CEQR No. 20DCP057K

Innovative Urban Village

Draft Scope of Work for Preparation of a Draft Environmental Impact Statement

LEAD AGENCY

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Draft Scope of Work

1.1 Introduction

This Draft Scope of Work outlines the technical areas to be analyzed in the preparation of an Environmental Impact Statement (EIS) for the proposed large-scale development of a site located in the East New York neighborhood of Brooklyn (see **Figure 1-1**). A portion of the site is currently occupied by the 92,784-gsf Christian Cultural Center (CCC) facility, which would remain on the site as part of the proposed project.

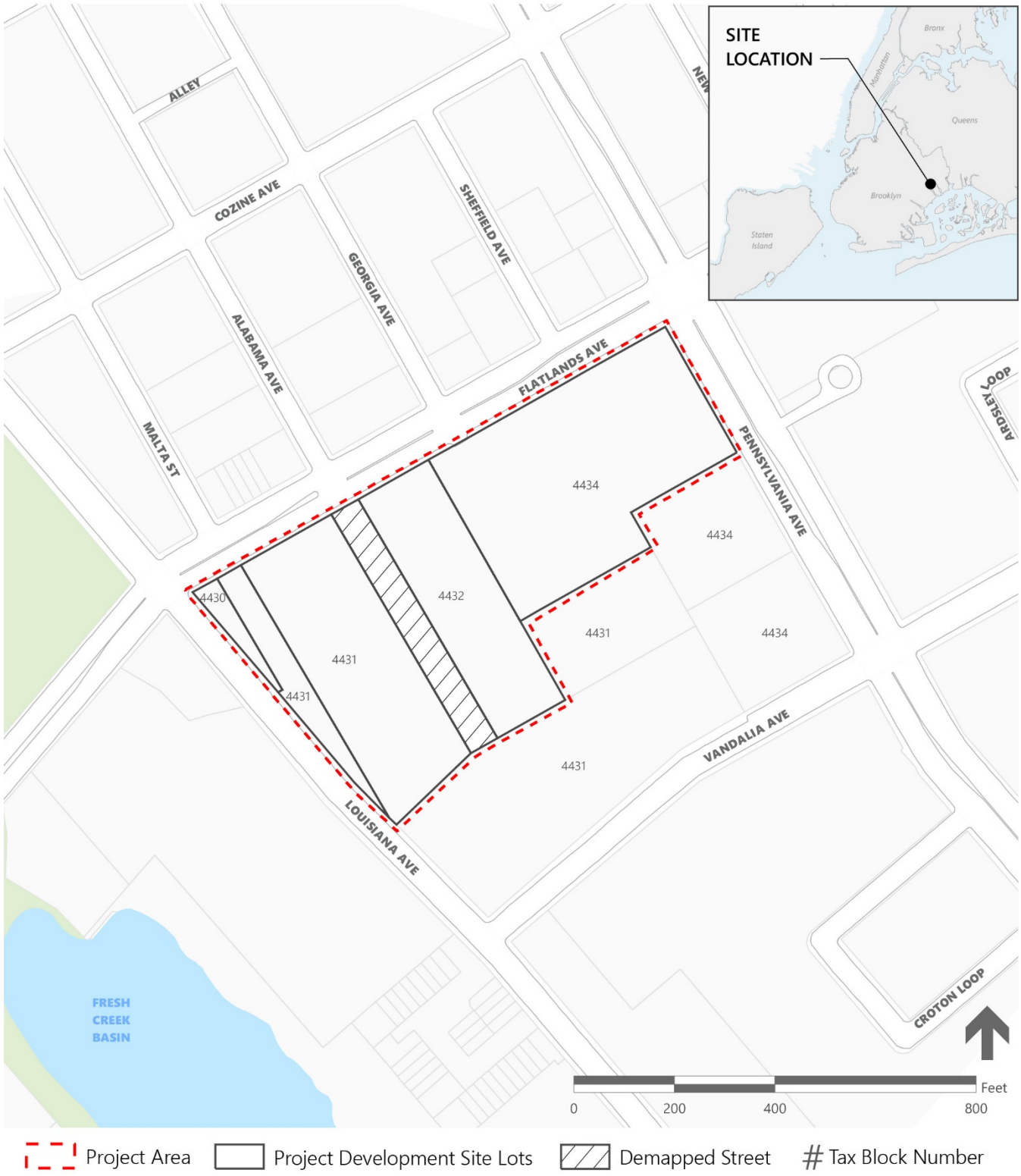
The Applicant, Innovative Urban Living, LLC, is seeking discretionary approvals from the City Planning Commission to facilitate the proposed development. These approvals include a zoning map amendment, zoning text amendments, large-scale general development special permits, a special permit to reduce required accessory residential parking, and a special permit for a public parking garage. More information on the required approvals is provided in Section 1.4, "Required Approvals."

The proposed project is anticipated to contain approximately 2.4 million gsf of development[1] to be constructed in phases over 10 years as 13 buildings ranging from approximately 2 to 17 stories, with approximately 1,980,000 gsf for residential space; 82,000 gsf for retail space; 10,000 gsf of day-care space; 55,000 gsf of educational/school space; a 16,500-gsf performing arts/cultural center; 170,000 gsf of structured parking for the existing CCC facility and other community facility uses; and a 15,000-gsf trade school within the same building as the structured parking. The existing 93,000-gsf CCC facility would also remain on the site. The applicant intends to develop a total of approximately 2,118 income-based residential units, composed of approximately 1,825 affordable housing units, up to 267 units of affordable senior or supportive housing, and approximately 26 maisonettes under affordable ownership that would be attached to up to four of the residential buildings. The development is also expected to include approximately 81,000 sf of publicly accessible open space.

The proposed actions are subject to City Environmental Quality Review (CEQR). The New York City Department of City Planning (DCP), acting on behalf of the City Planning Commission (CPC), is the lead agency for the environmental review. Based on the Environmental Assessment Statement (EAS) dated January 16, 2020, DCP has issued a Positive Declaration declaring that the proposed actions have the potential to result in significant adverse environmental impacts and requiring the preparation of an EIS.

[1] Square footage is rounded in this introductory section for ease of reference; tables in subsequent sections contain actual proposed square footage.

Figure 1-1 Site Location Map



1.1 City Environmental Quality Review (CEQR) and Scoping

The purpose of the scoping process is to focus the EIS on potentially significant adverse environmental impacts by ensuring that relevant issues are identified as early as possible and studied properly, and to eliminate consideration of those impacts that are irrelevant and not significant. In addition, it allows the public, agencies, and other interested parties the opportunity to help shape the EIS by raising relevant issues regarding the focus and appropriate methods of study. The draft scoping document sets forth the analysis areas proposed to be covered in the EIS and the methodologies that are proposed to perform these analyses. During the scoping period, those interested in reviewing the Draft Scope of Work (Draft Scope) may do so and give their comments to the Lead Agency.

The public, interested agencies, Community Boards, and elected officials are invited to comment on the Draft Scope, either in writing or orally, at a public scoping meeting to be held Tuesday, March 3, 2020 at 3:30 PM at the Christian Cultural Center, 12020 Flatlands Avenue, Brooklyn, NY 11207. Written comments on the Draft Scope of Work will be accepted by the lead agency through close of business March 13, 2020. The Final Scope of Work will incorporate all relevant comments made on the Draft Scope and the Draft EIS (DEIS) will be prepared in accordance with the Final Scope.

Once the DEIS is determined by the Lead Agency to be complete, the document will be made available for public review and comment. A public hearing will be held on the DEIS in conjunction with the CPC hearing on the land use application to afford all interested parties the opportunity to submit oral and written comments. The record will remain open for 10 days after the public hearing to allow additional written comments on the DEIS. At the close of the public review period, a Final EIS (FEIS) will be prepared that will respond to all substantive comments made on the DEIS and incorporate any necessary revisions. The FEIS will then be used by the lead agency in making the required environmental findings, which are used as a basis for deciding whether to approve the requested discretionary actions, with or without modifications. According to SEQRA Part 617.11(d), these findings must:

1. consider the relevant environmental impacts, facts and conclusions disclosed in the final EIS;
2. weigh and balance relevant environmental impacts with social, economic and other considerations;
3. provide a rationale for the agency's decision;
4. certify that the requirements of this Part have been met; and
5. certify that consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable.

1.2 Project Area and Context

Project Area

The development site consists of Block 4430, Lot 1; Block 4431, Lots 1 and 200; Block 4432, Lot 1; Block 4434, Lot 1; and a demapped portion of Alabama Avenue in the East New York neighborhood of Brooklyn, Community District 5. The site is approximately 449,653 sf (10.32 acres) with 466 feet of frontage along Louisiana Avenue to the west, 1,053 feet of frontage on Flatlands Avenue to the north, and 291 feet of frontage on Pennsylvania Avenue to the east. The two-story, 92,784 gsf Christian Cultural Center (CCC) – a large, non-denominational house of worship built in 1997 – sits on the western portion of the development site and is surrounded by surface parking. The eastern half of the development site is unpaved and used for overflow parking during church services. The site is located in an R5 zoning district. **Figure 1-1** shows the site location.

Project Area Surrounding Context

The project site is located at the northwestern end of the peninsula between Fresh Creek and Hendrix Creek, both inlets of Jamaica Bay. Much of the peninsula, including the areas south and east of the project site, is occupied by Starrett City (now formally known as Spring Creek Towers), a 140-acre affordable housing complex opened in 1974 that contains over 5,800 residential units in 46 buildings. The complex includes a community center and two schools. To the east of Starrett City along Hendrix Creek is the New York City Department of Environmental Protection's 26th Ward Wastewater Treatment Plant.

In addition to Starrett City, the area includes a number of other affordable housing properties. Immediately south of the project site are NYCHA's Vandalia Avenue complex and Council Towers, an assisted living facility for low-income seniors. Northwest of the site is the 65-acre, 1,600-unit Breukelen Houses complex, which extends from East 103rd Street to Louisiana Avenue and includes a row of ballfields between Williams and Louisiana Avenues. To the northeast is NYCHA's 21-building Linden House complex. These housing developments were generally built between the 1950s and 1970s.

Across Flatlands Avenue to the north of the site is an industrial area that includes low-rise buildings constructed in the 1950s and 1960s. Businesses in this area include used car sales, car repair, auto parts stores, transportation and busing businesses, and self-storage, along with mixed retail and commercial businesses. A 1980s low-rise commercial complex with restaurants, a bank, and a supermarket is located just west of the Christian Cultural Center across Louisiana Avenue. The Fresh Creek Nature Preserve borders the creek's east and west sides; the area west of the creek consists mainly of single-family development that is part of the Canarsie neighborhood.

1.3 Required Approvals

The proposed project will require the following actions, which will be refined prior to completion of the DEIS:

- Zoning Map Amendment
  - A zoning map amendment to rezone the development site from R5 to R7-2 with a C2-4 overlay
- Zoning Text Amendments
  - Amendment to Appendix F to designate the Site as a Mandatory Inclusionary Housing area , complying with Option 1 of MIH requirements
  - Amendment to Appendix I to change boundary of the transit zone to include the development site
- Special Permits
  - Special Permit pursuant to ZR 74-743(a) to locate buildings without regard for yard, court, distance between buildings, and height and setback regulations in general large-scale developments
  - Special Permit pursuant to ZR 74-512 to permit a public parking garage with more than 150 spaces
  - Special Permit pursuant to ZR 74-532 to reduce or waive the number of required accessory residential off-street parking spaces in a general large-scale development within the transit zone

The Applicant also intends to seek public funds and/or financing from various City and New York State agencies and/or programs related to affordable housing development. The discretionary CPC actions, along with the discretionary public funds that may be sought by the Applicant, are collectively referred to as the "Proposed Actions."

1.4 Proposed Development

The applicant is proposing to build a mix of community facility, commercial, residential uses, and open space with construction to be phased over a ten-year period. The proposed development anticipates a total of 13 buildings ranging from approximately 40 to 183 feet tall (without bulkhead), including 9 residential buildings with a total of approximately 2,118 units. These units would include approximately 1,825 affordable housing units, up to 267 units of senior or supportive housing, and 26 maisonettes under affordable ownership that would be attached to four of the residential buildings. The development would also include a school, a performing arts/cultural center, a trade school, 528 parking spots for residents, and a 593-space parking garage for the non-residential uses. A grocery store and local retail shops would be located on the ground floor of the residential buildings with frontage along the perimeter avenues. The existing CCC building would be incorporated into the proposed development.

It is the Applicant's intention that the proposed development would comply with and exceed the requirements of Option 1 of the City's Mandatory Inclusionary Housing ("MIH") program. Option 1 has the following requirements:

- 25 percent of new housing units must be set aside for families making an average of 60 percent or less of Area Median Income, or AMI.
- Of this set-aside, at least 10 percent must be for families making an average of 40 percent or less of AMI.

