1160 Flushing Avenue Rezoning
Environmental Assessment Statement

CEQR # 21DCP199K



Prepared for:
1160 Flushing Ave LLC

Prepared by:
Philip Habib & Associates

May 23, 2022

1160 Flushing Avenue Rezoning

Environmental Assessment Statement

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Environmental Assessment Statement (EAS) Form

City Environmental Quality Review
ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) FULL FORM

Please fill out and submit to the appropriate agency (see instructions)

Part I: GENERAL INFORMATION

PROJECT NAME 1160 Flushing Avenue Rezoning

1. *Reference Numbers* 2020K0289

CEQR REFERENCE NUMBER (to be assigned by lead agency) **21DCP199K**	BSA REFERENCE NUMBER (if applicable)
ULURP REFERENCE NUMBER (if applicable) **210314ZMK**	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)

2a. *Lead Agency Information*			**2b. *Applicant Information***		
NAME OF LEAD AGENCY **New York City Department of City Planning**			NAME OF APPLICANT **1160 Flushing Ave LLC**		
NAME OF LEAD AGENCY CONTACT PERSON **Stephanie Shellooe, Director of EARD**			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON **Tucker Reed**		
ADDRESS **120 Broadway**			ADDRESS **55 Washington Street, Suite 710**		
CITY **New York**	STATE **NY**	ZIP **10271**	CITY **Brooklyn**	STATE **NY**	ZIP **11201**
TELEPHONE **212-720-3328**	EMAIL **sshellooe@planning.nyc.gov**		TELEPHONE **718-422-0403**	EMAIL **tucker@totembrooklyn.com**	

3. *Action Classification and Type*

SEQRA Classification

☐ UNLISTED ☒ TYPE I: Specify Category (see 6 NYCRR 617.4 and NYC Executive Order 91 of 1977, as amended):

Action Type (refer to CEQR Technical Manual Chapter 2, "Establishing the Analysis Framework" for guidance)

☐ LOCALIZED ACTION, SITE SPECIFIC ☒ LOCALIZED ACTION, SMALL AREA ☐ GENERIC ACTION

4. *Project Description*

The Applicant, 1160 Flushing Ave LLC, proposes to redevelop a site on Block 3167, Lots 18 and 24 ("Projected Development Site 1"), which is a single zoning lot in the Bushwick neighborhood of Brooklyn Community District (CD) 4, with a mixed use development spread between two new buildings (the "Proposed Project"). The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway. The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gross square feet (gsf) (36,730 zoning square feet [zsf]) of retail uses (0.97 FAR); the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf (37,846 zsf) of light industrial uses (1.00 FAR); and the remaining floors (three through nine) of the proposed nine-story building would contain approximately 121,786 gsf (114,983 zsf) of commercial office uses (3.03 FAR). In total, the Proposed Project would contain approximately 238,104 gsf (189,559 zsf) of new development (5.0 FAR).

To facilitate the Proposed Project, the Applicant is seeking a zoning map amendment to rezone a portion of Block 3167 (the "Proposed Rezoning Area") from M1-1 to M1-5 (the "Proposed Action"). The Proposed Rezoning Area would be mapped approximately 250 feet north of Irving Avenue between Flushing Avenue and Jefferson Street, and would encompass the Applicant-owned Lots 18 and 24, as well as the non-Applicant-owned lots 12 (p/o), 26, 29, and 40 (collectively, the "Project Area").

Project Location

BOROUGH **Brooklyn**	COMMUNITY DISTRICT(S) **4**	STREET ADDRESS **1160 Flushing Avenue**
TAX BLOCK(S) AND LOT(S) **Block 3167; Lots 12 (p/o), 18, 24, 26, 29, and 40**		ZIP CODE **11237**
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS **On the block bound by Wyckoff Avenue to the north, Jefferson Street to the east, Flushing Avenue to the south, and Irving Avenue to the south.**		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY **M1-1**		ZONING SECTIONAL MAP NUMBER **13b**

5. *Required Actions or Approvals* (check all that apply)

***City Planning Commission*:** ☒ YES ☐ NO ☒ UNIFORM LAND USE REVIEW PROCEDURE (ULURP)

☐ CITY MAP AMENDMENT	☐ ZONING CERTIFICATION	☐ CONCESSION
☒ ZONING MAP AMENDMENT	☐ ZONING AUTHORIZATION	☐ UDAAP
☐ ZONING TEXT AMENDMENT	☐ ACQUISITION—REAL PROPERTY	☐ REVOCABLE CONSENT
☐ SITE SELECTION—PUBLIC FACILITY	☐ DISPOSITION—REAL PROPERTY	☐ FRANCHISE
☐ HOUSING PLAN & PROJECT	☐ OTHER, explain:	

☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Board of Standards and Appeals*:** ☐ YES ☒ NO

☐ VARIANCE (use)

☐ VARIANCE (bulk)

☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Department of Environmental Protection*:** ☐ YES ☒ NO ☐ Cogeneration Facility ☐ Title V Permit

Other City Approvals Subject to CEQR (check all that apply)

☐ LEGISLATION	☐ FUNDING OF CONSTRUCTION, specify:
☐ RULEMAKING	☐ POLICY OR PLAN, specify:
☐ CONSTRUCTION OF PUBLIC FACILITIES	☐ FUNDING OF PROGRAMS, specify:
☐ 384(b)(4) APPROVAL	☐ PERMITS, specify:
☐ OTHER, explain:	

Other City Approvals Not Subject to CEQR (check all that apply)

☐ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC)	☐ LANDMARKS PRESERVATION COMMISSION APPROVAL
	☐ OTHER, explain:

***State or Federal Actions/Approvals/Funding*:** ☐ YES ☐ NO If "yes," specify:

6. *Site Description:* *The directly affected area consists of the project site and the area subject to any change in regulatory controls. Except where otherwise indicated, provide the following information with regard to the directly affected area.*

***Graphics*:** *The following graphics must be attached and each box must be checked off before the EAS is complete. Each map must clearly depict the boundaries of the directly affected area or areas and indicate a 400-foot radius drawn from the outer boundaries of the project site. Maps may not exceed 11 x 17 inches in size and, for paper filings, must be folded to 8.5 x 11 inches.*

☒ SITE LOCATION MAP	☒ ZONING MAP	☒ SANBORN OR OTHER LAND USE MAP
☒ TAX MAP	☐ FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S)	

☒ PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): **79,108 sf**

Roads, buildings, and other paved surfaces (sq. ft.): **79,108 sf**

Waterbody area (sq. ft.) and type: **N/A**

Other, describe (sq. ft.): **N/A**

7. *Physical Dimensions and Scale of Project* (if the project affects multiple sites, provide the total development facilitated by the action)

SIZE OF PROJECT TO BE DEVELOPED (gross square feet):

NUMBER OF BUILDINGS: **4**

GROSS FLOOR AREA OF EACH BUILDING (sq. ft.):

Projected Development Site 1: 298,077 gsf
Projected Development Site 2: 96,551 gsf
Projected Development Site 3: 38,797 gsf

HEIGHT OF EACH BUILDING (ft.):

Projected Development Site 1: 248'
Projected Development Site 2: 125'
Projected Development Site 3: 111'

NUMBER OF STORIES OF EACH BUILDING:

Projected Development Site 1: 14
Projected Development Site 2: 6
Projected Development Site 3: 5

Does the proposed project involve changes in zoning on one or more sites? ☒ YES ☐ NO

If "yes," specify: The total square feet owned or controlled by the applicant: **37,928 sf (Lots 18 and 24)**

The total square feet not owned or controlled by the applicant: **41,180 sf (Lots 12 (p/o), 26, 29, and 40)**

Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? ☒ YES ☐ NO

If "yes," indicate the estimated area and volume dimensions of subsurface disturbance (if known):

AREA OF TEMPORARY DISTURBANCE: **37,928** sq. ft. (width x length) VOLUME OF DISTURBANCE: **834,416** cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: **37,928** sq. ft. (width x length)

8. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): **2027**

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: **Projected Development Site 1 <22 months; Projected Development Site 2 <20 months; Projected Development Site 3 <20 months**

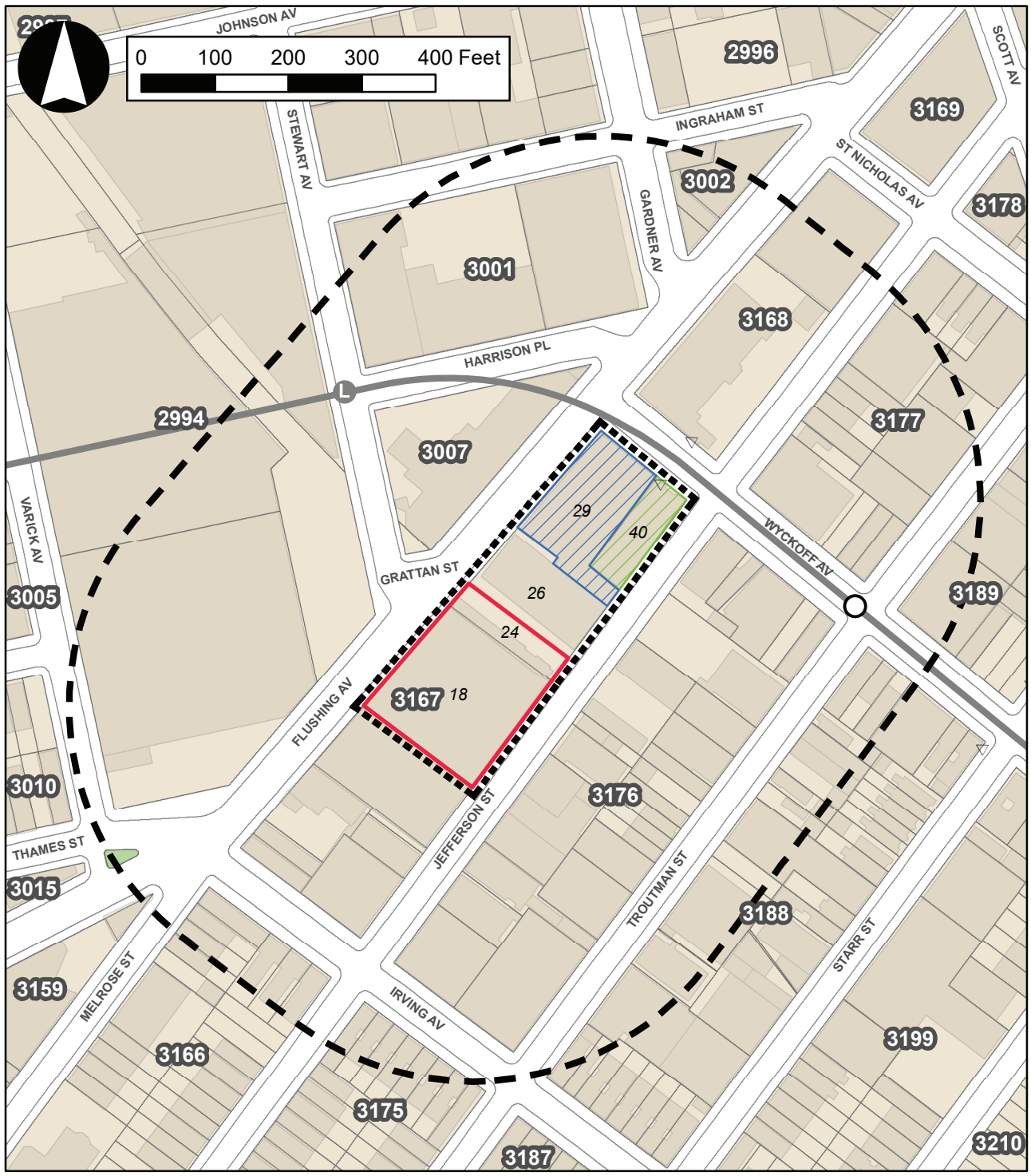
WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ☐ YES ☒ NO | IF MULTIPLE PHASES, HOW MANY? **2-3**

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE:

9. *Predominant Land Use in the Vicinity of the Project* (check all that apply)

☒ RESIDENTIAL ☒ MANUFACTURING ☒ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ☐ OTHER, specify:

Project Site Location



Legend

- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- Project Area
- 400-ft Radius
- Open Space
- L-Line
- Jefferson Street Subway Station (L)
- Subway Station Entrance
- 3167 Block
- 18 Lot

Existing Conditions



Source: PLUTO 2020 (NYC DP), DoITT

Legend

- Project Area
- 400-ft Radius
- Projected Development Site 1 (Applicant-owned)
- Projected Development Site 2 (Non-Applicant-owned)
- Projected Development Site 3 (Non-Applicant-owned)
- Photo Location



1.) View west towards Projected Development Site 1 from Jefferson Street.



