

A. INTRODUCTION

The New York City Department of Corrections (NYCDOC) operates equipment on Rikers Island to generate electricity for various uses on the island, as well as a plant to generate steam for heating, hot water and for other process uses such as the on-site laundry. A cogeneration plant consisting of two 7.5-megawatt natural gas-fired combustion turbines was installed at the Rikers Island central steam plant, which started operation in 2014. Each combustion turbine is equipped with a heat recovery steam generator (HRSG) that can be operated with a supplemental natural gas-fired duct burner in tandem with the turbine to provide additional steam output.

During periods of peak steam demand on Rikers Island, or when the cogeneration plant is undergoing maintenance, the existing dual-fired (natural gas and fuel oil) boilers are needed to supply steam. Under the existing New York State Department of Environmental Conservation (NYSDEC) Title V permit, the boilers cannot be operated as needed due to annual emission limits, especially during periods of peak demand or cogeneration plant maintenance conditions. For this reason, modifications to the Rikers Island facility's Title V air permit have been proposed to ensure that the facility has additional operating flexibility, and operates in compliance with the applicable regulations and permit conditions. These conditions include allowing the facility to operate the eight existing boilers as needed during periods of peak steam demand or when the cogeneration plant is undergoing maintenance. Currently, the Title V permit has annual emission caps for nitrogen oxides (NO_x) and particulate matter less than 10 microns in diameter (PM₁₀) that limit boiler operations. The removal of these limitations on the boilers requires modifications to the Title V permit conditions. In addition, under the current Title V permit, certain internal combustion engines on Rikers Island that operate at the facility have the option of enrolling in a Peak Load Management (PLM) program. These engines are subject to a NO_x emissions cap of 22.5 tons/year outside use during regular testing and maintenance, as specified in the current Title V permit.

In addition, new NO_x emission limits will be established, which will require the cogeneration plant to meet a limit of 12 parts per million (ppm) when the combustion turbine is operating without additional natural gas-fired duct firing HRSGs. A NO_x emission limit of 15 ppm is proposed when the combustion turbine is operating with duct firing HRSGs. The annual NO_x emissions cap on the cogeneration plant is being revised to 52 tons per year (tpy).

Modifications to the Rikers Island facility's Title V air permit have been proposed to ensure that the facility has additional operating flexibility, and operates in compliance with all applicable regulations and permit conditions. The proposed permit modifications do not include any new equipment or physical modifications to the Rikers Island cogeneration plant, boilers, or engines.

B. REGULATORY CONTEXT

This environmental justice analysis has been prepared to identify and address any potential disproportionate adverse impacts on minority or low-income populations that could result from the proposed modifications to the Rikers Island Title V air permit being sought from NYSDEC (the proposed project). The need for performing an environmental justice analysis is related to the establishment of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* (February 11, 1994). Certain state agencies, such as NYSDEC, have developed their own policies for incorporating environmental justice concerns into environmental review and permitting actions. NYSDEC's environmental justice policy is provided in *Commissioner Policy-29 Environmental Justice and Permitting* (CP-29). CP-29 was issued on March 19, 2003 to address environmental justice concerns and ensure community participation in the NYSDEC environmental permit review process and the NYSDEC application of the State Environmental Quality Review Act (SEQRA). CP-29 is intended to encourage meaningful public participation by minority or low-income communities in the environmental review process and to assist NYSDEC in addressing any disproportionate adverse impacts on minority and low-income communities.

Pursuant to CP-29, NYSDEC reviews issues related to environmental justice prior to issuing modifications to existing permits or approvals. As set forth in CP-29, "Environmental justice means the fair treatment and meaningful involvement of all people regardless of race, color, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences."

C. METHODOLOGY

This environmental justice analysis was prepared following the methodology set forth in CP-29. This methodology involves (1) identifying potential adverse environmental impacts and the area to be affected (i.e., establishing a study area); (2) determining whether potential adverse environmental impacts are likely to affect a potential environmental justice area (i.e., whether low-income and/or minority populations are present in the study area); (3) identifying the potential for cumulative environmental burdens in the study area; and (4) identifying whether potential adverse environmental impacts of the proposed action would disproportionately affect low-income and minority populations. Projects that are seeking permits from NYSDEC and have the potential to affect environmental justice areas must also seek public participation from the affected community. A separate public participation plan (PPP) has been developed for the proposed Title V air permit modifications and renewal application (the project), the key details of which are summarized below. In addition, this analysis identifies other existing environmental burdens within the environmental justice study area, in accordance with CP-29 guidance.