For the proposed development, each building in the master plan would include 10 percent of units at 40 percent of AMI; 10 percent of units at 50 percent of AMI; and 10 percent of units at 60 percent of AMI. Inclusive of the MIH units, the development is expected to have the following overall affordability levels:

- 50 percent extremely low-income/very low-income/low-income (30 percent to 60 percent AMI)
- 25 percent low-income/moderate-income (70 percent AMI to 100 percent AMI)
- 25 percent moderate-income (100 percent AMI to 120 percent AMI)

The non-MIH units would be income-based affordable housing through various city and state programs for low, moderate, and middle income. The income bands for the affordable housing units in excess of the MIH requirement, as well as the applicable programs for the senior/supportive housing units, will remain subject to the availability of capital subsidy and other public capital sources at the time of construction.

The proposed project would result in approximately 2,417,190 gsf of development, of which approximately:

› 1,975,280 gsf would be residential (including 187,450 gsf of residential parking)
› 82,005 gsf would be retail, assumed to consist of a 16,720 gsf grocery store and 65,285 gsf of local retail space
› 10,230 gsf would be for day-care use
› 55,000 gsf would be for an educational facility
› 16,500 gsf would be for a performing arts/cultural center (i.e., community theater)
› 170,390 gsf would be structured parking for the existing CCC facility and other community facilities
› 15,000 gsf would be for a trade school within the same building as the structured parking for the CCC facility

Existing curb cuts on Louisiana and Pennsylvania Avenues would be relocated to facilitate a new internal private, but publicly accessible, street network. On Flatlands Avenue, one existing curb cut would be maintained and a second would be relocated. The development would include 81,240 sf of publicly accessible open space. As part of the proposed project, a shuttle service would be operated to and from the nearest subway stops (East 105th Street on the L line and Pennsylvania Avenue on the 3 line) during peak commuting hours. The shuttle is anticipated to commence operation upon full completion of the overall development.

Table 1-1 summarizes the total development projected on the site. **Figures 1-2 and 1-3** show the proposed site plan (which is subject to change) and an axonometric projection.

Table 1-1 Overview of Projected Development

Use	Total GSF
Residential[1]	1,975,280
Retail	82,005
Day Care	10,230
Educational Facility	55,000
Performing Arts Center	16,500
Structured Parking	170,390
Trade School	15,000
Existing CCC Facility	92,784
Total	2,417,190

[1]Includes up to 187,450 gsf of residential parking, subject to environmental review and design process.

1.5 Project Purpose and Need

The proposed actions are being requested in order to allow the bulk, uses, and density required to meet the Applicant's goals for the proposed project. As described in Section 1.3, the development site is located within an area densely developed with affordable housing. To the east and south, the Starrett City and Vandalia Avenue housing complex are made up of 10- to 20-story towers, while the Breukelen Houses to the northwest are three to seven stories in height. Across Flatlands Avenue and Louisiana Avenue are low-rise industrial and commercial businesses. The Christian Cultural Center is located in the northwest corner of the site, which is otherwise occupied by paved and unpaved parking.

The site's existing R5 zoning, with an FAR of 1.25 and a height limit of 40 feet, typically produces three- and four-story attached houses and small apartment houses. However, demand for affordable housing in East New York continues to grow, and Brooklyn Community District 5 has identified needs for additional affordable housing and other amenities that cannot be met under the site's existing zoning. The proposed actions would address these needs as follows:

- Zoning Map Amendment to rezone the development site R7-2 with a C2-4 overlay: The map amendment is needed to facilitate the additional residential density required to provide a substantial amount of affordable housing in Community District 5. The proposed redevelopment would be consistent in scale and form with the existing affordable housing development in the area, such as the Starrett City and Vandalia Avenue complexes.
- Zoning Text Amendment to designate the site as a Mandatory Inclusionary Housing (MIH) area: Designation of the site as MIH would support community and citywide public policy goals by providing permanently affordable housing across a range of income levels from 30 to 120 percent of Area Median Income (AMI), with over 50 percent of units reserved for extremely low-income to low-income residents (30 percent AMI to 60 percent AMI).

- Zoning Text Amendment to include the development site within the Transit Zone: This text amendment is needed to reduce the amount of required parking, which would otherwise make it difficult to provide the proposed amount of affordable housing and associated community facilities.
- Special Permit for a large-scale general development: This permit is needed to accommodate the desired housing density and facilitate a superior site plan, including driveways for circulation, a pedestrian-friendly campus, and active ground-floor uses that will activate the street frontage.
- Special Permit for a public parking garage with more than 150 spaces: This permit is needed to provide sufficient parking for the existing church and for proposed community facility uses, which would include a performing arts center and trade school that would benefit the surrounding community.
- Special Permit for a reduction in required accessory off-street parking spaces within the Transit Zone: In conjunction with the text amendment to include the site in the Transit Zone, this permit would reduce the parking requirement in order to accommodate the proposed amount of affordable housing.

1.6 Analysis Framework

Analysis (Build) Year

The environmental analyses set forth in this Draft Scope of Work consider the environmental effects of the proposed actions based on a comparison of expected conditions without approval of the proposed actions, the "No-Action condition," to expected conditions with approval of the proposed actions, the "With-Action condition," in the analysis year. Assuming approval of the ULURP application in 2021 and a conservative build-out of approximately 10 years, the proposed project is expected to be complete and operational by 2031 (the "build year"). The difference between the No-Action and With-Action conditions represents the increment to be analyzed as part of the environmental review.

Future No-Action Condition

Under the baseline, or No-Action, condition, it is assumed that the site would remain in its existing condition. As relevant for each area of analysis, future growth in population and employment will be considered in the development of the No-Action condition of that study area. This will include both background growth and growth generated by known projects (developments that are under construction, planned, or proposed). Inclusion of known development will be based on but not limited to consideration of whether the project requires discretionary approvals, the status of that approval process, and the project size.

Figure 1-2 Innovative Urban Living Site Plan

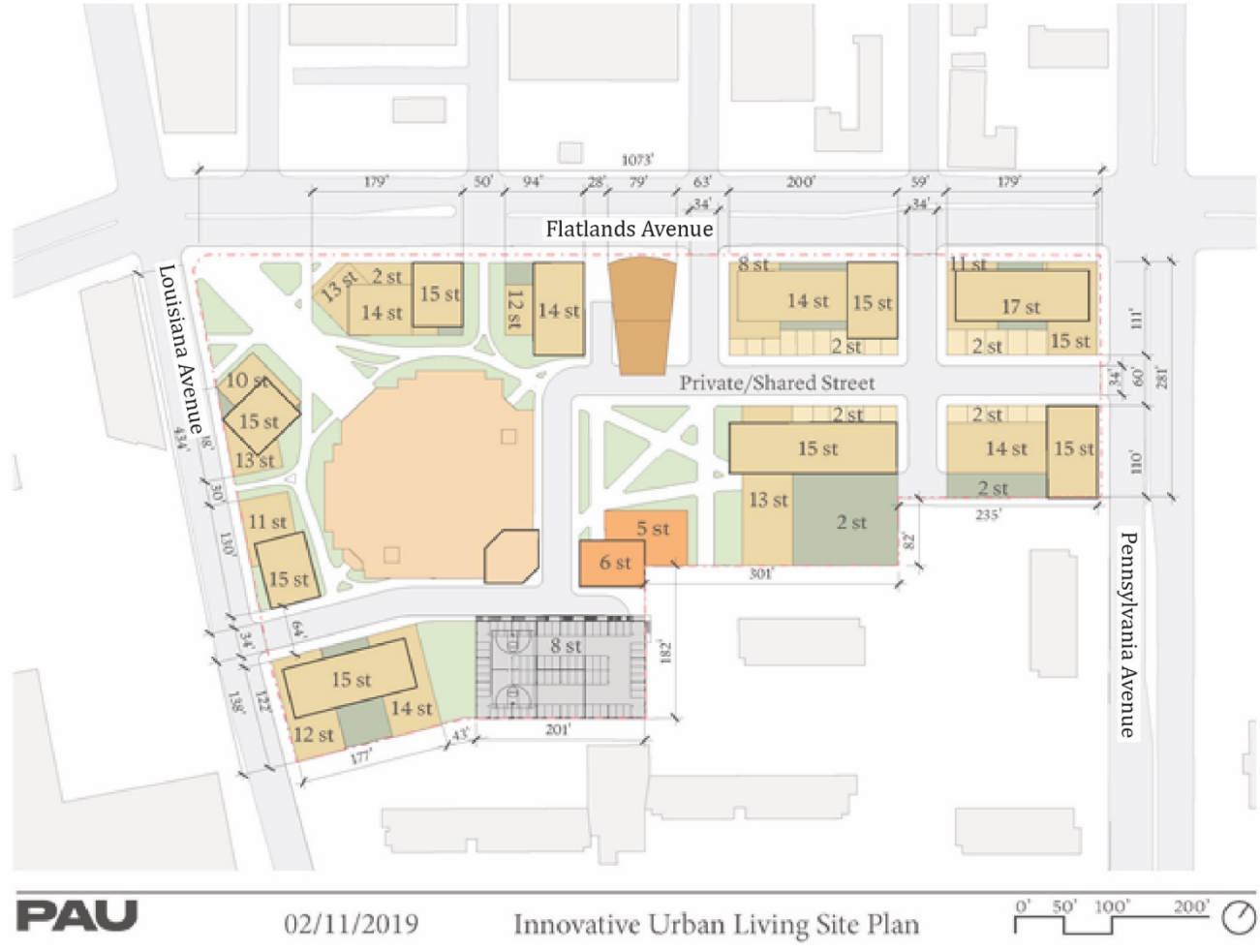
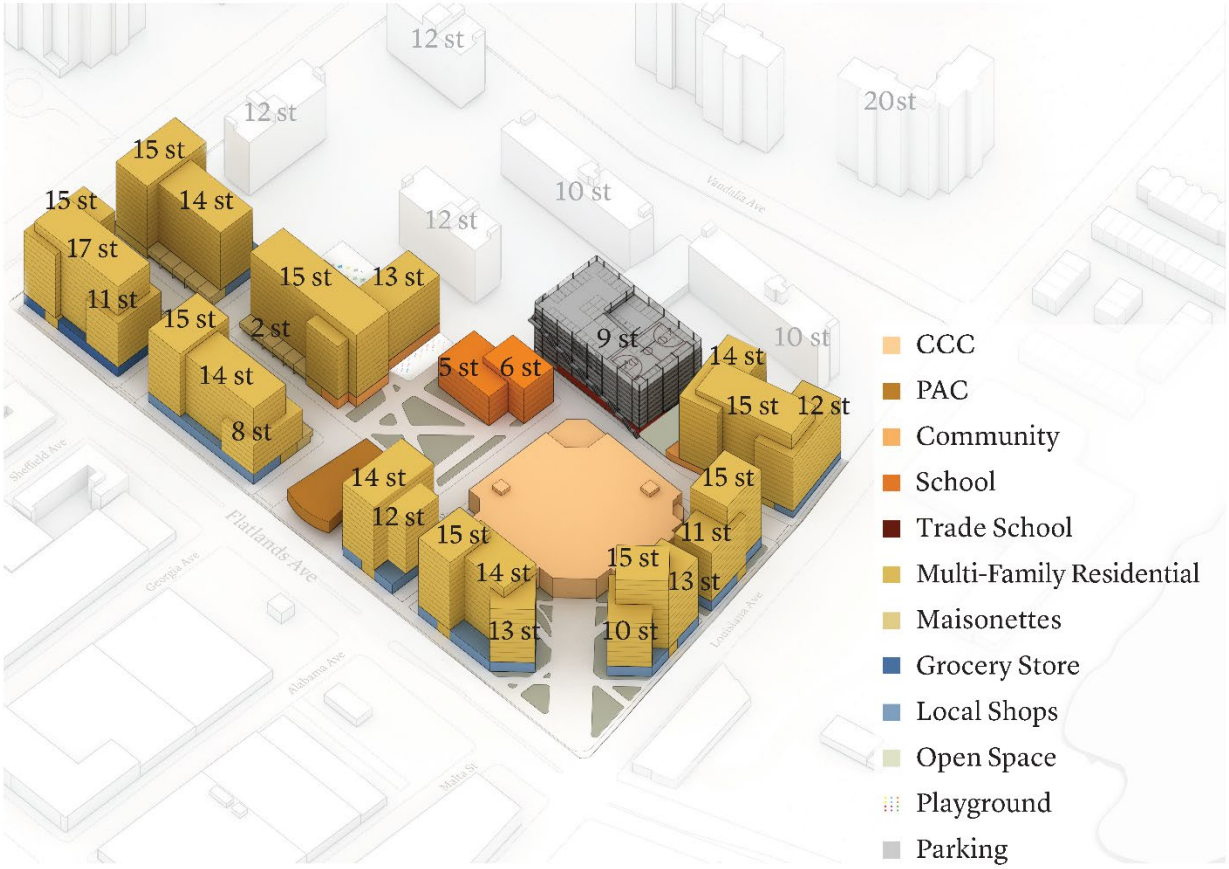


Figure 1-3 Innovative Urban Living Axon



PAU 07/10/2019 Innovative Urban Living Axon

Future With-Action Condition/Increment for Analysis

The With-Action condition on the project site reflects the proposed project (see **Section 1.5**). The project would result in approximately 2.4 million gsf of new development (4.65 FAR); **Table 1-2** provides the increment for analysis. The development would include approximately 81,000 sf of publicly accessible open space, consisting of green space, a campus quadrangle, a school playground, and landscaped walkways. The With-Action development would include pedestrian paths and a private, but publicly accessible, driveway that would run through the site.