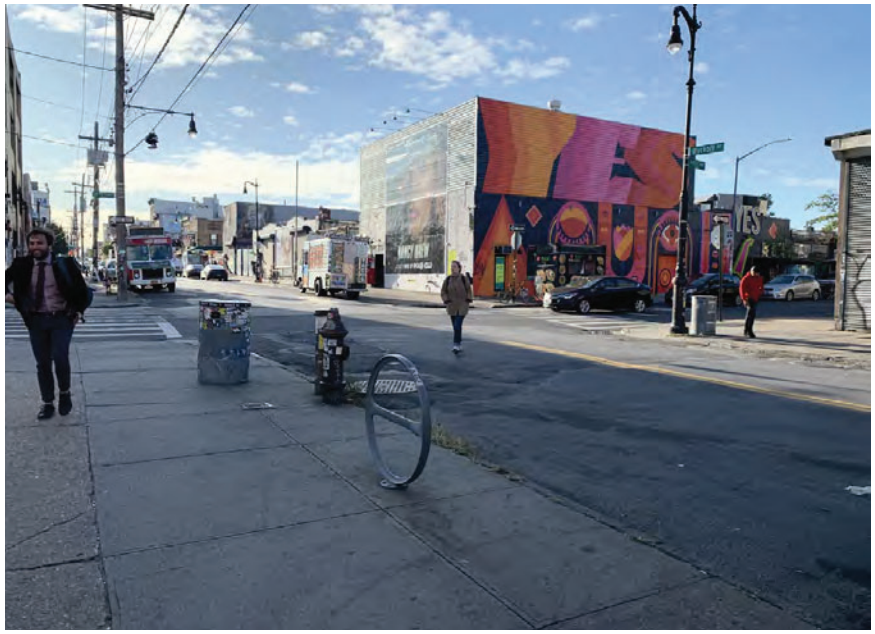
2.) View north towards Projected Development Site 1 from Jefferson Street..



3.) View east towards Projected Development Site 1 from Flushing Avenue.



4.) View south towards Projected Development Site 1 from Flushing Avenue.



5.) View southeast along Wyckoff Avenue towards the Project Area.



6.) View northwest along Wyckoff Avenue towards the Project Area.



7.) View southeast towards Projected Development Site 1 from the intersection of Flushing and Stewart avenues.



8.) View northwest from the intersection of Flushing and Stewart avenues.



9.) View northwest along Irving Avenue.



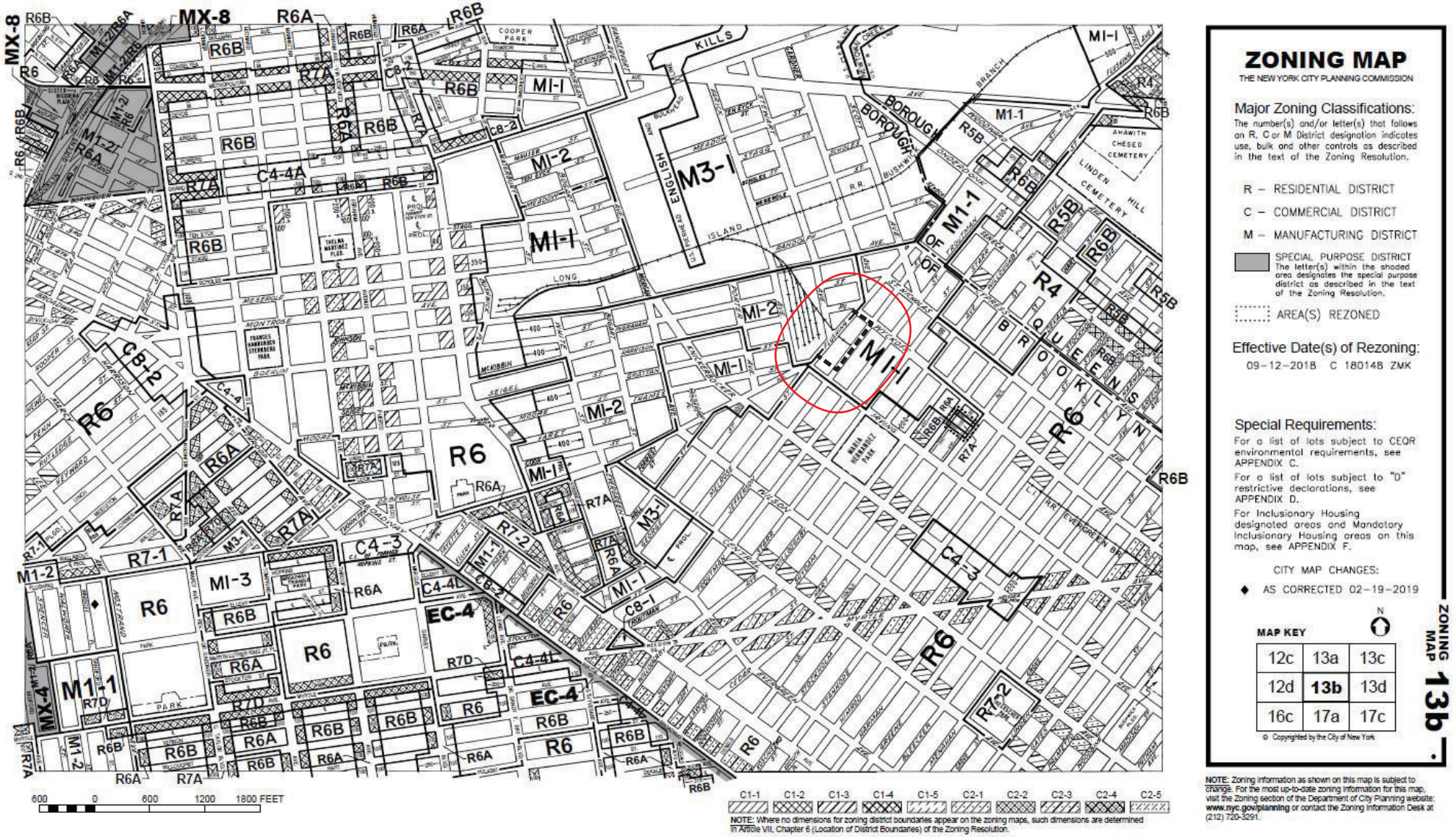
10.) View southwest along Flushing Avenue.



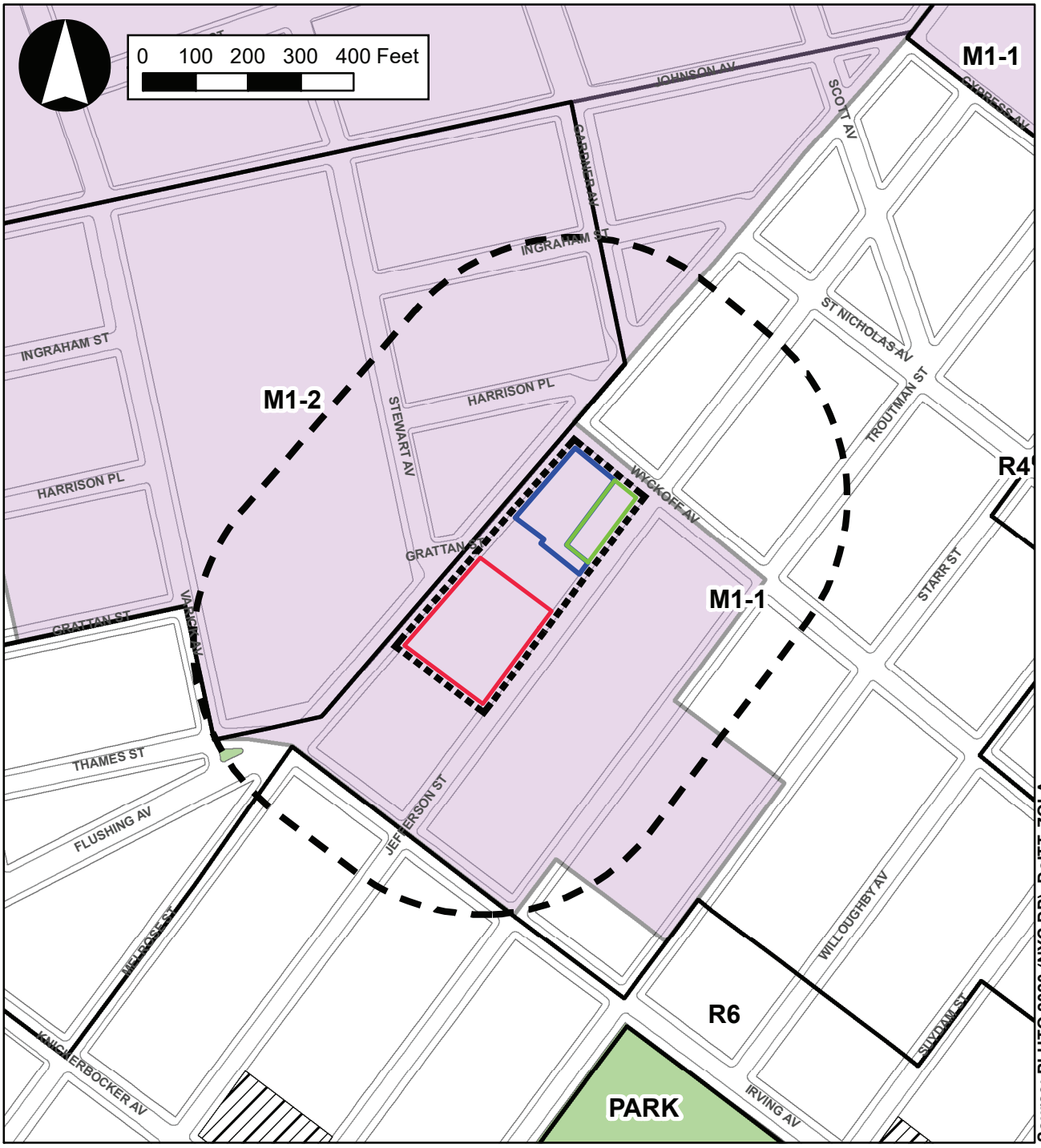
11.) View northeast towards along Jefferson Street.



12.) View north along Jefferson Street toward the Project Area.


ZONING MAP
THE NEW YORK CITY PLANNING COMMISSION
Major Zoning Classifications:
The number(s) and/or letter(s) that follows an R, C or M District designation indicates use, bulk and other controls as described in the text of the Zoning Resolution.
R – RESIDENTIAL DISTRICT
C – COMMERCIAL DISTRICT
M – MANUFACTURING DISTRICT
SPECIAL PURPOSE DISTRICT
The letter(s) within the shaded area designates the special purpose district as described in the text of the Zoning Resolution.
AREA(S) REZONED
Effective Date(s) of Rezoning:
09-12-2018 C 180148 ZMK
Special Requirements:
For a list of lots subject to CEQR environmental requirements, see APPENDIX C.
For a list of lots subject to "D" restrictive declarations, see APPENDIX D.
For Inclusionary Housing designated areas and Mandatory Inclusionary Housing areas on this map, see APPENDIX F.
CITY MAP CHANGES:
AS CORRECTED 02-19-2019
MAP KEY
12c 13a 13c
12d 13b 13d
16c 17a 17c
© Copyrighted by the City of New York
ZONING MAP 13b
NOTE: Zoning information as shown on this map is subject to change. For the most up-to-date zoning information for this map, visit the Zoning section of the Department of City Planning website: www.nyc.gov/planning or contact the Zoning Information Desk at (212) 720-3291.
600 0 600 1200 1800 FEET
C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5
NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.
Proposed Rezoning Area
400-foot Radius