DELINEATION OF STUDY AREA

The study area for this environmental justice analysis was defined to include the area where any potential impacts resulting from the proposed project could occur. The proposed permit modifications would establish new emission limits for the electrical and steam generating equipment on Rikers Island, including the Rikers Island Power Plant, Boiler House, and the engines used for peak load management. The Rikers Island Power Plant and Boiler House are on the island's northern tip along Hillside Avenue. The PLM engines are at various locations

throughout the island. The environmental justice study area was chosen in consultation with NYSDEC, and has been defined as the area within 1-mile of the various electrical power generation equipment locations. The 1-mile study area includes all of Rikers Island, and portions of LaGuardia Airport, and the Ditmars/Steinway and College Point neighborhoods in Queens, and portions of the Hunts Point peninsula in the Bronx. The environmental justice study area includes the four 2010 census block groups with at least half of their geographic area falling within the 1-mile radius of the proposed facilities. Three study area block groups (Census Tract 1, Block Group 1, and Census Tract 93, Block Group 1, and Block Group 6) are in the Bronx, and one (Census Tract 107.01, Block Group 1) is in Queens (see **Figure 1**).

IDENTIFICATION OF MINORITY COMMUNITIES

NYSDEC's Policy defines minorities to include Hispanics, African-Americans, Asian Americans and Pacific Islanders, and American Indian or Alaskan natives. In identifying minority residents within the study area, total population, race, and ethnicity demographic data were obtained from the U.S. Census Bureau's American Community Survey 2015-2019 Five-Year Estimates (2015-2019 ACS). The following information was collected for each census tract block group:

- *Data on racial and ethnic characteristics:* The population in each census tract block group in the study area was characterized using the following racial categories provided in the 2015-2019 ACS: White, Black, Asian, and "Other." "Other" includes residents of American Indian, Alaska Native, Native Hawaiian and Other Pacific Islander descent, as well as those respondents who did not identify with any listed racial groups (White, Black, Asian), or who indicated that they are of more than one race defined in the Census. In addition to racial characteristics, the 2015-2019 ACS also includes information on Hispanic origin, which is considered to be an ethnic rather than racial characteristic. People of this ethnic category can be any race.
- *Total percentage of minority population:* Because Hispanic residents may be of any race, the 2015-2019 ACS characterizes White, Black, Asian, and Other as non-Hispanic or Hispanic. To determine the total number of minority residents in each block group, the number of Black (both Hispanic and non-Hispanic), Asian (Hispanic and non-Hispanic), Other (Hispanic and non-Hispanic), and Hispanic Whites were tallied.