Table 1-2 Increment for Analysis

Use Group		Existing Condition	No-Action Condition	With-Action Condition	Increment
Residential	Dwelling Units	-	-	2,118	2,118
	Affordable Units			1,825	1,825
	Total Residential GSF	-	-	1,975,281	1,975,281
Local Retail/Commercial[1]	Local Retail/Commercial	-	-	82,005	82,005
Community Facility	Day Care	-	-	10,230	10,230
	Educational Facility	-	-	55,000	55,000
	Performing Arts Center	-	-	16,500	16,500
	Trade School	-	-	15,000	15,000
	Existing CCC Facility	-	-	92,784	92,784
	Total Community Facility	92,784	92,784	189,514	96,730
Open Space	Open Space	-	-	81,000	81,000
Parking	Garage Spaces	-	-	1,121	1,121
	Lot Spaces[2]	404	404	-	-404
Residents[3]		-	-	4,087	4,087
Employees[4]		130	130	655	525

1. The area shown includes a grocery store, whose square footage is still being determined; this information will be provided in the DEIS.
2.The number of parking lot spaces was provided by the applicant. Lots may be revised based on traffic analysis.
3.The number of residents is based on an average household size of 1.93 for the neighborhood, Starrett City (2013-2017 ACS Survey).
4. Employee estimates were derived using ratios provided by the NYC Department of City Planning. The number of employees working in residential buildings was calculated by dividing the total residential units by 25 dwelling units (85 building employees).The number of retail workers was calculated by dividing the total retail gsf by 333.3 sf (246 retail employees). The Performing Arts Center and the Trade School assume community facilites uses. The number of Performing Arts Center and Trade School employees was calculated by dividing the total gsf by 333.3 sf (49 and 45 employees, respectively). The number of educational facility employees was calculated by dividing the maximum pupil capacity by 11.4 (41 employees). The number of daycare employees was calculated by dividing the maximum pupil capacity by 9 (38 employees). The number of parking garage employees was calculated by dividing the total parking spaces by 50 spaces (21 parking garage employees). The number of employees of the existing CCC Building was provided by the CCC (130 employees)

Of the range of scenarios that are considered reasonable and likely to occur, the scenario with the worst environmental consequences is the RWCDS. The proposed project was determined to be the RWCDS because development pursuant to the proposed actions would be restricted to the bulk and density shown on the special permit drawings. While development in the absence of the special permit could have different environmental effects than the proposed project, this scenario is not considered reasonable and likely to occur, and therefore analysis is not warranted for the following reasons: (1) the special permit for a large-scale general development will provide greater flexibility than as-of-right zoning in siting and massing the desired housing and allow for needed circulation not permitted with as-of-right zoning; (2) a special permit for a public parking garage with more than 150

spaces is needed to provide sufficient parking for the existing church and for proposed community facility uses, which would include a performing arts center and trade school that would benefit the surrounding community; and (3) without the special permit for a reduction in required accessory off-street parking spaces, the parking requirements would make additional development infeasible.

1.7 Proposed Scope of Work for the DEIS

The Draft EIS will be prepared in conformance with all applicable laws and regulations, including the State Environmental Quality Review Act (SEQRA) (Article 8 of the New York State Environmental Conservation Law) and its implementing regulations found at 6 NYCRR Part 617, New York City Executive Order No. 91 of 1977, as amended, and the Rules and Procedure for CEQR, found at Title 62, Chapter 5 of the Rules of the City of New York. As described previously, the environmental review provides a means for decision-makers to systematically consider environmental effects along with other aspects of project planning and design, to evaluate reasonable alternatives, and to identify, and mitigate where practicable, any significant adverse environmental impacts.

The EIS, following the guidance of the *2014 CEQR Technical Manual*, will contain:

- A description of the proposed actions, the proposed project, and its environmental setting;
- An analysis of the potential of the proposed project to cause significant adverse impacts in a range of environmental categories, comparing conditions with the project in the project's build year against conditions that would exist in the absence of the project;
- A statement of the potential significant adverse environmental impacts of the proposed project;
- A description of feasible mitigation measures that would eliminate or minimize adverse environmental impacts;
- An identification of any adverse environmental effects that cannot be avoided if the proposed project is implemented because mitigation is not practicable;
- A discussion of alternatives to the proposed project; and
- A discussion of any irreversible and irretrievable commitments of resources to develop the project.

As noted above, the EIS will analyze the proposed project for all technical areas of concern. The specific technical areas to be included in the EIS were identified in the EAS dated January 16, 2020. The EAS identified the following technical areas as having the potential to result in significant adverse impacts, and therefore warranting additional analysis in the EIS: land use, zoning, and public policy; socioeconomic conditions; community facilities and services; open space; shadows; urban design and visual resources; natural resources; hazardous materials; water and sewer infrastructure; solid waste and sanitation services; transportation; air quality; greenhouse gas emissions and climate change; noise; public health; neighborhood character; and construction. The proposed actions would not have the potential to result in significant adverse impacts in the following technical area, which therefore will not be analyzed in the EIS:

- Energy: The proposed project would not affect the transmission or generation of energy, and the incremental energy demand resulting from the project would not create a significant impact on energy supply. Therefore, additional analysis of this technical area is not warranted. Although significant adverse energy impacts are not anticipated for the Proposed Project, the EIS will disclose the projected amount of energy consumption during long-term operation resulting from the Proposed Project, as this information is required by the New York State Department of Environmental Conservation, prescribed by State Environmental Quality Review Act (SEQR). This information is also required for the assessment of Greenhouse Gas Emissions.

The first step in preparing the EIS is the preparation of a Draft Scope of Work and public scoping process. Scoping is the process of focusing the environmental impact analysis on the key issues that are to be studied in the EIS. The proposed scope of work for each technical area to be analyzed in the EIS follows. The scope of work and the proposed impact assessment criteria below are based on the methodologies and guidance set forth in the *CEQR Technical Manual*.

Task 1: Project Description

As the first chapter of the EIS, the Project Description introduces the reader to the proposed project and sets the context in which to assess impacts. This chapter will contain a description of the proposed project: its location; the background and/or history of the project; a statement of the purpose and need; key planning considerations that have shaped the current proposal; a description of the proposed actions; and a discussion of the approvals required, procedures to be followed, and the role of the EIS in the process. This chapter gives the public and decision makers a base from which to evaluate the proposed project. In addition, the project description chapter will present the framework for the analysis of the environmental impacts of the proposed actions and identify the analysis year(s) and project phasing.

Task 2: Land Use, Zoning, and Public Policy

This chapter will analyze the potential impacts of the proposed project on land use, zoning, and public policy, pursuant to the methodologies presented in the *CEQR Technical Manual*. A land use analysis characterizes the uses and development trends in the area that may be affected by the proposed project, describes the zoning controls and public policies that guide development, and determines whether a proposed project is compatible with an area's land use patterns and trends or may alter them. Similarly, the analysis considers the action's compliance with, and effect on, the area's zoning and other applicable public policies, including the City's Waterfront Revitalization Plan (WRP).

The land use, zoning, and public policy chapter will provide information necessary for the analysis of the environmental impacts of the proposed actions in other technical areas.

The land use study area will consist of the area within ¼ mile of the perimeter of the development site (see **Figures 1-4 through 1-6**). This study area may be refined based on further analysis of land use patterns and trends. The analysis will include the following subtasks:

Figure 1-4 Existing Zoning Map

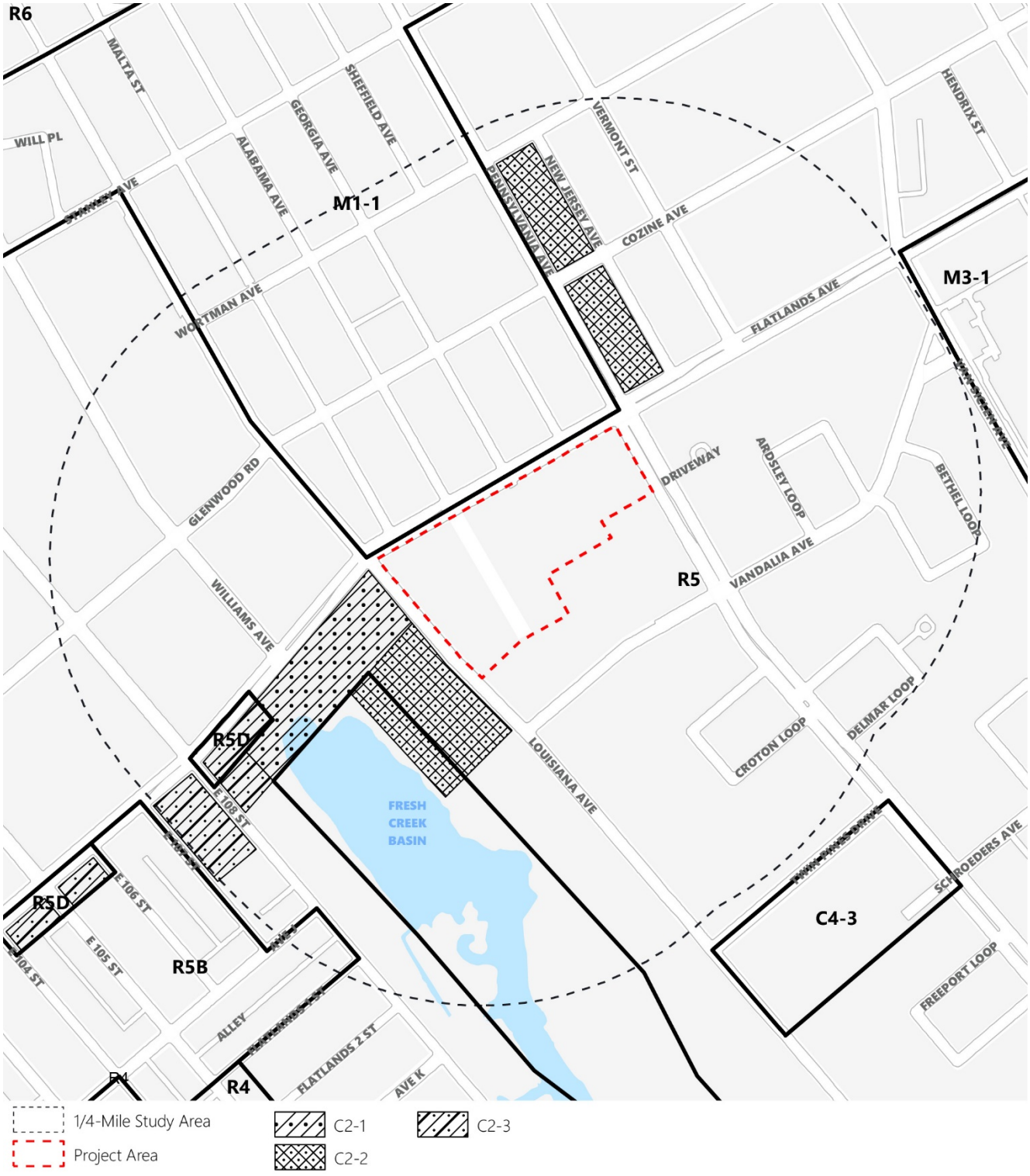


Figure 1-5 Proposed Zoning Map

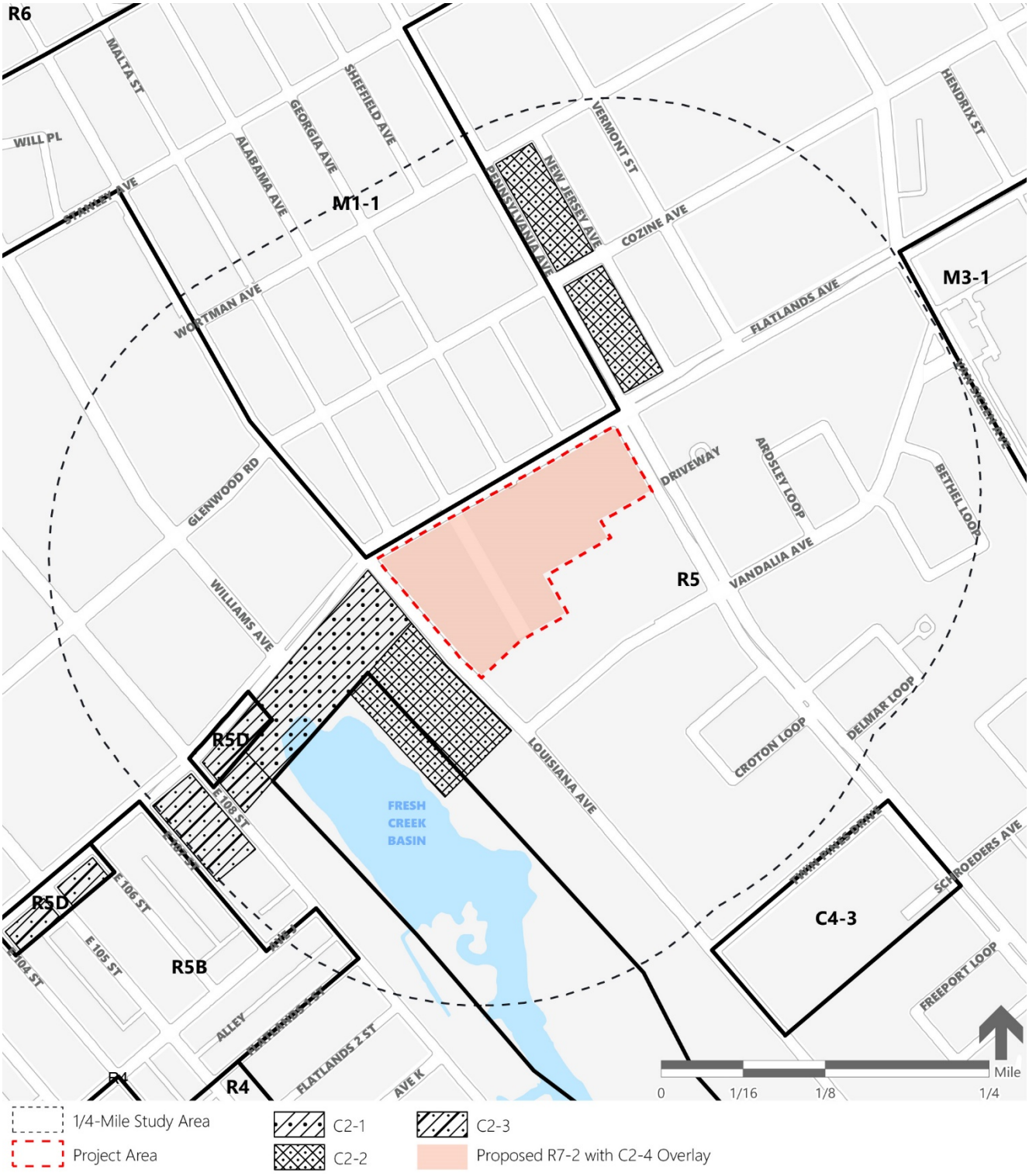


Figure 1-6 Land Use Map



- Provide a description of land use, zoning, and public policy in the study area under current conditions. Recent trends in the study area will be noted. Other public policies that apply to the study area will also be described.
- Based on field surveys and prior studies, identify, describe, and graphically portray current land use patterns in the study area. Describe the study area's development history and recent land use trends and identify major factors influencing the area's land use trends.
- Describe and map existing zoning and any recent zoning actions in the study area.Prepare a list of future development projects in the study area that are expected to be constructed by the build year. Also, identify pending or known proposed zoning actions or other public policies that could affect land use in the study area. Based on these planned projects and initiatives, assess future land use and zoning conditions in the future without the proposed actions (No-Action condition).
- Describe proposed zoning and land use changes that would occur with the proposed project based on the With-Action condition.
- Discuss the potential effects of the proposed project related to issues of compatibility with surrounding land use, zoning, and other public policies, and the effect of the proposed project on ongoing development trends in the study area.
- Assess the proposed project's conformity to city goals, including consistency with the City's sustainability goals (PlaNYC/OneNYC), the mayor's affordable housing plan (Housing New York 2.0), landmark preservation policies, goals related to the East New York Neighborhood Plan, and any other relevant public policies.
- Evaluate the project's compliance with the WRP, including Policy 6.2, which requires consideration of the latest sea level rise (SLR) projections into the planning and design of projects in the coastal zone. Published SLR projections will be evaluated for various project life spans using the New York City Panel on Climate Change projections of climate change and sea level rise, published in January 2015, and mapping will be provided showing the estimated extents of future inundation during storm event scenarios. The WRP section will assess how the features of the proposed development would be consistent with the WRP policies.
- If significant adverse impacts are identified, identify feasible mitigation measures, if any, to avoid or reduce potential significant adverse land use, zoning, and/or public policy impacts.

Task 3: Socioeconomic Conditions

The socioeconomic character of an area includes its population, housing, and economic activity. Socioeconomic changes may occur when a project directly or indirectly changes any of these elements. Although socioeconomic changes may not result in impacts under CEQR, they are disclosed if they would affect land use patterns, low-income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of the area.

According to the *CEQR Technical Manual*, the six principal issues of concern with respect to socioeconomic conditions are whether a proposed project would result in significant impacts

due to: (1) direct residential displacement; (2) direct business displacement; (3) indirect residential displacement; (4) indirect business displacement due to increased rents; (5) indirect business displacement due to retail market saturation; and (6) adverse effects on a specific industry. As described in Part II, Section 1.2 of the EAS, indirect residential displacement will be evaluated in the EIS because the proposed project would exceed the threshold of 200 residential units for conducting a preliminary residential displacement assessment. The scope of work for this analysis is described below. The other five issues of concern are either not applicable to the proposed project, or the project would not meet the threshold for a preliminary assessment.

Indirect Residential Displacement

The concern with respect to indirect residential displacement is whether the proposed project—by introducing a substantial new development that is markedly different from existing uses, development, and activities within the neighborhood—could lead to increases in property values, and thus rents, making it more difficult for some residents to afford their homes. The objective of the indirect residential displacement assessment is to determine whether the proposed project would either introduce a trend or accelerate a trend of change in socioeconomic conditions that may potentially displace a vulnerable population to the extent that the socioeconomic character of the neighborhood would change.

The indirect residential displacement analysis will use the most recent available U.S. Census data, as well as current real estate market data, to present demographic and residential market trends and conditions within a ¼-mile study area. This information will include population estimates, housing tenure and vacancy status, median housing value and rent, median household income, and a discussion of rent-protected housing. The preliminary assessment will consist of a step-by-step evaluation, as described in the *CEQR Technical Manual,* to determine whether the proposed project would add substantial new population with higher incomes as compared with the income of the study area population and evaluate whether the study area has already experienced a readily observable trend toward increasing rents.

The preliminary analysis would include the following steps, as described in Section 322.1 of the *CEQR Technical Manual:*

- Determine if the proposed project would add new population with higher average incomes compared to the average incomes of the existing populations and any new population expected to reside in the study area without the project.
- Determine if the project's increase in population is large enough relative to the size of the population expected to reside in the study area without the project to affect real estate market conditions in the study area.
- Consider whether the study area has already experienced a readily observable trend toward increasing rents and the likely effect of the action on such trends.

If the preliminary assessment reveals the potential for the proposed project to introduce a trend of change in socioeconomic conditions, a detailed analyses will be conducted in accordance with the *CEQR Technical Manual,* if warranted.

Task 4: Community Facilities and Services

The demand for community facilities and services is directly related to the type and size of the new population generated by the development resulting from the proposed actions. New workers tend to create limited demands for community facilities and services, while new residents create more substantial and permanent demands.

The *CEQR Technical Manual* recommends a detailed analysis of indirect impacts on police, fire, and healthcare services in cases where the proposed project would either introduce a sizeable new neighborhood where one has not previously existed or displace or alter an existing facility. As described in Part II, Section 1.3 of the EAS, the project site is located in a developed area that is served by existing police, fire, and healthcare services; as such, the proposed project would not create a neighborhood where none existed before. In addition, it would not displace or alter any police, fire, or healthcare facilities. Therefore, the proposed project does not have the potential to result in significant adverse environmental impacts related to police, fire, and healthcare services, and no further analysis is warranted.

The proposed project would result in the development of up to 2,118 residential units. This would exceed the minimum number of units that would trigger a detailed analysis of libraries under the *CEQR Technical Manual;* in Brooklyn, this number is 734. Therefore, further analysis of libraries will be included in the EIS (see "Libraries" below).

In Brooklyn, the threshold for an analysis of child care is 110 affordable units. Under the applicant's proposed scenario, in which 267 of the 2,118 total units units would be exclusively for use by seniors, the project is estimated for analysis purposes to introduce approximately 1,388 residential units for families making less than 80 percent of Area Median Income (AMI). Therefore, an analysis of child care services will be undertaken in the EIS (see "Child Care" below).

The threshold for detailed analysis of school impacts is the number of units that would generate a total of at least 50 elementary/intermediate school students or at least 150 high school students. The proposed 2,118 units would exceed the thresholds for both elementary/intermediate schools and high schools, either with or without consideration of the senior/supportive units. Using SCA 2019 multipliers, under the scenario excluding the proposed 267 senior supportive units, the proposed project is estimated to generate 333 elementary school students, 148 intermediate school students, and 92 high school students. Under the scenario in which no units would be reserved exclusively for the use of seniors, the proposed project is estimated to generate approximately 382 elementary school students, 170 intermediate school students, and 106 high school students. Accordingly, an analysis of the project's effects on schools will be undertaken in the EIS (see "Public Schools" below).

Libraries

As discussed above, the proposed project would exceed the threshold of 734 residential units for analysis of library services. The project would not displace or alter any library facilities; therefore, an indirect analysis will be conducted to assess increased demand on library services. The analysis will describe existing libraries within the study area, their information services, and their user population, as well as information on the services provided, levels of utilization, and branch holdings of books and other media. An estimate of

holdings per resident will then be calculated for the No-Action condition, based on future population in the study area and anticipated growth in the library system. Impacts will be assessed by adding the project-generated population to the No-Action population and determining the project's effects on the library's ability to provide information services to its users based on change in holdings per resident compared to the No-Action condition. If significant adverse impacts are identified, feasible mitigation measures (if any) will be identified to avoid or reduce these impacts.

Child Care

As discussed above, the proposed project would exceed the threshold of 110 low-income units in Brooklyn for analysis of child care services. Accordingly, a detailed analysis of child care services will be included in the EIS. The analysis will include the following:

- Existing publicly funded group child care facilities will be identified within approximately 1.5 miles of the project area.
- Using publicly available information from the Administration for Children's Services' (ACS) Division of Child Care and Head Start (CCHS) or from the New York City Department of Education, each facility will be described in terms of its location, number of slots (capacity), and existing enrollment.
- Any expected increases by the analysis year in the population of children under age 6 within the eligibility income limitations for publicly funded child care services, based on CEQR methodology, will be assessed for the No-Action condition. This information will be used to determine the projected capacity or resulting deficiency in child care "slots" and the utilization rate for the study area.
- The With-Action demand will be calculated by adding the estimated number of eligible children generated by the proposed project to the projected No-Action demand and calculating the effect on the number and utilization rate of child care slots. This calculation will take into account the child care facilities proposed as part of the project.
- The significance of the project impact will be assessed based on methods identified in the CEQR Technical Manual. A significant adverse impact may result if the project would result in a collective child care/Head Start utilization rate of 100 percent or more, and an increase of 5 percent or more in utilization rate between the No-Action and With-Action scenarios.
- If necessary, mitigation measures will be considered to address any significant adverse impacts.