Zoning Map

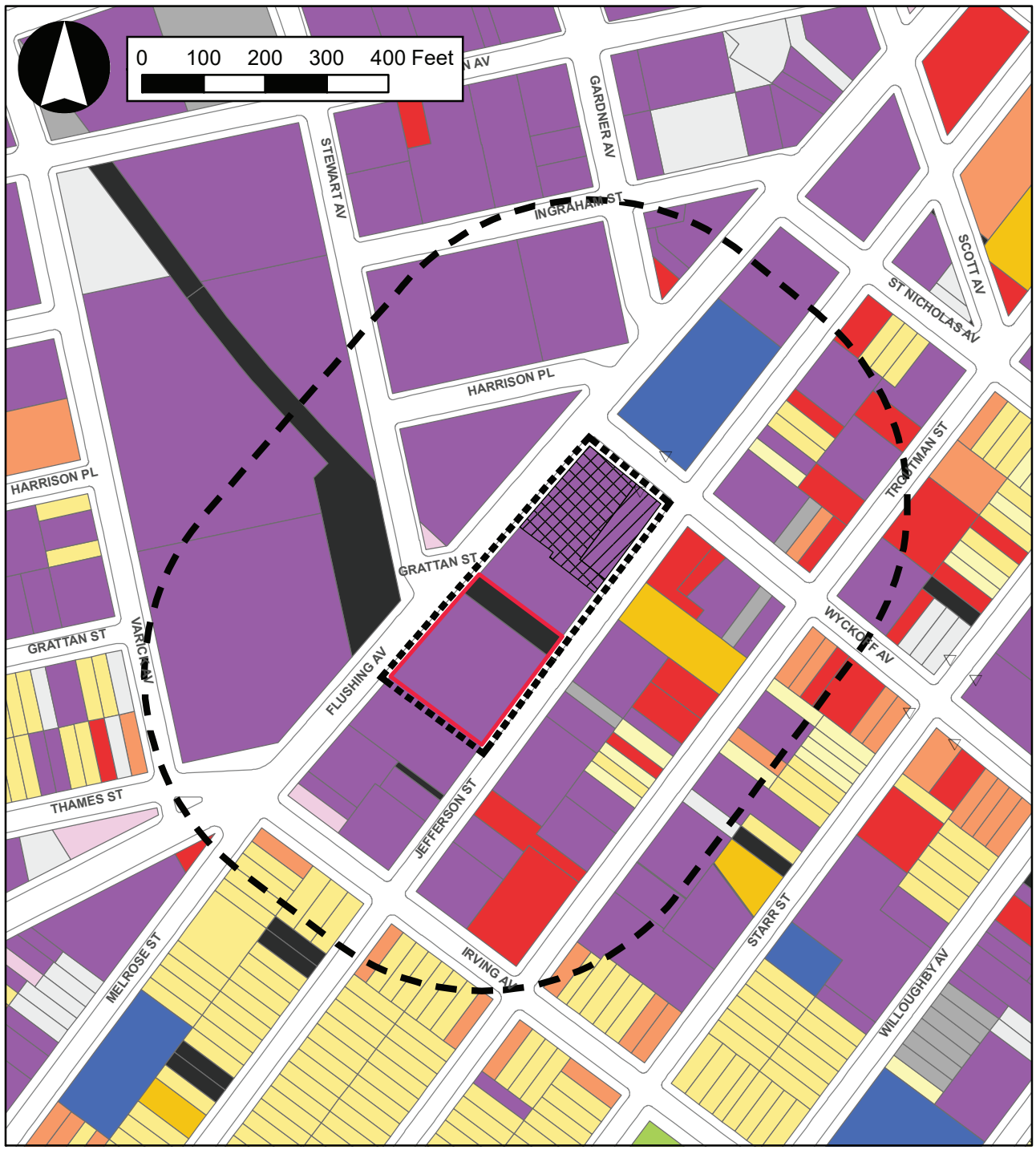


Source: PLUTO 2020 (NYC DP), DoITT, ZOLA

Legend

- Project Area
- 400-ft Radius
- Projected Development Site 1 (Applicant-owned)
- Projected Development Site 2 (Non-Applicant-owned)
- Projected Development Site 3 (Non-Applicant-owned)
- Zoning District Boundary
- C1-3 (Commercial Overlay)
- Industrial Business Zone

Land Use Map



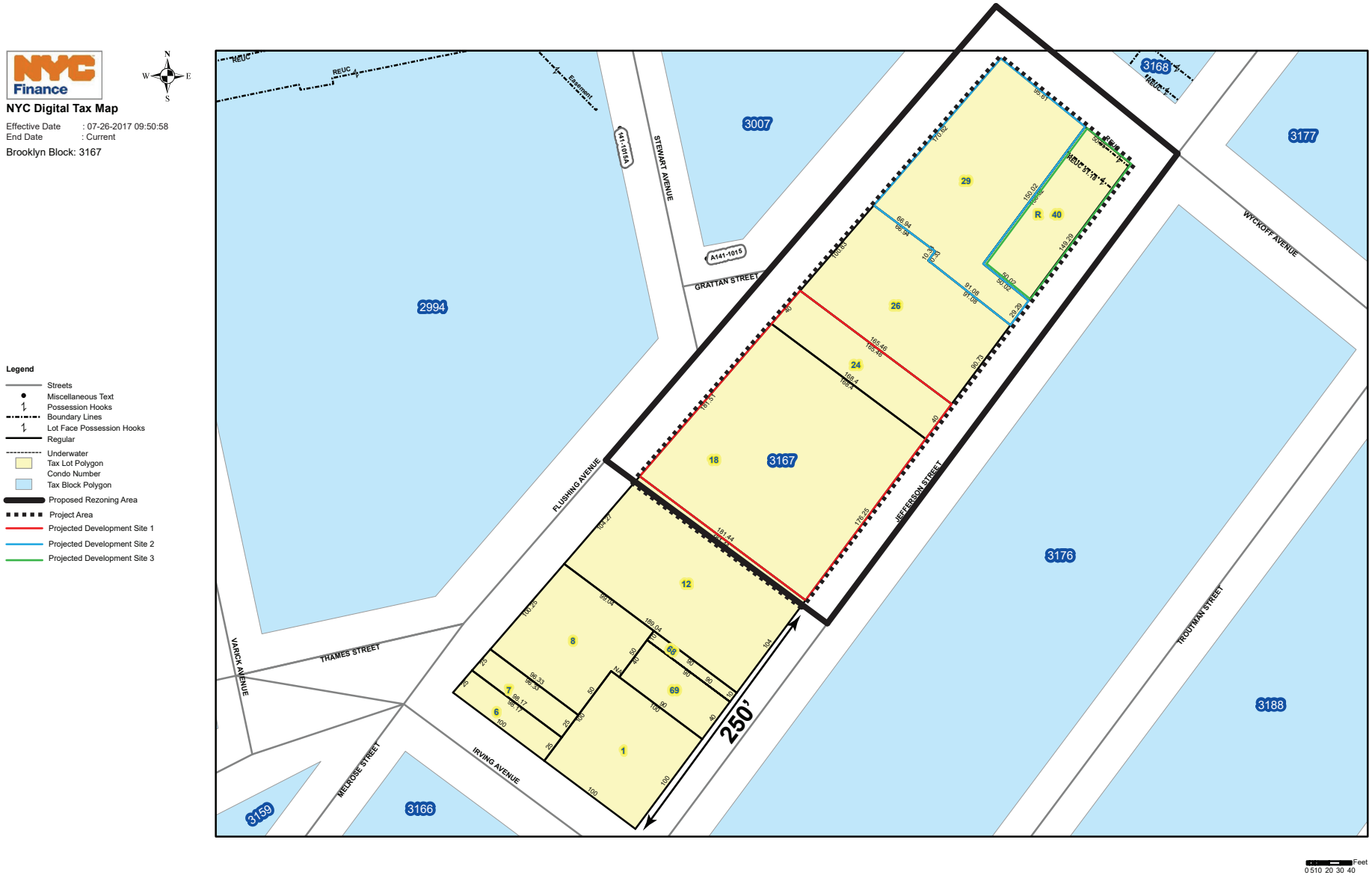
Source: PLUTO 2020 (NYC DP), DoITT

Legend

- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 400-ft Radius

Land Uses

- One & Two Family Buildings
- Multi-Family Walkup Buildings
- Multi-Family Elevator Buildings
- Mixed Commercial/Residential Buildings
- Commercial/Office Buildings
- Industrial/Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space
- Parking Facilities
- Vacant Land
- All Others or No Data



1160 Flushing Avenue Rezoning EAS

Figure 5
Tax Map

DESCRIPTION OF EXISTING AND PROPOSED CONDITIONS

The information requested in this table applies to the directly affected area. The directly affected area consists of the project site and the area subject to any change in regulatory control. The increment is the difference between the No-Action and the With-Action conditions.

Projected Development Site 1 (Block 3167, Lots 18 and 24); Projected Development Site 2 (Block 3167, Lot 29); and Projected Development Site 3 (Block 3167, Lot 40)[1]	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
LAND USE				
Residential	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
Describe type of residential structures	**N/A**	**N/A**	**N/A**	**N/A**
No. of dwelling units	**N/A**	**N/A**	**N/A**	**N/A**
No. of low- to moderate-income units	**N/A**	**N/A**	**N/A**	**N/A**
Gross floor area (sq. ft.)	**N/A**	**N/A**	**N/A**	**N/A**
Commercial	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Describe type (retail, office, other)	**Retail**	**Retail**	**Retail and Office**	**Office and additional Retail**
Gross floor area (sq. ft.)	**20,475**	**52,382**	**332,720 (98,566 retail; 234,154 office)**	**+280,338 (+46,184 retail; +234,154 office)**
Manufacturing/Industrial	☒ YES ☐ NO	☒ YES ☐ NO	☐ YES ☐ NO	
If "yes," specify the following:				
Type of use	**Warehouse, Vacant Industrial Building (Lot 18 and 24)**	**Warehouse**	**Woodworking/Artisan-focused (Use Groups 6, 11, 16, 17)**	**Woodworking/Artisan-focused (Use Groups 6, 11, 16, 17)**
Gross floor area (sq. ft.)	**7,613**	**7,613**	**40,732**	**+33,119**
Open storage area (sq. ft.)	**Approx. 3,750**	**Approx. 3,750**	**0**	**-3,750**
If any unenclosed activities, specify:	**N/A**	**N/A**	**N/A**	**N/A**
Community Facility	☐ YES ☒ NO	☐ YES ☒ NO	☒ YES ☐ NO	
If "yes," specify the following:				
Type	**N/A**	**N/A**	**Medical Office**	**Medical Office**
Gross floor area (sq. ft.)	**N/A**	**N/A**	**59,973**	**+59,973**
Vacant Land	☒ YES ☐ NO	☒ YES ☐ NO	☐ YES ☒ NO	
If "yes," describe:	**Approx. 3,750 sf vacant land (Lot 24)**	**Approx. 3,750 sf vacant land (Lot 24)**	**N/A**	**Elimination of approx. 3,750 sf of vacant land**
Publicly Accessible Open Space	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify type (mapped City, State, or Federal parkland, wetland—mapped or otherwise known, other):	**N/A**	**N/A**	**N/A**	**N/A**
Other Land Uses	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:	**N/A**	**N/A**	**N/A**	
PARKING				
Garages	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
No. of public spaces	**N/A**	**N/A**	**N/A**	**N/A**
No. of accessory spaces	**N/A**	**N/A**	**N/A**	**N/A**
Operating hours	**N/A**	**N/A**	**N/A**	**N/A**
Attended or non-attended	**N/A**	**N/A**	**N/A**	**N/A**
Lots	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify the following:				
No. of public spaces	**N/A**	**N/A**	**N/A**	**N/A**

Projected Development Site 1 (Block 3167, Lots 18 and 24); Projected Development Site 2 (Block 3167, Lot 29); and Projected Development Site 3 (Block 3167, Lot 40)[1]	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
No. of accessory spaces	**N/A**	**N/A**	**N/A**	**N/A**
Operating hours	**N/A**	**N/A**	**N/A**	**N/A**
Other (includes street parking)	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," describe:	**N/A**	**N/A**	**N/A**	**N/A**
POPULATION				
Residents	☐ YES ☒ NO	☐ YES ☒ NO	☐ YES ☒ NO	
If "yes," specify number:	**N/A**	**N/A**	**N/A**	**N/A**
Briefly explain how the number of residents was calculated:				
Businesses	☒ YES ☐ NO	☒ YES ☐ NO	☒ YES ☐ NO	
If "yes," specify the following:				
No. and type	**Light Industrial; Retail**	**Light Industrial; Retail**	**Light Industrial; Office; Retail; Medical Office**	
No. and type of workers by business	**77**	**183**	**1,488**	**+1,305**
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated:	**Assumes 1 employee per 250 sf of office; 1 employee per 300 sf of retail; 1 employee per 1,000 sf pf light industrial uses; 1 employee per 333 sf of community facility (medical office)**			
Other (students, visitors, concert-goers, *etc.*)	☐ YES ☐ NO	☒ YES ☒ NO	☐ YES ☒ NO	
If any, specify type and number:	**N/A**	**N/A**	**N/A**	**N/A**
Briefly explain how the number was calculated:				
ZONING				
Zoning classification	**M1-1**	**M1-1**	**M1-5**	**Change from M1-1 to M1-5**
Maximum amount of floor area that can be developed	**R: 0 zsf C: 63,908 zsf CF: 153,379 zsf M: 63,908 zsf**	**R: 0 zsf C: 63,908 zsf CF: 153,379 zsf M: 63,908 zsf**	**R: 0 zsf C: 319,540 zsf CF: 415,402 zsf M: 319,540 zsf**	**R: 0 zsf C: +255,632 zsf CF: +262,023 zsf M: +255,632 zsf**
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	**Land Use: Light Industrial, Residential, Retail, Community Facilities, vacant Zoning: M1-1, M1-2, R6**	**Land Use: Light Industrial, Residential, Retail, Community Facilities, vacant Zoning: M1-1, M1-2, R6**	**Land Use: Light Industrial, Residential, Office, Retail, Community Facilities, Medical Office, vacant Zoning: M1-5, M1-1, M1-2, R6**	**Land Use: Office, Medical Office Zoning: M1-5**

Attach any additional information that may be needed to describe the project.