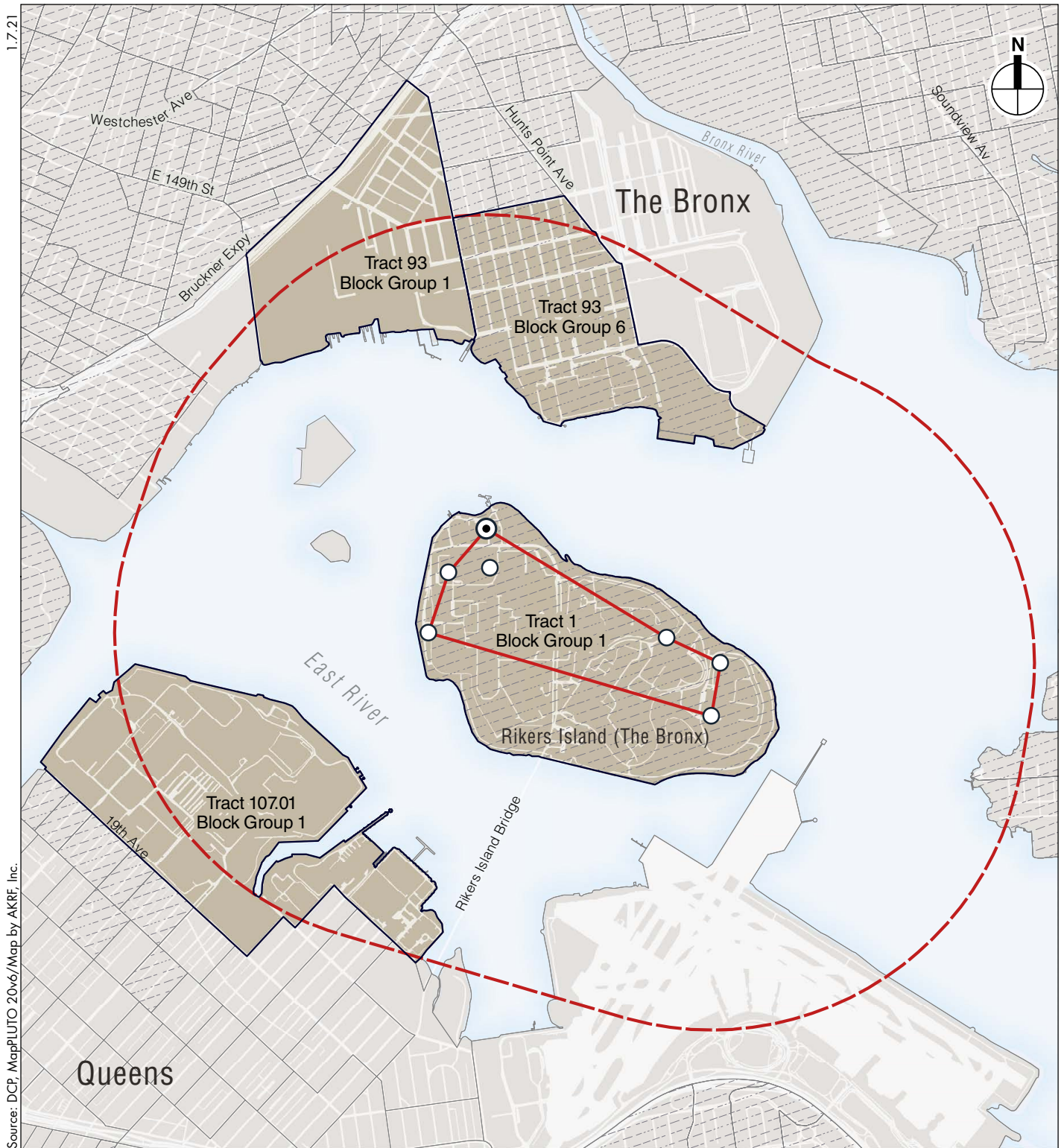
According to NYSDEC, a "minority community" is present when **51.1** percent or more of the population is minority.

IDENTIFICATION OF LOW-INCOME COMMUNITIES

CP-29 defines a low-income population as a population with an annual income below the poverty threshold as defined by the U.S. Census Bureau. Data were compiled from the 2015-2019 ACS on the percentage of persons in each block group in the environmental justice study area living below the poverty threshold. CP-29 defines a low-income community to be any area where the low-income population (i.e., percent living below the poverty threshold) is equal to or greater than **23.59** percent of the total.

D. IDENTIFICATION OF POPULATIONS OF CONCERN IN THE STUDY AREA

As shown in **Table 1**, the 2015-2019 ACS estimated that 7,705 people reside in the environmental justice study area. Two of the study area's block groups have no residential population (Bronx



Source: DCP, MapPLUTO 20v6/Map by AKRF, Inc.

- Project Site
- 1-Mile Study Area
- Cogeneration Facility and Boiler House
- Locations of PLM Engines
- Environmental Justice Study Area Block Group
- Environmental Justice Communities
($\geq 51.1\%$ minority or $\geq 23.59\%$ low-income)

0 0.5 Miles

Environmental Justice Analysis
Study Area
Figure 1

Rikers Island Title V Permit Modification and Renewal

Census Tract 93, Block Group 1, and Queens Census Tract 107.01, Block Group 1). Census Tract 93, Block Group 1 is located west of Hunts Point and contains industrial and manufacturing uses, and transportation infrastructure. Census Tract 107.01, Block Group 1 contains large utility uses, including the Bowery Bay Wastewater Treatment Plant and Astoria Generating Station.