Public Schools

As discussed above, the proposed project would exceed the thresholds for analyses of elementary/intermediate schools and high schools. Accordingly, detailed analyses of elementary/intermediate and high schools will be included in the EIS. The analysis will include the following:

- The primary study area for the analysis of elementary and intermediate schools is the community school district sub-district in which the project is located. The development site is located within Community School District (CSD) 19, Sub-district 3, which will serve as the study are for the analysis of elementary schools and intermediate schools. The primary study area for the analysis of high schools is the borough in which the development site is located – in this case, Brooklyn. An analysis of the proposed project's potential impact on elementary and intermediate schools at the sub-district level, and high schools at the borough level, will be performed.
- Public elementary and intermediate schools serving CSD 19, Sub-district 3 and high schools serving Brooklyn will be identified and located. Existing capacity, enrollment, and utilization data for all public elementary/ intermediate schools and high schools within the affected sub-district and borough, respectively, will be provided for the current (or most recent) school year, noting any specific shortages of school capacity using information from the New York City Department of Education (DOE).
- Conditions that would exist in the No-Action condition for the sub-district and the borough will be identified, taking into consideration projected changes in future enrollments, including those associated with other developments in the affected sub-district, using the NYC School Construction Authority's (SCA) *Projected New Housing Starts*. Plans to alter school capacity either through administrative actions on the part of the DOE or as a result of the construction of new school space prior to the 2031 analysis year will also be identified and incorporated into the analyses. Planned new capacity projects from the DOE's *2020-2024 Five Year Capital Plan* may be included in the quantitative analysis per consultation with SCA and DCP or in a qualitative discussion.
- With-Action conditions will be analyzed, adding students likely to be generated by the proposed project to the projections for the No-Action condition. Impacts will be assessed based on the difference between the With-Action projections and the No-Action projections at the sub-district level for elementary and intermediate school students, and at the borough level for high school students, for enrollment, capacity, and utilization in 2031.
- A determination of whether the proposed project would result in significant adverse impacts to public schools will be made. A significant adverse impact may result, warranting consideration of mitigation, if the proposed project would result in: (1) a collective utilization rate of elementary, intermediate, and high schools in the sub-district study area and borough, respectively, that is equal to or greater than 100 percent in the With-Action condition; and (2) an increase of five percent or more in the collective utilization rate between the No-Action and With-Action conditions. If impacts are identified, further analysis would be required to determine the number of dwelling units that may be constructed before a significant adverse impact would occur. If significant adverse impacts are identified, feasible mitigation measures (if any) will be identified to avoid or reduce these impacts.

Task 5: Open Space

An open space assessment is warranted if a project would have a direct effect (the elimination or alteration of open space) or an indirect effect on open space through population size (overtaxing existing open space through an increase in population).

The proposed project is located in an area that is considered to be neither underserved nor well-served by open space. For projects in such areas, an assessment of indirect effects on open space is conducted if the proposed project would generate more than 200 residents or 500 workers. The proposed project is expected to introduce approximately 4,087 additional residents, while new retail, community facility, and educational uses would result in an additional 525 workers. Therefore, residential and nonresidential open space assessments will be provided in the EIS.

The open space analysis will consider both passive and active open space resources. Passive and active open space ratios will be assessed in the residential study area (1/2-mile radius) and non-residential area (1/4-mile radius; this may be modified if appropriate). The study area would generally comprise those census tracts that have 50 percent or more of their area located within the applicable radius of the project site, as recommended in the *CEQR Technical Manual*. Existing open spaces within the study area will be identified and described. The open space ratio in the study area will then be calculated for the No-Action condition by dividing the acres of open space by the residential and non-residential population. For the With-Action condition, the ratio will be calculated by adding the residential and non-residential population of the proposed project to the No Action totals and by adding the proposed project's new publicly accessible open space to the No Action open space.

If the open space ratio would increase or remain substantially the same in the With-Action condition compared to the No-Action condition, no further analysis of open space would be needed. If the results of the preliminary open space assessment indicate the need for further analysis, a detailed analysis will be conducted. This analysis would consist of the following tasks:

- Characterize the study area population by age group, both as total people and percentages of the population
- Identify and describe study area open spaces through data collection and site visits to determine types of facilities, utilization levels, accessibility, and current conditions.
- Use the data gathered in the first two tasks to assess the adequacy of the existing open space relative to the needs of study area users. This would include a quantitative and qualitative assessment that involves calculating active and passive open space ratios for residential and nonresidential populations; considering the effects of air quality, noise, shadows, wind, access, and safety issues on the usability of existing open spaces; determining whether the proportion of active and passive open space is appropriate for the population and age group served; and considering other data, including facility condition, utilization levels, and other factors that may encourage or deter park use.

- Assess the adequacy of open space for No-Action and With-Action conditions, taking into account expected future changes in residential and nonresidential population and open space (including open space that would be provided by the proposed project).
- Assess the availability of particular types of open space for particular age groups. In conducting this assessment, the analysis focuses on where shortfalls in open space exist now (or in the future), to identify whether the shortfalls are a result of the project. For the With-Action condition, the analysis will also consider potentially significant project-related impacts such as shadow, air quality, and noise effects.

If the project would result in a significant adverse impact (e.g., would significantly increase shadows, noise, or air pollutant emissions; would reduce the open space ratio by more than 5 percent in an area currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents; or would result in conflicts in open space utilization or a specific user group being underserved), potential on-or off-site mitigation would be identified and assessed.

Task 6: Shadows

A shadows analysis assesses whether new building mass resulting from the proposed actions would cast shadows on sunlight-sensitive publicly accessible resources or other resources of concern, such as natural resources, and evaluates the significance of their impact. Generally, the potential for shadow impacts exists if a project would result in new structures or additions to buildings resulting in structures over 50 feet in height that could cast shadows on important natural features, publicly accessible open space, or on historic features that are dependent on sunlight.

The proposed project would result in several structures greater than 50 feet in height and is located near the Breukelen Ballfields and Fresh Creek, both sunlight-sensitive resources as defined by CEQR. To analyze the potential for significant adverse shadow impacts, the EIS will include a detailed shadow analysis based on the building envelopes (including bulkheads) proposed as part of the land use actions to identify the worst-case shadowing effects of the proposed project on sunlight-sensitive resources. The EIS will disclose the range of shadow impacts, if any, which are likely to result from the proposed project. The shadows analysis will include a Tier 1 through Tier 3 screening assessment to identify whether shadows cast by the proposed project could reach sunlight-sensitive resources at any time of year and, if so, whether the incremental shadow would be likely to cause a significant adverse impact on the resource.

- A Tier 1 Screening Assessment will be conducted to determine the longest shadow study area for the RWCDS, which is defined as 4.3 times the height of a structure (the longest shadow that would occur on December 21, the winter solstice). A base map that illustrates the location of the project site in relation to the sunlight-sensitive resources and displays topographic information will be developed.

- A Tier 2 Screening Assessment will be conducted if any portion of a sunlight-sensitive resource lies within the longest shadow study area. The Tier 2 assessment will determine the areas that cannot be shaded by projected developments, which in New York City is the area that lies beyond 108 degrees either side of true north from the southern-most portion of the project area.
- If any portion of a sunlight-sensitive resource is within the area that could be potentially shadowed by the RWCDS massing, a Tier 3 Screening Assessment will be conducted. The Tier 3 Screening Assessment will determine if shadows from the RWCDS can, in absence of intervening buildings, reach a sunlight-sensitive resource on December 21 (the winter solstice), March 21/August 21 (the spring/fall equinox), May 6 (half-way between the equinoxes and the summer solstice), or June 21 (the summer solstice). The projected shadow will be modeled with a three-dimensional computer modeling software with the capacity to accurately calculate sun angles and shadows that could be cast by the proposed project to determine the extent and duration of new shadows that would be cast on sunlight-sensitive resources as a result of the proposed project. A summary table would list the shadow entry and exit times for each sunlight sensitive resource on each representative analysis day that would occur on the representative analysis days in the absence of intervening buildings.

If the Tier 1 through Tier 3 analysis indicates the need for a detailed shadows analysis, the EIS will include an analysis that will take into account shadow from existing buildings. This analysis would include the following subtasks:

- The baseline condition (No-Action Condition) would be established through the use of a three-dimensional modeling program that accounts for the No-Action shadows condition. The No-Action shadows condition would be compared to the future shadows conditions that would result from the proposed project (With-Action condition). The analysis would illustrate the shadows cast by existing or future buildings and distinguish the additional (incremental) shadow projected to be cast by the RWCDS.
- The detailed analysis would be documented with graphics comparing No-Action and With-Action shadows on sunlight-sensitive resources that warrant detailed analysis. Graphics will illustrate the shadows that result in the No-Action condition and the shadows projected to result in the With-Action condition, with incremental shadow outlined in a contrasting color. A summary table listing the entry and exit times and total duration of incremental shadow on each applicable representative day for each affected resource would be provided.
- The significance of any shadow impacts on sunlight-sensitive resources will be assessed. If any significant adverse shadow impacts are identified, mitigation strategies will be identified and assessed.

Task 7: Historic and Cultural Resources

This chapter will assess the potential for the proposed action to result in significant adverse impacts on cultural resources, including both archaeological (below ground) and architectural (above ground) resources. Cultural resources are properties (such as buildings, structures, landscapes, and archaeological sites) that are designated as New York City

Landmarks (NYCLs) and Historic Districts; calendared for consideration as NYCLs by the New York City Landmarks Preservation Commission (LPC) or determined eligible for NYCL designation (NYCL-eligible); listed on the State and National Register of Historic Places (S/NR) or formally determined eligible for S/NR listing (S/NR-eligible), or contained within a S/NR listed or eligible district; recommended by the New York State Board for listing on the S/NR; and National Historic Landmarks (NHLs). Also included are potential historic and archaeological resources (i.e., properties not identified by one of the programs listed above, but that appear to meet their eligibility requirements). Archaeological resources are physical remains, usually subsurface, of the prehistoric, Native American, and historic periods—such as burials, foundations, artifacts, wells, and privies. Architectural resources generally include historically important buildings, structures, objects, sites, and districts.

According to the *CEQR Technical Manual,* a historic and cultural resources assessment is required if there is the potential to affect either archaeological or architectural resources. The New York City Landmarks Preservation Commission (LPC) has reviewed the project and found that there are no properties with architectural or archaeological significance within the project area. In addition, a preliminary search of the New York State Office of Parks, Recreation, and Historic Preservation Cultural Resource Information System and LPC online resources identified no architectural resources within 400 feet of the project site that would need to be considered for contextual effects. However, the potential exists for new historic and cultural resources to be identified between the time of the preparation of this EAS and the publication of the Final EIS. Therefore, a preliminary assessment will be prepared to determine whether any new archaeological or architectural resources are present in the study area. If the assessment identifies the potential for the project to result in significant adverse impacts to historic and cultural resources, a detailed assessment may be included in the EIS, in accordance with Chapter 9 of the *CEQR Technical Manual*.

Task 8: Urban Design and Visual Resources

Urban design is the totality of components that may affect a pedestrian's experience of public space. An assessment of urban design and visual resources is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning. The proposed project would introduce up to 13 buildings ranging in height from 2 to 17 stories in an area currently occupied by surface parking areas and a 2-story house of worship, resulting in a physical change to the streetscape that will change the pedestrian experience. Therefore, an assessment of urban design and visual resources will be provided in the EIS.

The preliminary assessment will determine whether the proposed project would create a change to the pedestrian experience that is sufficiently significant to require greater explanation and further study. Because of the amount and scale of development in the proposed project and the fact that it would make substantial alterations to the streetscape by noticeably changing the scale of buildings and introducing a new private but publicly accessible street network, it is anticipated that a detailed analysis will be warranted. This analysis will describe the proposed project in terms of how it would affect the area's defining elements of urban design in the With-Action condition compared to the No-Action condition. The significance of any impacts will be determined by considering the degree to

which the project will change the built environment's arrangement, appearance, or functionality and whether the change would negatively affect a pedestrian's experience of the area. If necessary, mitigation measures to avoid or reduce potential significant adverse impacts will be identified.

Task 9: Natural Resources

As defined in the *CEQR Technical Manual,* a natural resource is a plant or animal species and any area capable of providing habitat for plant and animal species or capable of functioning to support environmental systems and maintain the City's environmental balance (e.g. surface and groundwater, wetlands, landscaped areas, gardens, and built structures used by wildlife). An assessment of natural resources is appropriate if a natural resource exists on or near the project site, or if there is a potential for impacts related to stormwater and shadows. There are no natural resources present on the project site; however, the proposed project would create new impervious surfaces that would generate additional stormwater runoff, and may have the potential to cast shadows on Fresh Creek and the Fresh Creek Nature Preserve. In addition, the site is within the Jamaica Bay Watershed, Therefore, the effect of the proposed actions on natural resources will require further analysis to determine whether they may result in significant adverse impacts on these resources.