If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.

Note:

[1] As Lots 12 and 26 are not considered projected development sites and would experience no changes between the No-Action and With-Action condition, Lots 12 and 26 are not included in the analysis framework table above.

Part II: TECHNICAL ANALYSIS

INSTRUCTIONS: For each of the analysis categories listed in this section, assess the proposed project's impacts based on the thresholds and criteria presented in the CEQR Technical Manual. Check each box that applies.

- If the proposed project can be demonstrated not to meet or exceed the threshold, check the "no" box.
- If the proposed project will meet or exceed the threshold, or if this cannot be determined, check the "yes" box.
- For each "yes" response, provide additional analyses (and, if needed, attach supporting information) based on guidance in the CEQR Technical Manual to determine whether the potential for significant impacts exists. Please note that a "yes" answer does not mean that an EIS must be prepared—it means that more information may be required for the lead agency to make a determination of significance.
- The lead agency, upon reviewing Part II, may require an applicant to provide additional information to support the Full EAS Form. For example, if a question is answered "no," an agency may request a short explanation for this response.

	YES	NO
1. *LAND USE, ZONING, AND PUBLIC POLICY*: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	☐	☒
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	☒	☐
(c) Is there the potential to affect an applicable public policy?	☒	☐
If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach. **Refer to Attachment C, "Land Use, Zoning, and Public Policy" of the EAS.**		
(a) Is the project a large, publicly sponsored project?	☐	☒
○ If "yes," complete a PlaNYC assessment and attach.		
(b) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	☐	☒
○ If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
○ Generate a net increase of more than 200 residential units *or* 200,000 square feet of commercial space?	☒	☐
▪ If "yes," answer *both* questions 2(b)(ii) and 2(b)(iv) below.		
○ Directly displace 500 or more residents?	☐	☒
▪ If "yes," answer questions 2(b)(i), 2(b)(ii), and 2(b)(iv) below.		
○ Directly displace more than 100 employees?	☐	☒
▪ If "yes," answer questions under 2(b)(iii) and 2(b)(iv) below.		
○ Affect conditions in a specific industry?	☐	☒
▪ If "yes," answer question 2(b)(v) below.		
(b) If "yes" to any of the above, attach supporting information to answer the relevant questions below. If "no" was checked for each category above, the remaining questions in this technical area do not need to be answered.		
i. Direct Residential Displacement		
○ If more than 500 residents would be displaced, would these residents represent more than 5% of the primary study area population? **500 residents would not be displaced**	☐	☒
○ If "yes," is the average income of the directly displaced population markedly lower than the average income of the rest of the study area population?	☐	☒
ii. Indirect Residential Displacement		
○ Would expected average incomes of the new population exceed the average incomes of study area populations?	☐	☒
○ If "yes:"		
▪ Would the population of the primary study area increase by more than 10 percent?	☐	☐
▪ Would the population of the primary study area increase by more than 5 percent in an area where there is the potential to accelerate trends toward increasing rents?	☐	☐
○ If "yes" to either of the preceding questions, would more than 5 percent of all housing units be renter-occupied and unprotected?	☐	☐
iii. Direct Business Displacement		
○ Do any of the displaced businesses provide goods or services that otherwise would not be found within the trade area, either under existing conditions or in the future with the proposed project?	☐	☒

	YES	NO
○ Is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it?	☐	☒
iv. Indirect Business Displacement **Refer to Attachment D, "Socioeconomic Conditions" of the EAS.**		
○ Would the project potentially introduce trends that make it difficult for businesses to remain in the area?	☐	☒
○ Would the project capture retail sales in a particular category of goods to the extent that the market for such goods would become saturated, potentially resulting in vacancies and disinvestment on neighborhood commercial streets?	☐	☒
v. Effects on Industry		
○ Would the project significantly affect business conditions in any industry or any category of businesses within or outside the study area?	☐	☒
○ Would the project indirectly substantially reduce employment or impair the economic viability in the industry or category of businesses?	☐	☒
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
i. Early Childhood Programs		
○ Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ If "yes," would the project result in a collective utilization rate of the Early Childhood Programs in the study area that is greater than 100 percent?	☐	☐
○ If "yes," would the project increase the collective utilization rate by 5 percent or more from the No-Action scenario?	☐	☐
ii. Public Schools		
○ Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ If "yes," would the project result in a utilization rate of the elementary or middle schools that is equal to or greater than 100 percent?	☐	☐
○ If "yes," would the project generate 100 or more elementary or middle school students past the 100% utilization rate?	☐	☐
○ If "yes," would the project result in a utilization rate of the high schools that is equal to or greater than 100 percent?	☐	☐
○ If "yes," would the project increase the high school utilization rate by 5 percent or more from the No-Action scenario?	☐	☐
iii. Libraries		
○ Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	☐	☒
○ If "yes," would the project increase the study area population by 5 percent or more from the No-Action levels?	☐	☐
○ If "yes," would the additional population impair the delivery of library services in the study area?	☐	☐
iv. Health Care Facilities		
○ Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
○ If "yes," would the project affect the operation of health care facilities in the area?	☐	☐
v. Fire and Police Protection		
○ Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
○ If "yes," would the project affect the operation of fire or police protection in the area?	☐	☐
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7 **Refer to Attachment E, "Open Space" of the EAS.**		
(a) Would the project change or eliminate existing open space?	☐	☒
(b) Would the project generate more than 200 additional residents or 500 additional employees?	☒	☐
5. *SHADOWS*: CEQR Technical Manual Chapter 8		
(a) Would the proposed project result in a net height increase of any structure of 50 feet or more?	☒	☐
(b) Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource?	☐	☒
(c) If "yes" to either of the above questions, attach supporting information explaining whether the project's shadow would reach any sunlight-sensitive resource at any time of the year. **Refer to Attachment F, "Shadows" of the EAS.**		

	YES	NO
6. *HISTORIC AND CULTURAL RESOURCES*: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	☐	☒
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	☒	☐
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. **Refer to Appendix I, "LPC Review Letter" which confirms that LPC reviewed all lots within the Project Area and found no architectural or archaeological significance on any single Project Area lot (received from LPC on June 25, 2020)**		
7. *URBAN DESIGN AND VISUAL RESOURCES*: CEQR Technical Manual Chapter 10		
(a) Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	☒	☐
(b) Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning?	☐	☒
(c) If "yes" to either of the above, please provide the information requested in Chapter 10. **Refer to Attachment G, "Urban Design and Visual Resources" of the EAS.**		
8. *NATURAL RESOURCES*: CEQR Technical Manual Chapter 11		
(a) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11?	☐	☒
○ If "yes," list the resources and attach supporting information on whether the project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	☐	☒
○ If "yes," complete the Jamaica Bay Watershed Protection Plan Project Tracking Form and submit according to its instructions.		
9. *HAZARDOUS MATERIALS*: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	☒	☐
(b) Would the proposed project introduce new activities or processes using hazardous materials and increase the risk of human or environmental exposure?	☐	☒
(c) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	☒	☐
(d) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in the Hazardous Materials Appendix (including nonconforming uses)?	☒	☐
(e) Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	☒	☐
(f) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (*e.g.*, gas stations, oil storage facilities, heating oil storage)?	☐	☒
(g) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint?	☐	☒
(h) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	☒	☐
(i) Has a Phase I Environmental Site Assessment been performed for the site?	☒	☐
○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: **Refer to the "Hazardous Materials" section of Attachment B of the EAS.**	☒	☐
(j) Based on the Phase I Assessment, is a Phase II Investigation needed?	☒	☐
10. *WATER AND SEWER INFRASTRUCTURE*: CEQR Technical Manual Chapter 13		
(a) Would the project result in water demand of more than one million gallons per day?	☐	☒
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens?	☒	☐
(c) If the proposed project located in a separately sewered area, would it result in the same or greater development than that listed in Table 13-1 in Chapter 13?	☐	☐
(d) Would the project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	☐	☒

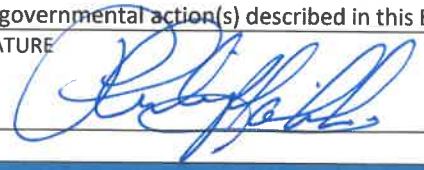
	YES	NO
(e) If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?	☐	☒
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or contribute contaminated stormwater to a separate storm sewer system?	☒	☐
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
(i) If "yes" to any of the above, conduct the appropriate preliminary analyses and attach supporting documentation. **Refer to Section H, "Water and Sewer Infrastructure" of the EAS.**		
11. *SOLID WASTE AND SANITATION SERVICES*: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): **50,365**		
○ Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	☐	☒
(b) Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?	☐	☒
○ If "yes," would the proposed project comply with the City's Solid Waste Management Plan?	☐	☐
12. *ENERGY*: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): **94 billion BTUs**		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the appropriate screening analyses, attach back up data as needed for each stage, and answer the following questions: **Provided in Attachment I, "Transportation" of the EAS.**		
○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour? **Refer to Attachment I, "Transportation" of the EAS.**	☒	☐
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.* Refer to Attachment I, "Transportation" of the EAS.**	☒	☐
○ Would the proposed project result in more than 200 subway/rail, bus trips, or 50 Citywide Ferry Service ferry trips per project peak hour? **Refer to Attachment I, "Transportation" of the EAS.**	☒	☐
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction), 200 subway/rail trips per station or line, or 25 or more Citywide Ferry Service ferry trips on a single route (in one direction), or 50 or more passengers at a Citywide Ferry Service landing?	☒	☐
○ Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☒	☐
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, bus stop, or Citywide Ferry Service landing?	☒	☐
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☒	☐
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed) **Refer to Attachment J, "Air Quality" of the EAS.**	☐	☐
(c) Does the proposed project involve multiple buildings on the project site?	☒	☐
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	☐	☒
(f) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. **Refer to Attachment J, "Air Quality" of the EAS.**		
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) Would the proposed project result in the development of 350,000 square feet or more?	☒	☐

	YES	NO
(d) If "yes" to any of the above, would the project require a GHG emissions assessment based on guidance in Chapter 18?	☒	☐
○ If "yes," would the project result in inconsistencies with the City's GHG reduction goal? (See Local Law 22 of 2008; § 24-803 of the Administrative Code of the City of New York). Please attach supporting documentation. **See "Greenhouse Gas Emissions" section of Attachment B of the EAS.**	☐	☒
16. *NOISE*: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	☒	☐
(b) Would the proposed project introduce new or additional receptors (see Section 114 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line?	☐	☒
(c) Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise?	☐	☒
(d) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	☐	☒
(e) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. **See Attachment K, "Noise" of the EAS.**		
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	☒	☐
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary. **See "Public Health" section of Attachment B of the EAS.**		
18. *NEIGHBORHOOD CHARACTER*: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	☒	☐
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. **See "Neighborhood Character" section of Attachment B of the EAS.**		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
○ Construction activities lasting longer than two years? **No individual projected development site is expected to experience construction activities lasting more than 2 years.**	☒	☐
○ Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☐	☒
○ Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☒	☐
○ Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
○ The operation of several pieces of diesel equipment in a single location at peak construction?	☐	☒
○ Closure of a community facility or disruption in its services?	☐	☒
○ Activities within 400 feet of a historic or cultural resource?	☐	☒
○ Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	☒	☐
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. **See "Construction" section of Attachment B of the EAS.**		

20. *APPLICANT'S CERTIFICATION*

I swear or affirm under oath and subject to the penalties for perjury that the information provided in this Environmental Assessment Statement (EAS) is true and accurate to the best of my knowledge and belief, based upon my personal knowledge and familiarity with the information described herein and after examination of the pertinent books and records and/or after inquiry of persons who have personal knowledge of such information or who have examined pertinent books and records.