Bronx Census Tract 1, Block Group 1, and Bronx Census Tract 93, Block Group 6 contain all of the environmental justice study area population. Census Tract 1, Block Group 1 contains all of Rikers Island including the equipment included in the proposed Title V air permit modifications. The population living on Rikers Island (6,864) are temporarily incarcerated in multiple detention centers located throughout the island. According to the NYCDOC, the average length of stay in a detention center on Rikers Island is less than three months.¹ In addition to the incarcerated population, recent census data estimates that approximately 3,700 people work on Rikers Island.²

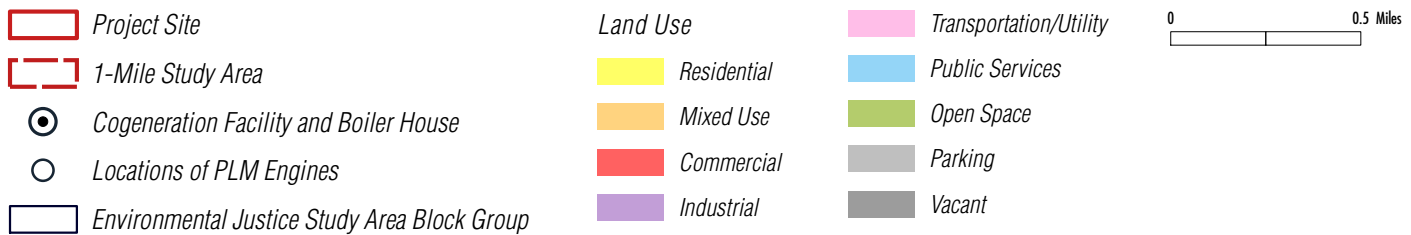
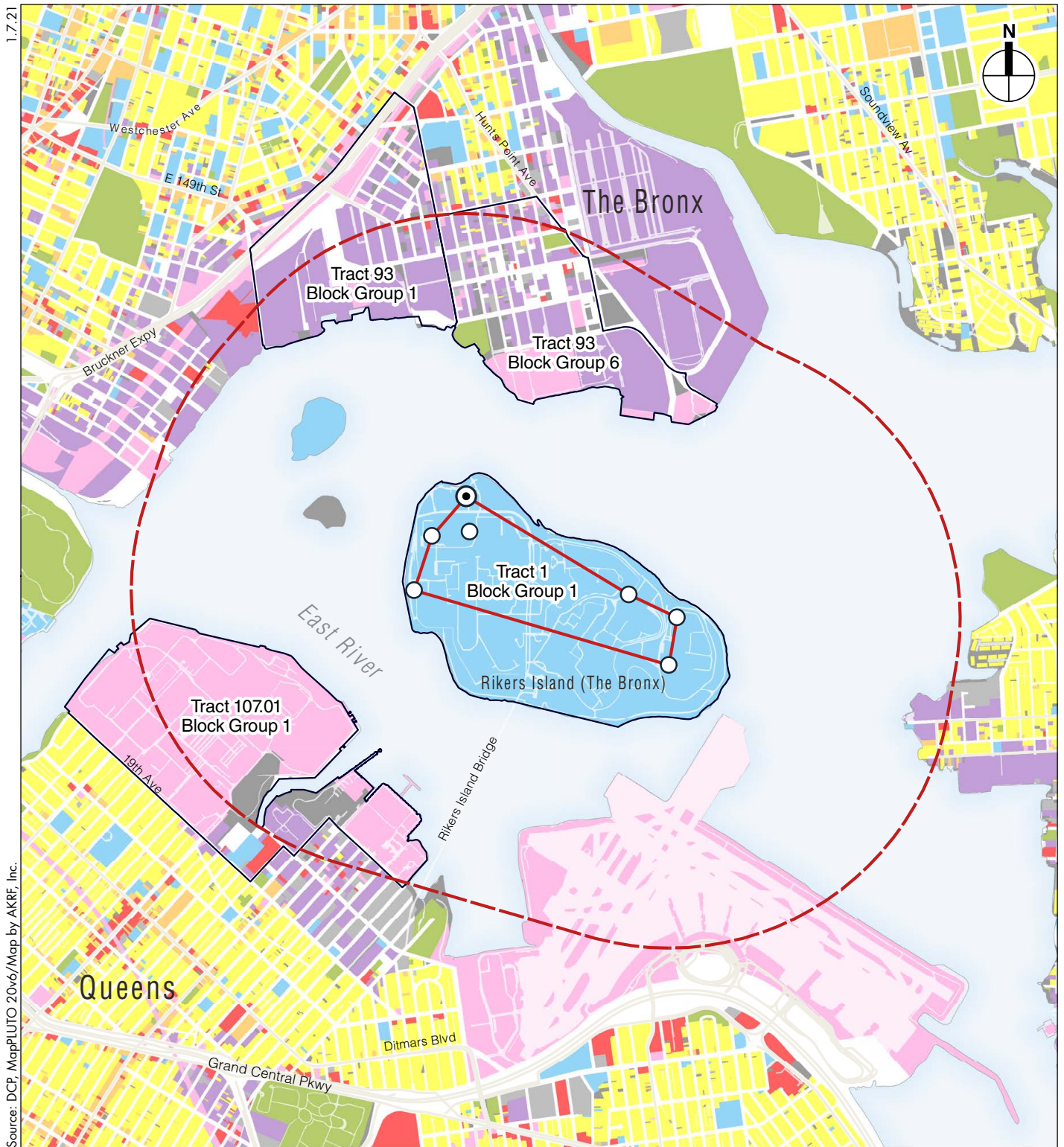
As shown on **Figure 1**, Bronx Census Tract 93, Block Group 6 is located on the Hunts Point Peninsula and contains a majority of industrial and public facility uses. The 2015-2019 ACS estimates that 603 people reside within the block group. The majority of the block group's population live in another NYCDOC-operated detention facility, the Vernon C. Bain Center, that is located approximately 3,000 feet northeast of the Rikers Island Power Plant and Boiler House. In addition to the incarcerated population, permanent residents live in residential units located in portions of the block group north of Viele Avenue. According to recent land use data available from the NYC Department of Finance, less than 50 residential units are located between Viele and Randall Avenues. These units are located an average of approximately 4,500 feet from the Rikers Island Power Plant and Boiler House.