The assessment of natural resources will include an evaluation of stormwater runoff from the proposed site, including flow rates and volumes and pollutant loadings, to determine whether the alteration of on-site hydrology and the creation of new impervious surface could result in adverse impacts on receiving waters. This evaluation will use information from Task 10, Water and Sewer Infrastructure, and will consider proposed stormwater collection and treatment methods as well as the project's consistency with the Jamaica Bay Watershed Management Plan. The assessment will also identify areas of Fresh Creek Nature Preserve that may be affected by project-caused shadows and determine whether shading impacts would result in any impairment of habitat functions and values in the preserve. If significant adverse impacts to natural resources are identified, mitigation measures to avoid or reduce these impacts would be evaluated.

Task 10: Hazardous Materials

A hazardous materials assessment determines whether the proposed project may increase the exposure of people or the environment to hazardous materials, and, if so, whether this increased exposure would result in potential significant public health or environmental impacts. The potential for significant impacts related to hazardous materials can occur when: (a) elevated levels of hazardous materials exist on a site and the project would increase pathways to human or environmental exposures; (b) a project would introduce new activities or processes using hazardous materials and the risk of human or environmental exposure is increased; or (c) the project would introduce a population to potential human or environmental exposure from off-site sources. The presence or likely presence of any hazardous substance or petroleum products on a site under conditions that indicate an existing release, past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or

surface water of the property is known as a Recognized Environmental Condition (REC), which must be disclosed under CEQR.

As described in Part II, Section 1.9 of the EAS, a portion of the development site (Block 4434, Lot 10, located on the corner of Flatlands Avenue and Pennsylvania Avenue) has been admitted into the NYSDEC Brownfield Cleanup Program. This area has undergone Phase I and Phase II Environmental Site Assessments (ESAs) and has been found to contain semi volatile organic compounds (SVOCs), pesticides, PCBs, and metals at concentrations exceeding the NYSDEC Restricted Use Soil Cleanup Objectives (RUSCOs). A Remedial Investigation Work Plan (RIWP) has been prepared for the site and will be implemented pursuant to the Brownfield Cleanup Agreement (BCA) executed between NYSDEC and Innovative Urban Living, LLC on May 15, 2019. The RIWP identifies additional work required to characterize contamination present at the site, including geophysical survey, soil and groundwater investigations, and soil vapor investigation. A Phase I and, if necessary, a Phase II ESA will also be performed for the remainder of the site. The EIS will summarize the results of all investigations on the site and document any identified RECs and associated cleanup actions. It is anticipated that a site-specific Construction Health and Safety Plan (CHASP) will also be prepared and submitted along with the RIWP. If warranted, an (E) designation would be established as part of the proposed actions to ensure that appropriate measures are implemented to achieve the needed remediation.

Task 11: Water and Sewer Infrastructure

As outlined in the *CEQR Technical Manual*, this section of the EIS assesses whether the proposed project has the potential to adversely affect the City's water distribution or sewer system and, if so, whether those impacts are significant. As described in the EAS, based on average water consumption levels, the proposed project is not expected to exceed the threshold of 1 million gallons per day that would require a preliminary infrastructure assessment of water supply.

With regard to wastewater and stormwater conveyance, the proposed project is within the service area of the 26th Ward Wastewater Treatment Plant (WWTP), which is located approximately 0.6 mile east of the project site. The site is in an area that is currently being upgraded from combined to separated sewers as part of the Fresh Creek High Level Storm Sewers project. The threshold for a preliminary infrastructure analysis in areas served by combined sewer in an R5 zone is 50 residential units. The number of residential units proposed by the project therefore triggers a preliminary infrastructure assessment for wastewater and stormwater conveyance and treatment. In addition, since the existing undeveloped portion of the site is unpaved, development on the site would increase impervious surface area within the Jamaica Bay watershed and near Fresh Creek.

The preliminary infrastructure assessment will:

› Identify the existing wastewater and stormwater conveyance systems and treatment facilities in the study area.

- Determine existing and future wastewater flows from the site, using Table 13-2 in the *CEQR Technical Manual*, and evaluate the incremental effect of wastewater flows from the project on the capacity of conveyance facilities and the WWTP. Any potential new sewer upgrades or installations required as a result of the proposed project will be identified.
- Evaluate stormwater drainage patterns, anticipated changes in volumes, and runoff rates using available data from DEP and considering future conditions. The new development will need to be in conformance with DEP requirements, including those of DEP's site connection approval process and with DEP's Long-Term Control Plan for Jamaica Bay. The analysis will identify best management practices (BMPs) to be incorporated into the project to manage stormwater runoff.

If the preliminary infrastructure assessment indicates that discharges from the proposed project would impact sewer system capacity or increase pollutant loadings in stormwater, a detailed assessment may be required in accordance with Chapter 13 of the *CEQR Technical Manual*. If necessary, this assessment could include:

- Conducting a hydraulic analysis to determine whether the existing storm and sanitary sewer systems have capacity to serve the proposed project.
- If the lead agency with DEP's consultation determines that the project's increased combined sewer flows and volumes have the potential to exacerbate CSO volumes or frequency, modeling discharge volumes and frequencies for each combined sewer outfall in the affected catchment area.
- Estimating pollutant types and loadings due to increased volumes of separate storm sewer discharges or CSOs.

If significant adverse impacts are identified, potential mitigation strategies would be assessed to reduce or eliminate, to the greatest extent practicable, the effects caused by the proposed project.

Task 12: Solid Waste and Sanitation Services

The *CEQR Technical* Manual states that an assessment of solid waste and sanitation services is warranted if an action would have the potential to result in a substantial increase in solid waste production that could overburden available waste management capacity or otherwise be inconsistent with the City's Solid Waste Management Plan (SWMP) or with state policy related to the City's integrated solid waste management system. According to the *CEQR Technical Manual*, actions resulting in substantial waste generation, defined as 50 tons (100,000 pounds) per week or more, warrant additional analysis for effects on solid waste and sanitation services.

Based on the average daily solid waste generation rates provided in Table 14-1 of the *CEQR Technical Manual*, it is estimated that the proposed project would result in in incremental solid waste generation of approximately 65 tons (130,836 pounds) of solid waste per week. The analysis will identify proposed locations and storage methods for residential and commercial refuse and recyclables, identify the volume of refuse and recyclables (if any) that would occupy the sidewalk and for what time periods, and evaluate whether the incremental

increase in solid waste would require additional garbage trucks or other sanitation services. The analysis will also consider the project's consistency with the City's SWMP.

Task 13: Transportation

This section of the EIS will evaluate whether the proposed project would create significant impacts on vehicular traffic, parking, transit services, pedestrian circulation, or vehicular and pedestrian safety. Should significant impacts be identified per *CEQR Technical Manual* criteria, the EIS will evaluate transportation system improvements to mitigate those impacts. Shuttle service is being proposed as part of the project and will be discussed in this section; shuttle service operations (including service frequency and pick-up/drop-off locations) and effects on the transportation analysis will be discussed in coordination with MTA/New York City Transit and the New York City Department of Transportation. The transportation analysis will include the subtasks outlined below.

Travel Demand Analysis

Trip generation projections will be developed by travel mode for each of the land uses comprising the proposed project, using trip generation rates, temporal distributions, modal splits, average vehicle occupancies, and in/out splits that are published in the *CEQR Technical Manual* or in previously-conducted EISs or EASs, or databases available from the Institute of Transportation Engineers' (ITE) or other professional reference materials. This will be done for the weekday AM, midday, and PM peak periods, and for the Saturday and Sunday peak periods to be determined in coordination with New York City Department of City Planning and New York City Department of Transportation.

A Level 1 screening assessment will be prepared to determine whether the proposed actions would generate vehicle, transit, and/or pedestrian trip levels that would exceed the thresholds outlined in the *CEQR Technical Manual*. The Level 1 screening assessment will disclose projected peak hour person trips, vehicle trips, transit trips, and pedestrian trips for the four analysis periods.

A Level 2 screening assessment will be prepared for vehicular, transit, and pedestrian trips. This will include the distribution and assignment of trips through the study area's roadway network, subway and bus services, and pedestrian network, and the identification of the specific intersections and subway and bus lines that would require a detailed quantitative analyses.

A Travel Demand Analysis (TDA) Technical Memorandum will be prepared that documents the assumptions and analysis findings. The TDA Technical Memorandum will provide the framework of assumptions for the analysis that will be undertaken in the EIS. A draft of the memo is provided as an attachment to this Draft Scope of Work.

Traffic Analysis

- Define a traffic study area consistent with the *CEQR Technical Manual* guidelines of intersections along logical traffic routes to and from the project site, and critical locations within the project site vicinity. Traffic study area intersections will be identified primarily along the principal roadways – Flatbush Avenue, Pennsylvania Avenue, and Louisiana Avenue – based on CEQR screening analysis. Depending on the project design and preliminary analysis results, one or more of the four new intersections created by the private street network may be evaluated.
- Conduct intersection through and turning movement counts at each of the analysis locations during the weekday AM, midday, and PM peak periods, the Saturday midday/afternoon period, and Sunday peak period (corresponding with church services). Automatic Traffic Recorder (ATR) machine counts will also be conducted for a full week and two weekends and will be used to determine if the one-day manual counts need to be adjusted for average weekday conditions. ATR machines will be placed at representative locations within the traffic study area. Field observations will be conducted of traffic operations that will be used to calibrate subsequent level of service analyses to observed field conditions. Vehicle classification counts (e.g., autos, taxis, trucks, buses) will be conducted at representative intersections within the traffic study area.
- Identify the weekday AM, midday, and PM peak hours, Saturday and Sunday peak hours and prepare traffic volume maps for each of the five traffic peak hours.
- Inventory streets and intersections for street and lane widths, lane use designations, posted parking regulations and parking maneuvers, signal phasing and timing, and other factors needed to calculate intersection capacities.
- Determine existing traffic conditions for intersections being analyzed using Highway Capacity Manual (HCM) procedures and Highway Capacity Software (HCS), i.e., existing volume-to-capacity (v/c) ratios, average vehicle delays, and levels of service – for individual traffic movements and lane groups, overall approaches to the intersection, and the overall intersection.
- Develop future No Action traffic volumes using the annual background traffic growth rate cited in the *CEQR Technical Manual* plus traffic expected to be generated by significant development projects expected to be operational by the analysis year.
- Identify any proposed changes to the street network expected to occur by the analysis year and incorporate changes to intersection capacity or operational conditions attributable to those changes.
- Determine future No Action traffic conditions for the intersections being analyzed.
- Develop future With Action traffic volumes by adding project-generated traffic assignments to the future No Action traffic volumes.
- Identify proposed changes to the street network expected to occur in conjunction with the proposed project, such as revised access points to the public street network, and incorporate changed capacity or operational conditions, if applicable, into the With-Action conditions analysis.

- Determine future With Action traffic conditions for the intersections being analyzed and identify significant adverse traffic impacts, based on changes to traffic levels of service, using criteria stipulated in the *CEQR Technical Manual*.
- If significant adverse impacts are identified, identify and evaluate feasible and practical traffic improvement measures needed to mitigate these impacts.

Parking Analysis

- Determine the amount of parking demand expected to be generated by the proposed project and whether parking to be provided as part of the project would be sufficient to accommodate the demand by comparing the quantity of proposed parking spaces to estimated levels of demand. If the parking demand analysis shows that parking provided on-site would not be sufficient to accommodate the project's demand, then a detailed parking analysis would be performed. This would consist of an inventory of existing off-site parking facilities within a ¼-mile radius of the project site, per *CEQR Technical Manual* guidelines, and an assessment of the available capacity at these facilities. Future No-Action conditions would be evaluated based on the application of an annual background growth rate to the existing demand. The No-Action parking demand and supply would then be compared to the With-Action conditions, taking into account the new parking facilities developed as part of the proposed project. This information would be presented in a parking utilization table that compares the future No-Action and With-Action conditions and identifies excess capacity and/or parking shortfalls.

Transit Analysis

Subways

- Identify and describe the subway routes and stations serving the development site (assumed to be the East 105th Street [L] and Pennsylvania Avenue [3] stations), station access facilities, hours of operation, and frequency of service. If the CEQR thresholds for analysis are exceeded at any subway station, an increase of 200 or more passengers at a station, further analysis of that station will be undertaken consistent with CEQR methodologies to determine the potential for significant adverse impacts based on changes to the volume-to-capacity ratio at subway station elements (i.e. turnstiles, stairways, etc.).
- Identify the volume of patrons using the East 105th Street and Pennsylvania Avenue subway stations, which are located closest to the project site, based on information obtained from MTA/New York City Transit, as well as line-haul ridership data.

If the CEQR thresholds for analysis are exceeded on any individual subway route (i.e., an increase of 200 or more passengers on a single subway line), further analysis of that route will be undertaken consistent with CEQR methodologies to determine the potential for significant adverse impacts based on the changes to the subway line load levels.