Still under oath, I further swear or affirm that I make this statement in my capacity as the applicant or representative of the entity that seeks the permits, approvals, funding, or other governmental action(s) described in this EAS.

APPLICANT/REPRESENTATIVE NAME	SIGNATURE	DATE
PHILIP HABIB		5/17/22

PLEASE NOTE THAT APPLICANTS MAY BE REQUIRED TO SUBSTANTIATE RESPONSES IN THIS FORM AT THE DISCRETION OF THE LEAD AGENCY SO THAT IT MAY SUPPORT ITS DETERMINATION OF SIGNIFICANCE.

Part III: DETERMINATION OF SIGNIFICANCE (To Be Completed by Lead Agency)

INSTRUCTIONS: In completing Part III, the lead agency should consult 6 NYCRR 617.7 and 43 RCNY § 6-06 (Executive Order 91 or 1977, as amended), which contain the State and City criteria for determining significance.

1. For each of the impact categories listed below, consider whether the project may have a significant adverse effect on the environment, taking into account its (a) location; (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude.

IMPACT CATEGORY	Potentially Significant Adverse Impact YES	NO
Land Use, Zoning, and Public Policy	☐	☒
Socioeconomic Conditions	☐	☒
Community Facilities and Services	☐	☒
Open Space	☐	☒
Shadows	☐	☒
Historic and Cultural Resources	☐	☒
Urban Design/Visual Resources	☐	☒
Natural Resources	☐	☒
Hazardous Materials	☐	☒
Water and Sewer Infrastructure	☐	☒
Solid Waste and Sanitation Services	☐	☒
Energy	☐	☒
Transportation	☒	☐
Air Quality	☒	☐
Greenhouse Gas Emissions	☐	☒
Noise	☒	☐
Public Health	☒	☐
Neighborhood Character	☒	☐
Construction	☐	☒

2. Are there any aspects of the project relevant to the determination of whether the project may have a significant impact on the environment, such as combined or cumulative impacts, that were not fully covered by other responses and supporting materials? ☐ YES ☒ NO

If there are such impacts, attach an explanation stating whether, as a result of them, the project may have a significant impact on the environment.

3. Check determination to be issued by the lead agency:

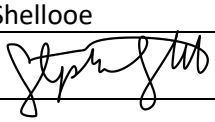
☒ **Positive Declaration**: If the lead agency has determined that the project may have a significant impact on the environment, and if a Conditional Negative Declaration is not appropriate, then the lead agency issues a *Positive Declaration* and prepares a draft Scope of Work for the Environmental Impact Statement (EIS).

☐ **Conditional Negative Declaration:** A *Conditional Negative Declaration* (CND) may be appropriate if there is a private applicant for an Unlisted action AND when conditions imposed by the lead agency will modify the proposed project so that no significant adverse environmental impacts would result. The CND is prepared as a separate document and is subject to the requirements of 6 NYCRR Part 617.

☐ **Negative Declaration:** If the lead agency has determined that the project would not result in potentially significant adverse environmental impacts, then the lead agency issues a *Negative Declaration*. The *Negative Declaration* may be prepared as a separate document (see template) or using the embedded Negative Declaration on the next page.

4. ***LEAD AGENCY'S CERTIFICATION***

TITLE	LEAD AGENCY
Director, Environmental Assessment and Review Division	Department of City Planning, acting on behalf of the City Planning Commission
NAME	DATE
Stephanie Shellooe	May 23, 2022

SIGNATURE 

NEGATIVE DECLARATION (Use of this form is optional)

Statement of No Significant Effect

Pursuant to Executive Order 91 of 1977, as amended, and the Rules of Procedure for City Environmental Quality Review, found at Title 62, Chapter 5 of the Rules of the City of New York and 6 NYCRR, Part 617, State Environmental Quality Review, assumed the role of lead agency for the environmental review of the proposed project. Based on a review of information about the project contained in this environmental assessment statement and any attachments hereto, which are incorporated by reference herein, the lead agency has determined that the proposed project would not have a significant adverse impact on the environment.

Reasons Supporting this Determination

The above determination is based on information contained in this EAS, which that finds the proposed project:

No other significant effects upon the environment that would require the preparation of a Draft Environmental Impact Statement are foreseeable. This Negative Declaration has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law (SEQRA).

TITLE	LEAD AGENCY

NAME	DATE

SIGNATURE

Attachment A
Project Description

1160 FLUSHING AVENUE EAS
Attachment A: Project Description

I. INTRODUCTION

This environmental assessment statement (EAS) considers the discretionary action requested by 1160 Flushing Avenue LLC, the Applicant, that would facilitate the construction of a new, mixed-use development comprising approximately 238,104 gross square feet (gsf) in total (the "Proposed Project"). The Proposed Project would be constructed at 1160 Flushing Avenue (Block 3167, Lots 18 and 24), a 37,928-sf, rectangular-shaped site with frontages on Flushing Avenue and Jefferson Street in the Bushwick neighborhood of Brooklyn Community District (CD) 4 ("Projected Development Site 1"). Figure 1 (attached to the EAS Form) shows the project site location and Figure 2 shows an aerial view of Projected Development Site 1 and the surrounding area.

The Applicant seeks City Planning Commission ("CPC") approval for a zoning map amendment that would rezone Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40 (the "Proposed Rezoning Area" or "Project Area") from a M1-1 district to a M1-5 district (the "Proposed Action"). The Proposed Action will undergo coordinated review under City Environmental Quality Review ("CEQR"), with the New York City Department of City Planning (DCP) serving as lead agency.

The Proposed Action would facilitate the demolition of the existing single-story building on Projected Development Site 1 and the construction of the Proposed Project. As stated above, Lots 18 and 24 are owned and controlled by the Applicant and comprise Projected Development Site 1; Lots 12, 26, 29, and 40 are not owned or controlled by the Applicant. The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway. The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gsf (36,730 zoning square feet (zsf)) of retail uses (0.97 FAR); the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf (37,846 zsf) of light industrial uses (1.0 FAR); and the remaining floors (three through nine) of the proposed nine-story building would contain approximately 121,786 gsf (114,983 zsf) of commercial office uses (3.03 FAR). Three loading bays would be provided with a single curb cut along Flushing Avenue to satisfy the M1-5 zoning requirements associated with the proposed office, retail, and light industrial uses; no accessory parking spaces would be required under the proposed M1-5 zoning district. In total, the Proposed Project would contain approximately 238,104 gsf (189,559 zsf) of new development.

In the future with the Proposed Action, the proposed zoning map amendment would be approved, allowing the Applicant to construct the Proposed Project at Projected Development Site 1 (Lots 18 and 24). However, as the proposed M1-5 zoning district permits a maximum floor area ratio (FAR) of 6.5 for community facility uses, the reasonable worst-case development scenario (RWCDS) for Projected Development Site 1 assumes an additional 1.5 FAR of community facility (medical office) uses. As such, for conservative analysis purposes, it is assumed that Projected Development Site 1 could accommodate up to approximately 75,586 gsf (36,730 zsf) of retail uses, approximately 40,732 gsf (37,846 zsf) of light industrial uses, approximately 121,786 (114,983 zsf) of commercial office uses, and approximately 59,973 gsf (56,975 zsf) of community facility (medical office) uses (the "RWCDS"). In total, the RWCDS for Projected Development Site 1 would comprise approximately 298,077 gsf (246,534 zsf) of new development (6.5 FAR).

In addition, it is assumed that Lots 29 and 40 (both of which are non-Applicant-owned) would each be redeveloped in the future with approval of the Proposed Action as well. It is anticipated that Lot 29 would

be redeveloped with a six-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space ("Projected Development Site 2"), and Lot 40 would be redeveloped with a five-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space ("Projected Development Site 3"). As a result, the total With-Action development scenario for the Project Area would include approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses, thus representing the RWCDS for the Project Area under the Proposed Action.

It is expected that all three projected development sites would be constructed and fully operational by the end of 2027. Without discretionary approval, it is anticipated that the on-site conditions would remain unchanged from existing conditions, with exception to Projected Development Site 1 which is expected to be converted and reoccupied with commercial retail uses

This attachment provides a summary and description of the Proposed Action, including Project Area location, existing conditions of the Project Area, purpose and need for the Proposed Action, the RWCDS under No-Action and With-Action conditions, and the discretionary approvals required.

II. BACKGROUND AND EXISTING CONDITIONS

Description of the Project Area

The Project Area encompasses Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40 in the Bushwick neighborhood of Brooklyn CD 4. Block 3167 is bordered by Flushing Avenue to the west, Wyckoff Avenue to the north, Jefferson Street to the east, and Irving Avenue to the south. Lots 18 and 24 are owned and controlled by the Applicant and comprise Projected Development Site 1. Projected Development Site 1 encompasses a total of approximately 37,928 sf of lot area and has approximately 221-feet 6-inches of frontage on Flushing Avenue and approximately 216 feet of frontage on Jefferson Street. The Project Area totals approximately 79,833 sf of lot area and has approximately 493 feet of frontage on Flushing Avenue, 146 feet of frontage on Wyckoff Avenue, and 485 feet of frontage on Jefferson Street. The Proposed Rezoning Area would be mapped approximately 250 feet north of Irving Avenue between Flushing Avenue and Jefferson Street. A discussion of each of the Project Area lots is provided below.

Applicant-owned Site ("Projected Development Site 1")

As described above the Applicant-owned site, or Projected Development Site 1, is comprised of Brooklyn Block 3167, Lots 18 and 24. Lots 18 and 24 are currently occupied by one single-story vacant industrial (warehouse) building, and are currently zoned M1-1 with a maximum permitted commercial/industrial FAR of 1.0. While the existing building on Lots 18 and 24 is currently vacant (0.0 FAR), the building contains approximately 30,388 sf of former warehouse floor area (0.80 FAR). Lot 24 also contains a small portion of vacant, underdeveloped land on the northernmost portion of the lot, totaling approximately 3,750 sf.

Remainder of the Project Area (Lots 12 (p/o), 26, 29, 40)

Lot 12

Lot 12 is a 19,265-sf, non-Applicant-owned lot currently zoned M1-1 with a maximum permitted commercial/industrial FAR of 1.0. Lot 12 is currently occupied by a one-story lumber yard building and

contains approximately 19,874 gsf of industrial uses (0.98 FAR). An approximately four-foot-wide, 725-sf portion (less than four percent) of Lot 12 is located within the Proposed Rezoning Area.

Lot 26

Lot 26 is a 15,200-sf, non-Applicant-owned lot currently zoned M1-1 with a maximum permitted commercial/industrial FAR of 1.0. Lot 26 is currently occupied by a three-story warehouse building containing approximately 45,780 gsf of industrial uses (2.87 FAR), making the building noncompliant under existing zoning. All of Lot 26 is located within the Proposed Rezoning Area.

Lot 29

Lot 29 is an 18,530-sf, non-Applicant-owned lot currently zoned M1-1 with a maximum permitted commercial/industrial FAR of 1.0. Lot 29 is currently occupied by a single-story building that, according to New York City Department of Buildings (DOB) records, is currently undergoing a conversion from industrial (warehouse) uses to commercial retail uses (DOB job no. 340525300), which will result in a building containing approximately 20,475 gsf of commercial retail space on a 18,530-sf lot (1.05 FAR). All of Lot 29 is located within the Proposed Rezoning Area.

Lot 40

Lot 40 is a 7,450-sf, non-Applicant-owned lot currently zoned M1-1 with a maximum permitted commercial/industrial FAR of 1.0. Lot 40 is currently occupied by a single-story warehouse building containing approximately 7,613 gsf of industrial uses on a 7,450-sf lot (0.97 FAR). In addition, a small, northeastern portion of Lot 40 is encumbered by a Real Estate of Utility Companies (REUC) easement due to the location of street stairs serving the L-line's Jefferson Street Station. All of Lot 40 is located within the Proposed Rezoning Area.

Zoning

As shown in Figure 3 (attached to the EAS Form), the Project Area is zoned M1-1, which is the original zoning designation from the 1961 Zoning Resolution. M1-1 is a light manufacturing/industrial district that has performance standards and may serve as industrial front yards or buffers to adjacent residential and commercial zoning districts. High performance industrial uses are allowed, as well as a range of commercial uses. Pursuant to the recently-approved M1 Hotel Text Amendment, hotels are only permitted by special permit. Additional Use Group 4 community facilities are allowed in M1 districts by special permit. Residential development is generally not allowed in M1 districts. M1-1 districts have a maximum floor area ratio (FAR) of 1.0 for manufacturing and commercial uses and 2.4 for community facility uses (Use Group 4, only). Buildings in M1-1 districts are governed by the sky exposure plane, which begins 30 feet above the street line. Within M1-1 districts, off-street parking is required and varies by use.