According to the 2015-2019 ACS, 91.8 percent of the environmental justice study area is minority and meets the NYSDEC definition of a minority community. The minority population rate is higher than in Queens and New York City as whole but only one percentage point above the Bronx rate. Individually, both Census Tract 1, Block Group 1 and Census Tract 93, Block Group 6 both qualify as minority communities with over 90 percent of their total populations being minority (see **Figure 2**).

As shown in **Table 1**, the 2015-2019 ACS estimates that 54.94 percent of the residential population in the environmental justice study area live below the poverty level and meets the NYSDEC definition of a low-income community. The poverty rate is estimated only for the portion of the study area population living outside of the Rikers Island and Vernon C. Bain Center detention facilities. Within the environmental justice study area, the residential population for whom a poverty rate is determined live entirely within Bronx Census Tract 93, Block Group 6. Based on recent land use data, residential uses within the block group are located exclusively between Viele and Randall Avenues. This area of permanent residential uses is a minimum of 3,500 feet from the Rikers Island equipment that is the subject of the Title V permit modification being sought. The poverty rate within Bronx Census Tract 93, Block Group 6, and in the environmental justice study area as a whole, is above NYSDEC's 23.59 percent threshold for a low-income community. The study area poverty rate is higher than in the Bronx, Queens and the City as a whole.