Buses

- Identify and describe the bus routes and bus stops serving the development site (assumed to be the B82 bus route, which stops on Flatlands Avenue in front of the project site), hours of operation, and frequency of service. If the CEQR thresholds for analysis are exceeded on any individual bus route (i.e., an increase of 50 or more bus passengers on a single bus line in one direction), further analysis of that route will be undertaken consistent with CEQR methodologies to determine the potential for significant adverse impacts.
- Assign project-generated bus trips to study area bus routes and stops, and determine whether there would be significant impacts on bus load levels for the B82 bus route based on the changes to the bus load levels, and the proposed measures needed to mitigate the potential impacts.

For the purpose of a conservative analysis, the bus transit analysis will not assume the proposed project shuttle service; this scenario will project the worst-case conditions for MTA/New York City Transit's future bus operations projections.

Pedestrian Analysis

- Conduct pedestrian counts at intersections along key walking routes between the development site and subway stations, bus stops, and other potentially affected locations in the traffic study area. Based on CEQR criteria, these counts will be conducted at intersection crosswalks, sidewalks, and corner reservoir areas during the weekday AM, midday, and PM, and Saturday and Sunday midday/afternoon analysis periods. The intersections which have been preliminarily identified to be analyzed, based on CEQR criteria, are the following:
- Establish the specific peak pedestrian hours to be analyzed for weekday AM, midday and PM, and Saturday and Sunday peak hours. Develop pedestrian volume maps for each analyzed intersection for the four traffic peak hours.
- Determine existing pedestrian conditions for the intersections being analyzed using *Highway Capacity Manual* (HCM) procedures and in accordance with *CEQR Technical Manual* protocols.
- Develop future No-Action pedestrian volumes using the annual background traffic growth rate cited in the *CEQR Technical Manual* plus pedestrian traffic expected to be generated by significant development projects expected to be operational by the analysis year.
- Identify any proposed changes to the street network expected to occur under No-Action conditions by the analysis year and incorporate resulting changed capacity or operational conditions.
- Develop future With-Action pedestrian volumes by adding project-generated pedestrian assignments to the future No Action pedestrian volumes.
- Identify proposed changes to the roadway network expected to occur in conjunction with the proposed project, such as revised access points to the public street network and incorporate changed capacity or operational conditions into the future With-Action pedestrian analyses as applicable.

- Identify significant adverse pedestrian impacts, based on changes to levels of service, using criteria stipulated in the *CEQR Technical Manual*.
- If significant adverse impacts are identified, identify and evaluate feasible and practical mitigation/traffic improvement measures needed to mitigate these impacts.

Safety

This section of the EIS will include a review of vehicular and pedestrian crash data for the most recent three-year period for which such data are available, and a summary of the number and severity of crashes by year for each of the traffic study area intersections. The analysis will determine whether any of the analysis intersections are considered high accident locations based on *CEQR Technical Manual* criteria and will also assess whether traffic generated by the proposed project would contribute materially to safety risks at such locations. The EIS will identify potential safety improvements, if warranted.

Since the proposed project will include a new school, student trips will be assigned to crosswalks within the project vicinity. For intersections where an uncontrolled crosswalk are projected to have 20 or more students trips during the highest peak hour, a signal warrant analysis will be conducted to determine if a traffic signal is needed to facilitate student crossings.

Task 14: Air Quality

Consistent with the *CEQR Technical Manual*, air quality analyses for a proposed project focus on the following areas of potential concern:

Mobile Sources

- Potential impacts from mobile sources introduced by a project.

Stationary Sources

- Potential impacts from air pollutant sources introduced by a project, such as:
  - Emissions from a project's parking facility.
  - Emissions from a project's heating, ventilation, and air conditioning (HVAC) system
- Potential impacts on the proposed project from manufacturing/processing facilities
- Potential impacts on the proposed project from large/major sources that are located near the project site.

The EIS air quality analysis will assess the following:

- The potential for changes in vehicular travel associated with the proposed development sites (analyzed under Task 12) to result in significant mobile source (vehicle-related) air quality impacts;
- The potential for significant adverse impacts from the emissions of proposed parking facility(ies).

- The potential for emissions from the HVAC systems of the proposed development sites to have significantly adverse impacts on other proposed development sites (project-on-project impacts) and existing land uses and known future developments (project-on-existing impacts).
- The potential combined impacts of HVAC emissions (clusters) from the proposed buildings of approximately the same height that are located in close proximity to one another to significantly impact existing land uses/known future developments (project-on-existing impacts) and other proposed buildings (project-on-project impacts).
- The potential for significant air quality impacts on project sites from air toxic emissions generated by nearby existing industrial/manufacturing sources.

Mobile Source Analysis

Emissions resulting from project-generated traffic have the potential to significantly increase air pollutant levels at nearby sensitive land uses and proposed uses. The primary air quality issue related to the proposed project is whether the traffic generated during peak traffic periods would:

- Cause or exacerbate a violation of the 1-hour or 8-hour ambient air quality standard for carbon monoxide (CO)
- Exceed the DEP CO *de minimis* criteria near any of these locations during the peak traffic period
- Exceed the NAAQS for 24-hour PM_{10} and the CEQR *de minimis* thresholds for 24-hour and annual $PM_{2.5}$

Screening Analysis

The mobile source screening analysis will be performed per Sections 210 and 311 of the *CEQR Technical Manual*. It is anticipated that the number of incremental vehicular trips introduced by the project would be higher than the *CEQR Technical Manual* CO-based screening thresholds for CO and $PM_{2.5.}$ Therefore, the EIS is expected to include a detailed analysis of mobile source emissions of CO and particulate matter ($PM_{2.5}$ and PM_{10}).

Detailed Mobile Source Intersection Analysis

For those intersections where the CEQR volume threshold would be exceeded, a detailed CO and/or PM_{10} and $PM_{2.5}$ analysis will be conducted using the EPA's MOVES emission model and CAL3QHC(R) dispersion model. Additionally, a detailed Tier I PM ($PM_{2.5}$ and PM_{10}) analysis will be performed using the EPA's MOVES emission model and CAL3QHC(R) dispersion model for the peak hour of "worst-case" traffic condition. Traffic data (i.e., traffic volumes, vehicle classifications and traffic speeds, etc.) will be obtained from the transportation analysis performed for this EIS as described under Task 12 above, supplemented by information about road types and traffic speeds from the New York State Department of Transportation and New York Metropolitan Transportation Council (NYMTC), respectively.

Results of the CO, PM_{10} and $PM_{2.5}$ concentrations will be compared to the national ambient air quality standards (NAAQS) and CEQR *de minimis* criteria to determine the potential for a significant adverse mobile source impact. If exceedances are predicted, mitigation measures will be identified and applied. In the event $PM_{2.5}$ *de minimis* criteria under the Tier 1 peak-hour analysis with the application of mitigation measures are exceeded, then a Tier 2 analysis will be prepared.

Parking Facility Analysis

The EIS will include an analysis to estimate potential air quality impacts at one "worst-case" parking facility. The "worst-case" parking facility will be the parking facility that has the maximum number of vehicles entering and exiting at peak periods, and is closest to the nearest sensitive receptor (i.e. wherever there is public access or there are operable windows). It is currently anticipated that the worst-case facility would be the large structured parking facility located on the south side of the development site. The analysis will follow *CEQR Technical Manual* guidelines depending on the type of the facility to estimate vehicular emissions from within the facility and adjacent roadways. CO and $PM_{2.5}$ pollutant concentrations will be estimated and compared to the NAAQS and CEQR *de minimis* criteria.

Stationary Source Analysis – HVAC Analysis

Emissions from the HVAC systems of the proposed buildings may affect air quality levels at nearby existing land uses as well as at the project site itself. The impacts of these emissions would be a function of fuel type, stack height, building size (gross square footage), and location of each emission source relative to a nearby sensitive receptor site. The *CEQR Technical Manual* includes a screening methodology to estimate the potential impacts of HVAC system emissions from a single building that is at least 30 feet from the nearest building of similar or greater height.

The analyses of the potential impacts of the Proposed Action will follow the *CEQR Technical Manual* procedures, and the analysis will address potential impacts of the 1-hour standards for nitrogen dioxide (NO_2) and the 24-hour and annual standards for $PM_{2.5}$ for natural gas-fired HVAC systems, plus the SO_2 1-hour standard if No. 2 fuel oil is used. The proposed approach for determining the potential for project-on-project and project-on-existing impacts is described below.

Screening Analysis

A screening analysis will be conducted using *CEQR Technical Manual* nomographs to determine whether the HVAC emissions of the proposed buildings would have the potential to significantly affect air quality levels at buildings within the site. Each building will be evaluated within the context of the overall site development, and sensitive receptor sites will be accounted for. If the distance from a proposed development to the nearest development of similar or greater height is less than the threshold distance provided in the *CEQR Technical Manual* nomographs, the potential exists for significant air quality impacts, and a detailed dispersion modeling analysis will be conducted. Otherwise, the development site passes the screening, and no further analysis is required. Because the project would introduce multiple buildings of similar heights, a detailed analysis will be undertaken to

assess the potential for the proposed buildings to impact each other. Additionally, a survey of existing land uses within 400 feet of the project site will be conducted to identify sensitive receptors associated with existing land uses and known future developments and determine the heights of the existing buildings.

Detailed Dispersion Analysis

Detailed analysis will be conducted for proposed buildings that do not pass the screening-level analysis. The analysis will examine whether the HVAC emissions of any of the proposed development sites would have the potential to significantly affect air quality levels at any of the other nearby proposed development sites and on other existing or planned sensitive uses within the surrounding area. Nitrogen dioxide (NO_2) and particulate matter ($PM_{2.5}$) emissions, as well as SO_2 in the case of NO. 2 Fuel Oil being the choice of fuel, will be analyzed. The analysis will be performed using the latest EPA-developed AERMOD model and will consider conditions with and without downwash. The most recent five years of meteorological data (2014-2018) from JFK Airport will be used for these analyses. Project-on-existing and project-on-project impacts will be determined. Predicted values will be compared with NAAQS for NO_2 and $PM_{2.5}$, and the CEQR *de minimis* criteria for $PM_{2.5}$. In the event that violations of standards are predicted, an air quality (E) designation would be proposed for the sites, describing the fuel and/or HVAC exhaust stack restrictions that would be required to avoid a significant adverse air quality impact.

Industrial Source (Air Toxics) Analysis

An analysis of uses in proximity of the project site will be conducted to determine the potential for impacts from industrial/manufacturing emissions onto the sensitive receptors introduced by the proposed project.

A field survey will be performed to determine if there are any manufacturing/commercial processing facilities within 400 feet of the project site. In addition, a search of federal and state air permits, and the DEP's CATS and Bureau of Environmental Compliance (BEC) files will be performed to determine if there are permits for any sources of toxic air compounds from industrial/manufacturing processes. Should any industrial permits associated with the release of air toxics be identified, permit records will be obtained from DEP.

If processing facilities are identified, an industrial stationary source air quality analysis will be performed in accordance with the *CEQR Technical Manual*. The Manual's industrial source screening procedures will be used to estimate the short-term and annual concentrations of pollutants from the permits and evaluated at sensitive receptor sites. Predicted pollutants impacts on the project site will be compared with the short-term guideline concentrations (SGC) and annual guideline concentrations (AGC) reported in NYSDEC's DAR-1 AGC/SGC Tables guidance document to determine the potential for significant adverse impacts.

Task 15: Greenhouse Gas Emissions and Climate Change

Increased greenhouse gas (GHG) emissions are changing the global climate and are predicted to lead to wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels. Although this is occurring on a

global scale, the environmental effects of climate change are also likely to be felt at the local level. As described in the EAS, the proposed project exceeds the 350,000-square-foot threshold for greenhouse gas emissions assessment in the *CEQR Technical Manual*. Therefore, GHG emissions generated by project operations and project-related mobile sources will be quantified, and an assessment of the project's energy consumption (using Table 15-1 of the *CEQR Technical Manual*) and consistency with the City's established GHG reduction goal will be performed as part of the EIS. Climate change resilience will be addressed as part of the Land Use task through an analysis of the proposed project's consistency with Policy 6.2 of the City's Waterfront Revitalization Program.

Task 16: Noise

Per the *CEQR Technical Manual*, a noise analysis is appropriate if an action would generate mobile or stationary sources of noise or would be located in an area with high ambient noise levels. Mobile sources include vehicular traffic; stationary sources include playgrounds, rooftop equipment, such as emergency generators, cooling towers, and other mechanical equipment.

The noise analysis will consist of several components, as described below.

Mobile Source Screening

A mobile source noise screening assessment will be conducted to determine if there is the potential for vehicular traffic generated by the proposed project to result in a significant noise impact. Noise passenger car equivalent (PCE) values will be calculated for the existing, No-Action, and With-Action conditions at selected intersections based on the Transportation analysis described above. The analysis will follow the requirements of Section 332.1 of the *CEQR Technical Manual*.