Neighborhood Context

The Project Area is located in the Bushwick neighborhood of Brooklyn, Community District 4. As presented in Figure 4 (attached to the EAS Form), this area is characterized by a wide variety of industrial, commercial, and residential land uses and various building types. The predominant land use within a 400-foot radius is light manufacturing. The 400-foot radius also includes several commercial uses and residential buildings. Current land uses within the 400-foot radius reflect both longstanding manufacturing and industrial buildings. The single community facility use within the 400-foot radius is the SCO Family of Services building located directly north of the Project Area, which provides transitional housing for at-risk populations.

The Project Area and the areas to the south and east are mapped as M1-1, whereas the areas to the west and north are generally mapped as M1-2; additionally, a small, southwestern portion of the 400-foot radius is zoned R6 (see Figure 3 of the EAS Form). Residential uses are common on blocks to the south of the site, including immediately south of Irving Avenue. Most of the residences are low-rise, single-family buildings. Several exist southeast of the Project Area along Troutman Street and Irving Avenue. Few commercial buildings exist along Jefferson Street and Troutman Street.

The Project Area is located within the North Brooklyn Industrial Business Zone (IBZ). The North Brooklyn IBZ is the third largest in New York City, covering hundreds of blocks along Newtown Creek in the Greenpoint, East Williamsburg and Bushwick neighborhoods. The designation of an IBZ fosters high-performing business districts by creating competitive advantages over locating in areas outside of New York City. The IBZs are supported by tax credits for relocating within them, zone-specific planning efforts, and direct business assistance from Industrial Providers of NYC Business Solutions Industrial and Transportation. In light of the purpose of IBZs to foster industrial sector growth by creating real estate certainty, residential rezonings are generally not supported within IBZs.

The Project Area is also located within the boundaries of NYCDCP's *"North Brooklyn Industry and Innovation Plan"* (2018) study area. The plan was released on November 19th, 2018 and an update was shared in April 2019 at Brooklyn Community Board 1 (April 9, 2019) and Community Board 4 (April 17, 2019). Utilizing input from the local community, the plan identifies strategies to promote job growth and economic activity and ensure that core industrial areas (i.e., areas of the most intensive industrial activity) provide the necessary businesses for industrial areas to thrive. The plan explores new models for innovation districts to support 21st century businesses and jobs, with opportunities, as appropriate, for a mix of light industrial and commercial uses. Using zoning and other policy tools, the goals of the plan are to (1) create a better business environment for all, by preserving and growing industrial jobs, as well as other compatible jobs in the creative and innovative sectors; (2) improve the quality of life for workers and residents within the area and nearby; (3) address the potential for conflicts between industrial and non-industrial uses; (4) identity improvements to transportation and infrastructure conditions that would support growth in economic activity; and (5) address environmental and resiliency challenges. The North Brooklyn Plan also establishes a land use framework that identifies subareas based on existing trends and assets, which include the "Core Industrial Area," which is the central hub for essential industrial business; the "Growth District," which is a dynamic, transit-accessible district for creative and tech-driven jobs of the future; the "Transition Area," which is a mix of industrial and non-industrial uses serving as a buffer between subareas; and the "Stable Areas," or small peripheral areas where no change in land use is recommended, such as the "Mixed Edge," the "Commercial Edge," and the "Established Residential" area. Of the proposed subareas, the Project Area is located in the "Growth District" at the southern-most edge of the IBZ. The Growth District is described as being the most transit-accessible subarea with the greatest concentration of multistory industrial loft buildings. It has a rapidly evolving mix of artist studios, restaurants, TAMI (technology, advertising, media, and information) and other office-based businesses, artisanal manufacturing, and other industrial uses. According to the plan, the goal of the proposed Growth District is to promote an ecosystem of creative and tech-driven jobs in office-based and industrial sectors near transit by (a) increasing density for commercial and industrial uses; (b) creating new loft-like building envelopes; (c) reducing parking requirements; and (d) modifying loading requirements to reflect business needs.

There have been modest new developments within the 400-foot radius. A new planned nine-story hotel across from Flushing Avenue, located at 25 Stewart Avenue, would be 115-feet tall with 140 hotel rooms. Permits for the proposed 79,798 sf building were approved in 2015. In 2019, the owners of the property sold the lot. No new plans have been filed for the property.

Area Transportation

The area surrounding the Project Area is served by several public transit options. The Jefferson Street L subway station (located to the north at the intersection of Jefferson Street and Wyckoff Avenue) is directly adjacent to the Project Area. In addition, the B57 bus (connecting Maspeth, Queens and Red Hook, Brooklyn) runs along Flushing Avenue. The B57 bus also makes a wide variety of connections to other local bus lines along Flushing Avenue in Brooklyn, including connections with the B15, B43, B44, B44 SBS, B46, B46, B47, B48, B60, B62, B69 bus lines. There are two nearby CitiBike stations, at the corner of Jefferson Street and Irving Avenue and on Wyckoff Avenue between Jefferson Street and Flushing Avenue. Taken together, these transit options provide access to the Project Area from much of north Brooklyn and beyond.

III. DESCRIPTION OF THE PROPOSED ACTION

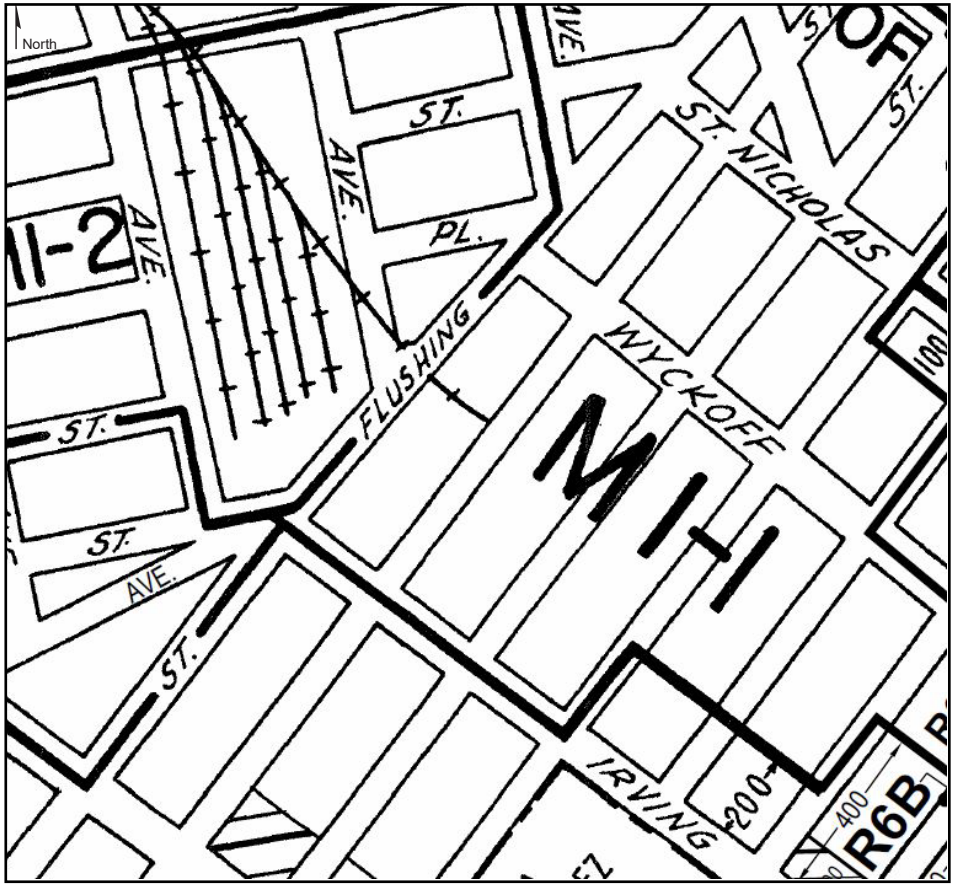
Zoning Map Amendment

The proposed zoning map amendment, which would rezone the Project Area from M1-1 and M1-5, would increase the maximum permitted FAR from 2.4 to 6.5, allowing for additional development of commercial, light industrial, and/or community facility uses than could be provided under existing conditions, in addition to reducing the loading dock and accessory parking requirements. While the Project Area under an M1-5 district would still be governed by the sky-exposure plane as under the existing M1-1 zoning, the additional permitted density under the M1-5 district would result in larger building envelopes to accommodate the increase in permitted commercial, light industrial, and community facility uses. As shown in Figure A-1 the Proposed Rezoning Area would be mapped 250 feet north of Irving Avenue between Flushing Avenue and Jefferson Street, and its boundaries would extend approximately 493 feet along Flushing Avenue, 146 feet along Wyckoff Avenue, and 485 feet along Jefferson Street.

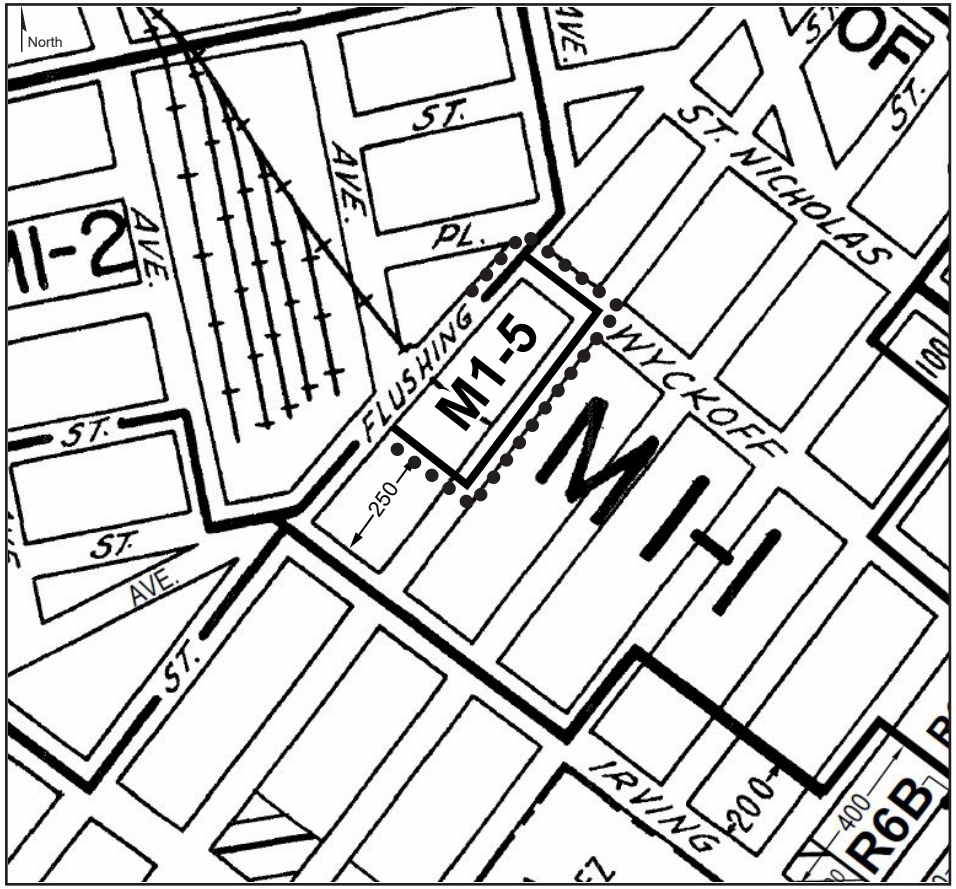
IV. PURPOSE AND NEED FOR THE PROPOSED ACTION

In recent years, the population of North Brooklyn and the demand for workspace has increased substantially. Between 2010 and 2016, job growth in North Brooklyn increased by as much as 42 percent. However, despite the growing investment momentum and demand for commercial space, there has been limited new construction in the area.[1] As a result of the increase in demand, the growth of the new economy in North Brooklyn is constrained, with a commercial/office vacancy rate of only two percent in Brooklyn as of 2015. In North Brooklyn, due to underlying density and parking zoning constraints, M1-1 and M1-2 districts, which are envisioned to employ many local workers, are often being used for warehousing and freight distribution where average employment is often less than one job per 2,500 sf. Frequently, as is the case for the Project Area, the narrow streets of these districts are not appropriate for the large trucks associated with heavy industrial uses, and the small footprint buildings are unsuited for the high-cube mechanized warehouses of today. While warehousing and freight distribution facilities can serve as appropriate uses in certain sections of North Brooklyn, transit accessible areas, such as the Project Area, are better served by high-density commercial office and retail uses. The proposed M1-5 zoning district would allow for the development of commercial uses at higher densities and would create opportunities for nearby schools, community groups and growing tech businesses to engage with one another.