¹ NYCDOC, "NYC Department of Correction at a Glance Information for 1st 6 months FY 2019," <https://www1.nyc.gov/assets/doc/downloads/press-release/>

² U.S. Census Bureau, Census Transportation Planning Products, Part 2, based on 2012-2016 American Community Survey



Environmental Justice Analysis
Land Use
Figure 2

**Table 1
2015-2019 Study Area Characteristics**

Borough/ Census Tract/ Block Group	Total Population	White	%	Black	%	Asian	%	Other	%	Hispanic	%	Total Minority (%)*	Poverty Status (%**)
Bronx CT 1 BG 1	6,864		8.8%	3,601	52.5%	181	2.6%	72	1.0%	2,407	35.1%	91.2%	-
Bronx CT 93 BG 1	0	0	-	0	-	0	-	0	-	0	-	-	-
Bronx CT 93 BG 6	603	26	3.1%	343	40.8%	12	1.4%	19	2.3%	441	52.4%	96.9%	54.94%
Queens CT 107.01 BG 1	0	0	-	0	-	0	-	0	-	0	-	-	-
Study Area	7,705	629	8.1%	3,944	51.2%	193	2.5%	91	3.0%	2,848	37.0%	91.8%	54.94%
The Bronx	1,435,068	131,140	9.1%	419,473	29.2%	51,470	3.6%	28,967	2.0%	804,081	56.0%	90.8%	28.01%
Queens	2,287,388	572,903	25.0%	393,740	17.2%	579,731	25.3%	99,518	4.4%	641,496	28.0%	75.0%	12.23%
New York City	8,419,316	2,702,286	32.1%	1,837,549	21.8%	1,176,762	14.0%	224,857	3.0%	2,447,862	29.1%	67.9%	17.95%

Notes:
 * Total minority includes all persons except for White persons.
 The race and ethnicity categories provided are further defined as: White (White alone, not Hispanic or Latino); Black (Black or African American alone, not Hispanic or Latino); Asian (Asian alone, not Hispanic or Latino); Other (American Indian and Alaska Native alone, not Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone, not Hispanic or Latino; Some other race alone, not Hispanic or Latino; Two or more races, not Hispanic or Latino); Hispanic (Hispanic or Latino; Persons of Hispanic origin may be of any race).
 ** Percentage of individuals with incomes below the established poverty level. The U.S. Census Bureau's established income threshold defines the poverty level.
Sources: U.S. Census Bureau, American Community Survey 2015-2019 Five-Year Estimates.

E. ANALYSIS OF EXISTING ENVIRONMENTAL BURDENS IN THE STUDY AREA

In accordance with CP-29 guidance, other sources of pollution or facility types similar to the proposed project in the study area must be considered in order to establish the baseline conditions against which project impacts will be assessed. In this case, the proposed project involves modifications to the existing Rikers Island facility’s Title V permit that would allow increased emissions limits. Therefore, this section identifies any sources of air emissions not related to the proposed project that may be a burden on the community.

All of the equipment related to the proposed Title V permit modification is located on Rikers Island in the East River. Land uses on the island are associated with operation of the Rikers Island correctional facility complex, including prisoner detention centers located throughout the island. Manufacturing and industrial uses dominate the remaining portions of the study area not located on Rikers Island. As shown on **Figure 3**, there are currently five facilities with Title V air permits, and three with State Facility permits located within one mile of the project site. The block groups within the environmental justice study area include two additional facilities with Title V air permits (both are located in Queens Census Tract 107.01, Block Group 1).

The environmental justice community living temporarily on Rikers Island is located approximately 3,000 feet from the nearest off-island NYSDEC permitted facility operating with either a Title V or State Facility air permit (the Hunts Point Wastewater Resource Recovery Facility). Several additional NYSDEC permitted facilities are located within 4,000 feet of Rikers Island inside Queens Census Tract 107.01, Block Group 1.

There are three NYSDEC permitted facilities within one mile of the environmental justice communities living within Bronx Census Tract 93, Block Group 6. The Hunts Point Wastewater Resource Recovery Facility operates under a State Facility air permit and is located approximately 1,000 feet from the environmental justice community temporarily living in the Vernon C. Bain Center. In addition, a Title V permitted facility (the Hunts Point Avenue Compressor Station) is located approximately 1,000 feet east of the environmental justice community living in permanent residences between Viele and Randall Avenues.



Source: DCP, MapPLUTO 20v6/Map by AKRF, Inc.



