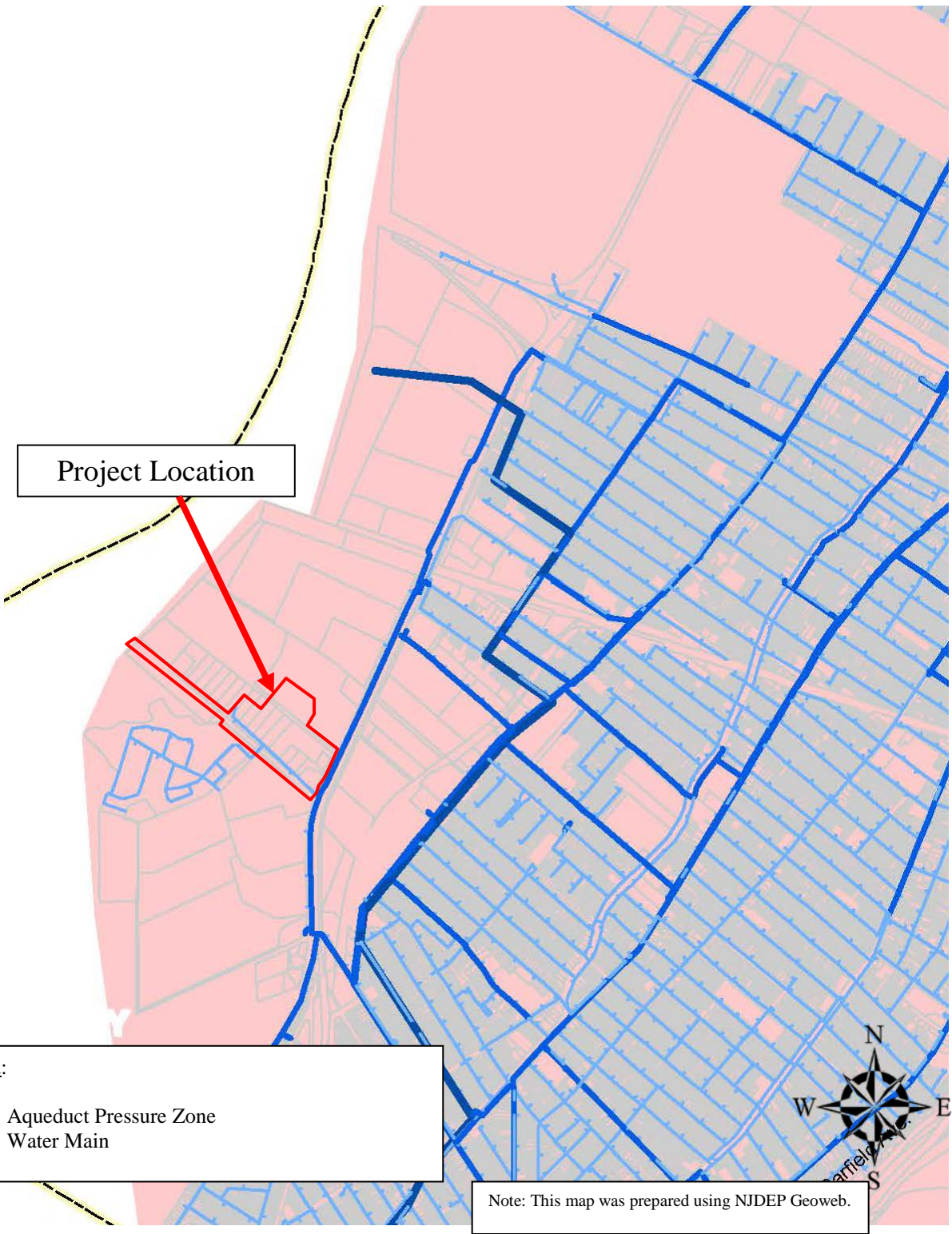
Note: This map was prepared using FEMA Flood Map 0103E.



**FIGURE 6 FEMA MAP**  
Bayfront Redevelopment

**PANEL:** 0103E (Preliminary January 30, 2015)  
**FLOOD ZONES:** Zone X and Zone AE  
**CLOSEST STREET:** Kellogg Street  
**MUNICIPALITY:** Jersey City  
**BLOCK 24601 LOTS 1-11**  
**BLOCK 21901 LOTS 5-10**  
**COUNTY:** Hudson County  
**FILE NO:** PJC02020.02





Legend:

Aqueduct Pressure Zone  
 Water Main


Note: This map was prepared using NJDEP Geoweb.

**FIGURE 7 WATER SERVICE AREA MAP**  
 Bayfront Redevelopment

**CLOSEST STREET:** Kellog Street  
**MUNICIPALITY:** Jersey City  
**BLOCK 24601 LOTS 1-11**  
**BLOCK 21901 LOTS 5-10**  
**COUNTY:** Hudson County  
**FILE NO:** PJC02020.02





Legend:  
 Sewer Service Area

Note: This map was prepare using NJDEP Geoweb.



**FIGURE 8 SEWER SERVICE AREA MAP**  
 Bayfront Redevelopment

**CLOSEST STREET:** Kellog Street  
**MUNICIPALITY:** Jersey City  
**BLOCK 24601 LOTS 1-11**  
**BLOCK 21901 LOTS 5-10**  
**COUNTY:** Hudson County  
**FILE NO:** PJC02020.02