[1] *North Brooklyn Industry & Innovation Plan* (2018), New York City Department of City Planning.



Existing Zoning Map (13b)



Proposed Zoning Map (13b)
Area to be rezoned is outlined with dotted lines

C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

Figure A-1
Existing and Proposed Zoning

Specifically, the proposed zoning map amendment would facilitate the development of new office and retail space in the Project Area by increasing the buildable commercial FAR from 1.0 to 5.0. Introducing additional commercial office space on Flushing Avenue would address a borough-wide need for more commercial office space, particularly for technology, advertising, media, and information ("TAMI") firms. The Proposed Actions would result in new Class A office space that could accommodate a wide variety of tenants, including TAMI firms, generating new employment opportunities in the Project Area. The proposed M1-5 zoning would also help preserve essential light industrial uses within the Project Area, as the Applicant is committed to providing approximately 1.00 FAR (approximately 40,732 gsf) of light industrial uses (Use Groups 11, 16, 17) at Projected Development Site 1. As such, the Applicant has partnered with Evergreen, a local organization that organizes and supports manufacturing, creative production and industrial service businesses in North Brooklyn. The proposed retail uses that would be facilitated by the Proposed Action would serve to improve the pedestrian environment along this portion of Flushing Avenue and Jefferson Street, as well the accompanying project-generated pedestrian areas, with active ground floor uses, thus activating the streetscape surrounding and within the Project Area. Further, the proposed commercial office and light industrial development would align with the goals of the New York Works policy, which is a series of 25 initiatives to spur 100,000 jobs over the coming decade. Specifically, the plan calls for the need to bring jobs closer to where New Yorkers live to reduce commuting times and minimize the strain on the transit network.

The proposed M1-5 zoning district would also eliminate any requirements for accessory on-site parking at the Applicant-owned site and within the Project Area. As the Project Area is within a transit zone and contains the Canarsie-bound entrances to the Jefferson Street subway station, providing service along the L-line (Manhattan-bound entrances are located directly adjacent the Project Area across Wyckoff Avenue), the Proposed Action would encourage and support transit-oriented development within the Project Area in an appropriate area of Brooklyn, and would therefore support the goals of OneNYC in facilitating greater opportunities for transit-oriented growth throughout the city. Additionally, with the onset of the COVID-19 pandemic, the Proposed Action and resultant RWCDS would further support the growing need to promote livable and walkable mixed-use neighborhoods with work spaces within close proximity to residential communities.

IV. DESCRIPTION OF THE PROPOSED PROJECT

In the future with the Proposed Action, the Applicant proposes to demolish the existing single-story building on Projected Development Site 1 in order to facilitate a new mixed-use development spread between two buildings on a single zoning lot (the "Proposed Project"). The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway (see Figure A-2). The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gsf (36,730 zsf) of retail uses (0.97 FAR); the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf (37,846 zsf) of light industrial uses (1.0 FAR)[2]; and the remaining floors (three through nine) of the proposed nine-story building

[2] While the future tenant(s) to utilize the proposed industrial space(s) are not known at this time, these spaces are intended to be occupied by uses similar to those identified in the approved applications for IBIA development projects located at 25 Kent Avenue (CEQR No: 16DCP065K; ULURP Nos: C 160124 ZSK; C 160125 ZSK; N 160126 ZRK), 103 North 13th Street (CEQR No: 18DCP182K, ULURP Nos: N 190083 ZRK; C 190084 ZSK; C 190085 ZSK), and 1 Wythe Avenue (CEQR No: 21DCP075K, ULURP Nos: 210272ZSK; N210273ZRK), all of which allocated a portion of their floor area to accommodate light industrial/manufacturing uses pursuant to IBIA regulations. For conservative analysis purposes, the analysis presented in Attachment J, "Air Quality," assumes these light manufacturing uses to include Commercial Art & Woodworking, Jewelry Manufacturing, Printing, Commercial Art & Graphic Design, and Baking (refer to Table J-14).



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would contain approximately 121,786 gsf (114,983 zsf) of commercial office uses (3.03 FAR) (see Figure A-3). As shown in Figure A-4, three loading bays would be provided with a single curb cut along Flushing Avenue to satisfy the M1-5 zoning requirements associated with the proposed office, retail, and industrial uses; no accessory parking spaces would be required under the proposed M1-5 zoning district. In total, the Proposed Project would contain approximately 238,104 gsf (189,559 zsf) of new development (5.0 FAR).

VI. ANALYSIS FRAMEWORK

Analysis Year

Accounting for the ULURP approval timeline and based on the Proposed Project's anticipated 22-month construction timeline, it is assumed that full build-out of the Proposed Project would occur by 2024. Additionally, as noted above and described in greater detail below, two additional projected development sites (Lots 29 and Lot 40) have been identified in the Project Area that could be developed as a result of the Proposed Action. However, as described below, no formal redevelopment plans exist for the non-Applicant-owned sites. Nonetheless, the two sites meet the CEQR soft site criteria and, as such, are anticipated to be redeveloped by 2027. This analysis year reflects a reasonable estimate of the time needed for developers to demolish the existing structures on Lots 29 and 40, design the two projects, obtain design approvals, and construct the projects (a total of approximately five years). Accordingly, the EAS will use a 2027 analysis year. As all developments facilitated by the Proposed Action are expected to be operational in 2027, its environmental setting is not the current environment, but the future environment. Therefore, the technical analyses assess current conditions and forecast these conditions to the analysis year of 2027 for the purposes of determining potential impacts.

Reasonable Worst-Case Development Scenario (RWCDS)

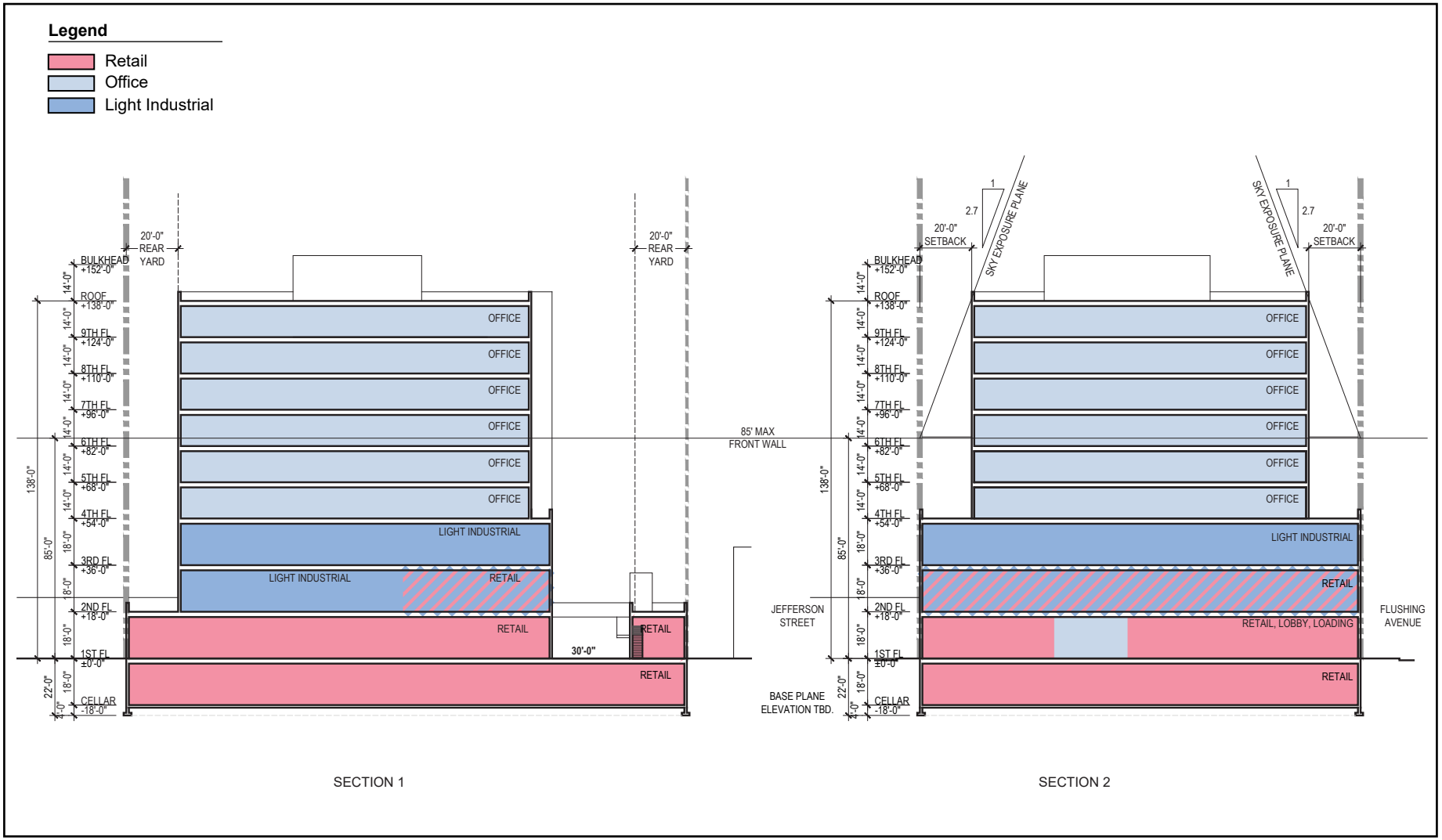
In order to assess the possible effects of the Proposed Action, a RWCDS for the Project Area was established for both Future No-Action and Future With-Action conditions. The incremental difference between the Future No-Action and Future With-Action conditions will serve as the basis of the impact category analyses.

Development Site Criteria

Pursuant to the 2021 *CEQR Technical Manual*, several factors were considered in projecting the amount and timing of new development on the non-applicant owned lots within the Project Area. These include known development proposals, past development trends, and the development site criteria described below. The first step in establishing the RWCDS was to identify those sites where new development could reasonably occur.

According to the *CEQR Technical Manual* the following factors, commonly referred to as "soft site criteria," are generally considered when evaluating whether some amount of development would likely be constructed by the build year as a result of the Proposed Actions:

- The uses and bulk allowed: Lots located in areas where changes in use would be permitted and/or contain buildings built to substantially less than the maximum allowable FAR under the existing zoning are considered "soft" enough such that there would likely be sufficient incentive to develop in the future, depending on other factors specific to the area (e.g., the amount and type of recent as-of-right development in the area, recent real estate trends, site specific conditions that make



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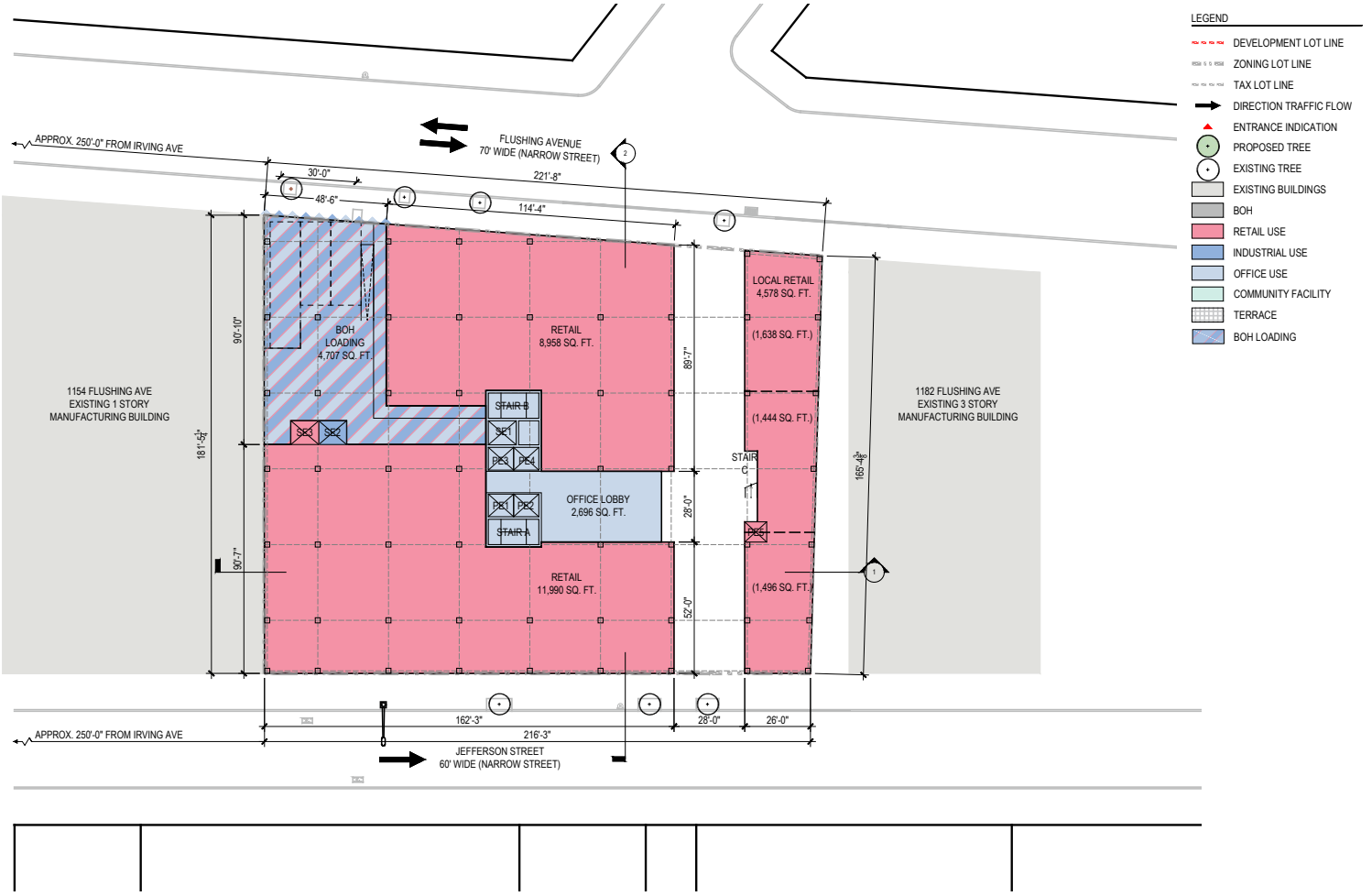