- | | | |
|--|--|---|
|  Project Site |  Environmental Justice Study Area Block Group |  |
|  1-Mile Study Area |  EJ Study Area Residential Land Use | |
|  Cogeneration Facility and Boiler House |  NYSDEC State Facility Air Permit | |
|  Locations of PLM Engines |  NYSDEC Title V Air Permit | |

Environmental Justice Analysis
Existing Sources
Figure 3

F. SUMMARY OF SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS

A Full Environmental Assessment Form (FEAF) Part 1 for the proposed Title V permit modifications and renewal (the proposed project) has been prepared and has been submitted to NYSDEC for review. The potential impacts that could result from the proposed project are disclosed in the FEAF submitted in conjunction with the other permit application materials. Based on the FEAF Part 1 submitted to NYSDEC, the proposed project is not expected to result in any significant adverse impacts. Similarly, the proposed project is not expected to result in any significant adverse impacts that would significantly affect the residential populations in the study area, including minority and low-income populations. More details related to the air quality analyses for the proposed project are provided below.

AIR QUALITY

In order to avoid potential exceedances of the 1-hour NO₂ standard, the facility is accepting new permit conditions thereby reducing the number of engines that could participate in PLM programs and also defining limits on the maximum enrolled capacity for the PLM engines. Furthermore, new NO_x emission limits will be established which will require the cogeneration facility to meet stringent NO_x emission levels, capping the annual NO_x emissions from the cogeneration unit at 52 tons per year. With these conditions in place, no significant adverse air quality impacts are predicted with the proposed permit modifications.

An air dispersion modeling analysis was performed, at NYSDEC's request, to demonstrate compliance with 1-hour NO₂ National Ambient Air Quality Standards (NAAQS) in support of the Title V modification and renewal application. NO₂ is one of the primary pollutants of concern for engines and boilers because it is a principal precursor to ozone formation. Also, short-term exposure to NO₂ is linked with a number of adverse effects on the respiratory system, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. The results of the modeling analysis determined that while the facility with the proposed permit modifications results in local increases in 1-hour NO₂ concentrations, particularly at nearby locations on Rikers Island and over the open water, the modeled 1-hour NO₂ concentrations from the facility, when added to ambient background levels, were not predicted to exceed the 1-hour NAAQS. In addition, 1-hour NO₂ concentrations and other pollutant concentrations significantly drop at distant locations further away from the modeled sources. As described above, permanent residential uses are only found on the periphery of the environmental justice study area, approximately 4,500 feet from the project site.

Similarly, the facility with the proposed permit modifications would result in minimal local increases in concentrations of other pollutants. However, these localized adverse effects would not rise to the level of significance; the NAAQS would not be violated as a result of the permit modifications.

Therefore, there would be no significant adverse air quality impacts from the Rikers Island facility and the project would not adversely affect the overall or environmental justice residential population of the study area or any other area.

G. PUBLIC PARTICIPATION

As part of the NYSDEC permit process, public participation will be sought from the affected communities, in accordance with NYSDEC Commissioner Policy CP-29. A draft Public Participation Plan (PPP) has been developed and has been submitted to NYSDEC in conjunction with the required permit application. A public outreach program to the affected communities, including minority and low-income populations in the study area, will be implemented, providing these groups with ample opportunity to have any of their concerns addressed. The proposed project's draft PPP includes a number of activities and tasks that will be undertaken to inform stakeholders about the proposed action and the permit being sought from NYSDEC, and to encourage dialogue and solicit input from all stakeholders involved. For example, stakeholders in the proposed permit modification have been identified and include known community groups, religious institutions, and community-based organizations. In addition, written information on the proposed action and the environmental permit review process is being prepared for posting and distribution to the public and other stakeholders. Selected project materials will also be translated into Spanish, as necessary. Because of the ongoing Coronavirus (COVID-19) public health situation, and consistent with current NYSDEC public outreach guidance for permitting actions (*Guidance on Commissioner's Policy 29 During the COVID-19 Public Health Crisis*, dated April 24, 2020), the only Document Repository will be a project website. If any additional physical repositories are established, their locations will be noted on the project website. In addition, a public information meeting will be held to provide information about the proposed facility and the associated NYSDEC permitting process. Consistent with current NYSDEC CP-29 guidance, the public information session will be held virtually as a web conference available to the public, which will be advertised in local news media. With implementation of the draft PPP, the proposed project will be consistent with the public participation requirements of NYSDEC CP-29. *