If the mobile source screening determines that existing noise PCE values would be increased by 100 percent or more due to the proposed project (which is equivalent to an increase of 3 dB[A] or more), a detailed analysis will be undertaken using the Federal Highway Administration's Traffic Noise Model or Cadna-A noise prediction software. The model results would be used to evaluate the potential for noise impacts and to analyze noise mitigation measures as appropriate.

Ambient Noise Monitoring (Existing Conditions)

Noise measurements will be taken at up to six representative locations to characterize existing noise conditions in the study area. This will include up to three locations representative of the new receptors that would be introduced by the project and up to three locations representative of receptors where the vehicle trips generated by the project would have the greatest potential to significantly increase ambient sound levels. If necessary, more noise measurement locations may be added to characterize the existing noise conditions. In accordance with the *CEQR Technical Manual*, ambient noise measurements will be conducted for 20 minutes, since roadway noise is the predominant noise source in the study area. In conjunction with the transportation analysis, noise monitoring will be conducted during the weekday morning, midday and afternoon and Saturday and Sunday midday/afternoon peak periods. Spot traffic counts will be conducted during the sound measurements to allow the prediction of sound levels associated with the existing, No-Action, and With-Action traffic conditions analyzed in the transportation analysis.

Building Attenuation Analysis

Building sound attenuation requirements will be evaluated to maintain acceptable interior noise conditions based on the ambient noise monitoring and impact assessment results. A summary table of window-wall attenuation requirements will be developed for each building location within the project site in accordance with CEQR acceptable interior noise level requirements. As warranted, an (E) designation would be established as part of the proposed actions, to ensure that appropriate measures are implemented to achieve the identified attenuation requirements.

Stationary Source Screening

The proposed project may introduce stationary source noise generators, such as unenclosed cooling or ventilation equipment (other than single-room units), truck loading docks, playgrounds, or other similar types of sources. A qualitative assessment will be conducted to identify the types of stationary sources that would be introduced by the proposed project, their general proximity to sensitive receptors, and the potential for noise impact. If specific stationary sources such as rooftop mechanical equipment are found to have the potential to cause noise impacts, a quantitative stationary source analysis will be conducted.

Task 17: Public Health

According to the *CEQR Technical Manual*, public health is the organized effort of society to protect and improve the health and well-being of the population through monitoring; assessment and surveillance; health promotion; prevention of disease, injury, disorder, disability and premature death; and reducing inequalities in health status. The goal of CEQR with respect to public health is to determine whether adverse impacts on public health may occur as a result of a proposed project, and if so, to identify measures to mitigate such effects. According to the guidelines of the *CEQR Technical Manual*, a public health assessment may be warranted if an unmitigated significant adverse impact is identified in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise. For the proposed project, a preliminary public health assessment will be conducted that will

consist of a summary of the project's potential to result in unmitigated significant adverse impacts in the areas of air quality, water quality, hazardous materials, and noise. If unmitigated significant adverse impacts are identified in any of these technical areas and the lead agency determines that a public health assessment is warranted, a detailed analysis will be provided for the specific technical area or areas.

Task 18: Neighborhood Character

The character of a neighborhood is the result of a combination of various contributing elements, including land use patterns, the scale of its development, the design of its buildings, the presence of notable landmarks, and a variety of other physical features that include traffic and pedestrian patterns and noise. This chapter of the EIS will use information from other EIS chapters to assess whether any identified significant adverse impacts in the areas of land use, zoning, and public policy; socioeconomic conditions; open space; historic and cultural resources; urban design and visual resources; shadows; transportation; or noise would have the potential to affect neighborhood character.

Based on an evaluation of the proposed project's impacts, an assessment of neighborhood character will be prepared following *CEQR Technical Manual* methodologies. This analysis will consist of describing the predominant factors that contribute to defining the character of the neighborhood within a 1/4-mile study area, summarizing changes in the character of the neighborhood that can be expected in the future No-Action condition, and evaluating the proposed project's potential to affect the defining features of the neighborhood. If it is determined that the potential exists for the project to affect such features, a detailed assessment would be conducted. This assessment would involve gathering information through field visits, photographs, and other methods and predicting how the project would affect the key elements that define the study area's character.

Task 19: Construction

Construction impacts, though temporary, can have a disruptive and noticeable effect on the adjacent community, as well as people passing through the area. The EIS will present the overall construction duration for the proposed development to determine the peak period for each phase of construction and provide information on the entities with governmental oversight for various aspects of construction. Information on how New York City regulates construction hours will be included in this chapter. Due to the size of the development, the introduction of multiple buildings, the length of the construction period (i.e., over two years), and the proximity to residential uses, a detailed construction analysis will be required. Quantitative assessments will be prepared for transportation, air quality, and noise, as described below. Consistent with CEQR, the analysis will also assess the potential for construction-related activities to affect land use, neighborhood character, open space, historic and cultural resources, and hazardous materials.

Transportation

The volume of traffic that would be generated during the peak quarter of construction activities will be calculated, accounting for both construction worker trips made by

automobile and the volume of delivery trucks during the construction peak period, as well operational trips from project components completed during the construction periods. Construction worker modal share will be based on census information. If no significant adverse traffic impacts are identified in the operational analysis, construction peak lane geometry, signal timing, and parking regulations are consistent with those of the operational peak hours, and capacity of the roadway network related to construction activities (such as roadway closures, lane closures or narrowing, parking prohibitions, etc.) are not expected to cause a deterioration in local or regional traffic flow, a determination will then be made as to whether the combination of background volumes plus construction-related trips during construction peak hours would be lower than projected peak-hour traffic volumes during project operation. If so, no potential impacts would be expected during the construction period, and no construction mitigation would be needed beyond what would be required for the With-Action condition. However, if significant adverse traffic impacts are identified in the operational analysis, or construction peak hour volumes are higher than peak hour volumes during project operation, a quantitative evaluation of selected intersections may be required consistent with the methods discussed under Task 12, Transportation.

Consistent with CEQR requirements, the analysis will include an estimate of the number of construction workers expected to drive to the site, the number of parking spaces needed, and whether there will be sufficient parking on-site (including existing and proposed parking) to accommodate this demand. If it is determined that off-site parking would be needed, a parking inventory of both on-street and off-street parking resources within the vicinity of the project site will be performed and an assessment of capacity presented. This assessment will also evaluate the potential effect of construction activities, such as lane and sidewalk closures.

Air Quality

Emission Intensity Analysis

The project construction schedule will be evaluated to identify the peak period for air emissions, and the project's potential to result in significant adverse air quality impacts during construction will be assessed. The construction air quality section will evaluate on-site and (if detailed transportation analysis is required for the construction period) off-site mobile air source emissions from construction equipment, worker vehicles, delivery trucks, and fugitive dust emissions. A comparison will be made of the construction phase $PM_{2.5}$ emissions by quarter, analyzed for the cluster of buildings constructed during each construction phase of the project (i.e., emission intensity evaluation). A detailed dispersion analysis of construction sources, as described below, may be undertaken following the methodology identified in Chapter 17, Section 321 of the *CEQR Technical Manual* if it is determined to be warranted through consultation with the lead agency on the emission intensity assessment.

Detailed Dispersion Analysis

Should a quantitative dispersion analysis be required, air quality concentrations (CO, PM, and NO_2) due to construction activities at the project site would be predicted for each analysis

receptor for the representative worst-case construction phase. Air pollutant sources include combustion exhaust associated with non-road construction engines (e.g., cranes, excavators), trucks operating on-site, construction-generated traffic on local roadways, and onsite activities that generate fugitive dust (e.g., excavation, demolition). The potential for significant impacts will be determined by comparing predicted total concentrations to the NAAQS or applicable CEQR guidance thresholds. Based on the results, possible mitigation strategies, including construction best management practices (BMPs) and best available technologies (BATs) for emission control will be evaluated and described to reduce air pollutant emissions associated with the project's construction activities.

Noise

Qualitative Assessment

Based on the project's construction scenario and phasing, the type of equipment and construction methods to be used, the number of construction vehicle trips and the proximity of noise and vibration-sensitive receptors, a qualitative assessment of the potential for elevated noise levels during each phase of construction will be developed, along with noise and vibration mitigation measures that are typically implemented to reduce emissions and the potential for adverse effects. If warranted by the qualitative analysis, a quantitative assessment will be performed. As described in Section 310 of the *CEQR Technical Manual,* the determination whether it is sufficient to conduct a qualitative analysis or whether a quantitative analysis is required cannot be made based solely on the duration of the construction period, and should take into account such factors as the location of the project site in relation to existing residential uses or other sensitive receptors, the intensity of the construction activity, and the extent to which the project incorporates commitments to appropriate noise control measures.

Quantitative Assessment

Should a quantitative construction noise and vibration assessment be required, estimates will be made of construction noise from on-site stationary construction equipment and construction-related vehicles, including worker trips and material handling trips on adjacent roadways. Ambient sound monitoring would be conducted during the early morning period (6-7 AM) when there is the greatest potential for increases in noise due to mobile construction sources. If necessary, the Cadna-A model will be used to calculate the existing noise level at receptors**.**

Stationary and mobile construction noise levels would be predicted at nearby sensitive receptors and at the project site itself, including existing buildings that will continue to operate during construction and new noise-sensitive uses that would be introduced during construction. Cadna-A sound prediction software, which accounts for the type of equipment used, the usage factors, and distances from source to receptor and acoustic shielding from intervening buildings, would be used for the analysis. Construction noise from stationary sources would be evaluated according to requirements outlined in the New York City Noise Control Code. Construction noise mitigation recommendations would be developed, as needed, in accordance with CEQR and New York City Noise Control Code requirements.

Construction vibration has the potential to result in damage to adjacent structures, cause annoyance to people in nearby buildings, and/or affect vibration-sensitive equipment and operations in hospital buildings. If required, a construction vibration assessment would be conducted based on typical construction equipment that can generate vibration (i.e. pile driving, demolition, jack hammers, etc.) and prediction methods outlined in the Federal Transit Administration guidance manual. A construction vibration analysis is usually warranted if construction activities are expected to generate significant vibration within 90 feet of buildings.

Task 20: Mitigation

Where significant adverse project impacts have been identified, measures to mitigate those impacts will be described where feasible. These measures will be developed and coordinated with the responsible City/State agencies as necessary. In the event that one or more significant adverse impacts cannot be mitigated, the reason that mitigation is not practicable will be discussed and these impacts will be described as unavoidable adverse impacts.

Task 21: Alternatives

SEQRA requires that alternatives to the proposed project be identified and evaluated in an EIS so that the decision-maker may consider whether alternatives exist that would minimize or avoid adverse environmental effects while achieving the goals and objectives of the proposed project. The selection of alternatives to a proposed project is determined by taking into account the nature of the specific project, its stated purpose and need, potential impacts, and the feasibility of potential alternatives. Consistent with SEQRA, a No Action Alternative will be considered. In addition, if any significant adverse impacts are identified, a No Unmitigated Significant Adverse Impact Alternative will be considered, which includes an assessment of the project that would result in no unmitigated impacts. Additional alternatives to the proposed action will also be considered once the full extent of the proposed action's impacts has been identified. The alternatives analysis will be qualitative, except where significant adverse impacts of the proposed action have been identified.

Task 22: EIS Summary Chapters

In accordance with CEQR guidelines, the EIS will include the following summary chapters, where appropriate to the Proposed Action:

- **Executive Summary**: The executive summary will use relevant material from the body of the EIS to describe the proposed action, its environmental impacts, measures to mitigate those impacts, and alternatives to the proposed action. As described in the *CEQR Technical Manual,* it will contain:
    - A brief project description;
    - A summary and list of each action;
    - A summary of the significant adverse impacts, if any;
    - A summary of the mitigation measures, if any, to reduce or eliminate any significant adverse impacts;

- Any important trade-offs identified in the other summary chapters;
- A summary of the unavoidable adverse impacts, if any;
- A short discussion of alternatives;
- The analysis areas examined in the EIS; and
- The analysis areas eliminated in the EIS for further study, and the reasons why.

› **Unavoidable Adverse Impacts**: This chapter will summarize any significant adverse impacts that are unavoidable if the proposed action is implemented regardless of the mitigation employed (or if mitigation is not feasible).

› **Growth-Inducing Aspects of the Proposed Action**: This chapter will summarize the "secondary" impacts of a proposed action that trigger further development.

› **Irreversible and Irretrievable Commitments of Resources:** This chapter will summarize the proposed actions and its impacts in terms of the loss of environmental resources (use of fossil fuels and materials for construction, etc.), both in the immediate future and in the long term.