1160 FLUSHING AVE
S9ARCHITECTURE

LEVEL 01 | REASONABLE WORST CASE SCENARIO

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development difficult, and issues relating to site control or site assemblage that may affect redevelopment potential); and

- Size of the development site: Lots must be large enough to be considered "soft." Generally, lots with a small lot size are not considered likely to be redeveloped, even if currently built to substantially less than the maximum allowable FAR. A small lot is often defined for this purpose as 5,000 sf or less, but the lot size criteria is dependent on neighborhood specific trends, and common development sizes in the study area should be examined prior to establishing these criteria.

However, the following uses and types of buildings that meet the soft site criteria are typically excluded from development scenarios because they are unlikely to be redeveloped as a result of a proposed project:

- Full block and newly constructed buildings with utility uses, as these uses are often difficult to relocate;
- Lots where construction is actively occurring, or has recently been completed, as well as lots with recent alterations that would have required substantial capital investment, unless recently constructed or altered lots were built to less than or equal to half of the maximum allowable FAR under the proposed zoning;
- Lots whose location or irregular shape would preclude or greatly limit future as-of-right development. Generally, development on irregular lots does not produce marketable floor space;
- Long-standing institutional uses with no known development plans; or
- Residential buildings with six or more units constructed before 1974. These buildings are likely to be rent-stabilized and difficult to legally demolish due to tenant re-location requirements.

Projected Development Site 1

In the future with the Proposed Action, the proposed zoning map amendment would be approved, allowing the Applicant to redevelop Projected Development Site 1. However, as the proposed M1-5 zoning district permits a maximum community facility FAR of 6.5, the reasonable worst-case development scenario for the Applicant's Development Site maximizes the permitted FAR with an additional 1.5 FAR of community facility (medical office) uses over the Proposed Project (5.0 FAR) for conservative analysis purposes. As such, for reasonable worst-case analysis purposes, it is assumed that Projected Development Site 1 would accommodate approximately 75,586 gsf (36,730 zsf) of retail uses, approximately 40,732 gsf (37,846 zsf) of light industrial uses, approximately 121,786 gsf (114,983 zsf) of commercial office uses, and approximately 59,973 gsf (56,975 zsf) of community facility (medical office) uses (the "RWCDS"). Similar to the Proposed Project, the RWCDS would require three loading bays, which would be accommodated by a single curb cut along Flushing Avenue, and would not contain any accessory parking spaces. In total, the RWCDS for Projected Development Site 1 would contain approximately 298,077 gsf (246,534 zsf) of new development (6.5 FAR).

Remainder of the Project Area

In addition to the Applicant's property, the Project Area also includes the entirety of three privately-owned tax lots that are not controlled by the Applicant (Lots 26, 29, and 40), and an approximately four foot portion of the privately-owned Lot 12.

Lot 29 has a total lot area of 18,530 sf and a built FAR of 1.05, which represents 105 percent of the existing permitted commercial FAR and 21 percent of the proposed M1-5 district's maximum permitted commercial FAR. Lot 40 has a total area of 7,450 sf and a built FAR of 0.97, which represents 97 percent of the existing permitted commercial FAR and 19 percent of the proposed M1-5 district's maximum permitted commercial FAR. As Lots 29 and 40 both meet several criteria for being considered "soft sites," for RWCDS purposes,

it is assumed that both Lots 29 and 40 (or "Projected Development Site 2" and "Projected Development Site 3," respectively) would each be redeveloped as a result of the Proposed Action.

As Lot 26 has an existing built FAR of 2.87, which represents 287 percent of the maximum permitted commercial/industrial uses under the existing M1-1 zoning (and therefore, is considered non-compliant under existing conditions) and 57.4% percent of the maximum permitted commercial/industrial uses under the proposed M1-5 zoning, it is unlikely that Lot 26 would be redeveloped in the future with the Proposed Action as the site does not meet CEQR's "soft-site" criteria. Therefore, Lot 26 is not considered a projected development site.

Additionally, as the proposed M1-5 zoning district would only extend four feet from the eastern edge of Lot 12, and thus, would not exceed 25 feet, the proposed M1-5 zoning district would not apply to Lot 12 (pursuant to ZR Section 77-211), it is unlikely that Lot 12 would be redeveloped as a result of the Proposed Action as the site does not meet CEQR "soft site" criteria. Therefore, Lot 12 is not considered a projected development site.

The Future without the Proposed Actions (No-Action)

In the future without the Proposed Action, it is assumed that while no new construction would be planned for the Applicant-owned Projected Development Site 1, the currently vacant, approximately 30,388 sf former industrial building on Lots 18 and 24 would be converted and reoccupied with commercial retail uses in the No-Action condition. As a result, the Projected Development Site 1 would be occupied by approximately 31,907 gsf (30,388 zsf) of commercial retail uses on a 37,928-sf lot (0.80 FAR). No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Action.

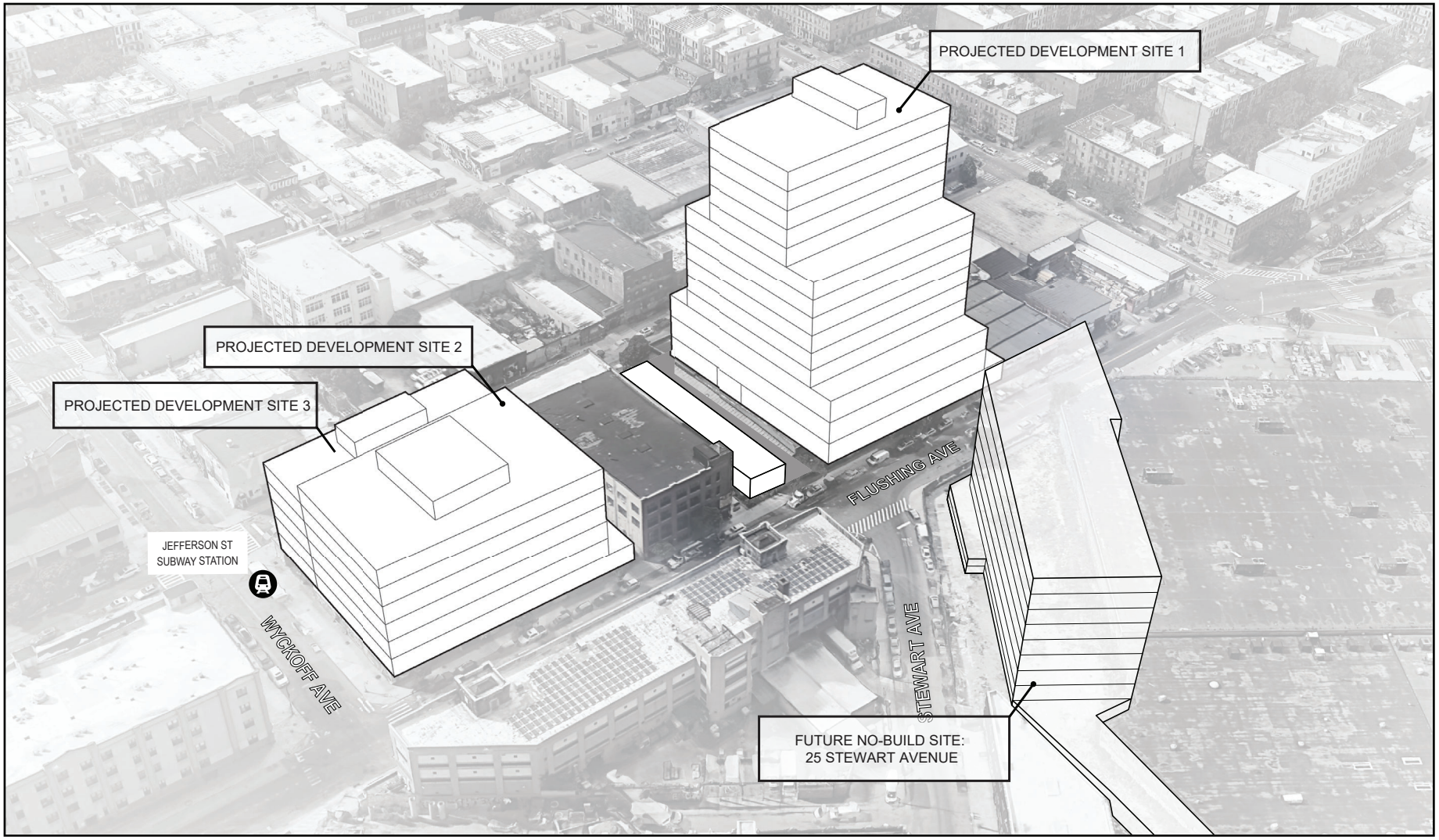
The Future with the Proposed Actions (With-Action)

In the 2027 future with the Proposed Action (the With-Action scenario), the proposed zoning map amendment would be approved, allowing the Applicant to construct the Proposed Project (5.0 FAR) at Projected Development Site 1. However, as discussed above, it is conservatively assumed that the Proposed Action would result in the development of a new mixed-use building with a built FAR of up to 6.5.

In addition, it is assumed that Projected Development Site 2 (Lot 29) and Projected Development Site 3 (Lot 40) would each be redeveloped in the 2027 With-Action scenario. It is anticipated that Projected Development Site 2 would be redeveloped with a six-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space, and Projected Development Site 3 would be redeveloped with a five-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space. As a result, the total With-Action development scenario for the Project Area would include approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses, thus representing the RWCDS for the Project Area under the Proposed Action (refer to **Figure A-5**).

Possible Effects of the Proposed Actions

Table A-1 below provides a comparison of the 2027 No-Action and With-Action scenarios for Projected Development Sites 1, 2, and 3 identified for analysis purposes. As shown in the table, the incremental (net) change that would result from the Proposed Action is the addition of 234,154 gsf of commercial office uses, 46,184 gsf of local retail uses, 59,973 gsf of community facility (medical office) uses, and 33,119 gsf



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of light industrial uses. Using standard ratios for estimating employment, **Table A-1** estimates that the incremental change in workers that would result from the Proposed Action is the addition of 1,305 workers.

Table A-1: Comparison of 2027 RWCDS No-Action and With-Action Scenarios for Projected Development Sites 1, 2, and 3

Use	**No-Action Scenario**	**With-Action Scenario**	**Increment**
Commercial	52,382 gsf	332,720 gsf	**+280,338 gsf**
Office	--	234,154 gsf	**+234,154 gsf**
Retail	52,382 gsf	98,566 gsf	**+46,184 gsf**
Community Facility (Medical Office)	--	59,973 gsf	**+59,973 gsf**
Light Industrial	7,613 gsf	40,732 gsf	**+33,119 gsf**
Population/Employment[1]	**No-Action Scenario**	**With-Action Scenario**	**Increment**
Workers	183 workers	1,488 workers	**1,305 workers**

Notes:
[1] Estimate of workers is based on standard rates and are as follows: 1 worker per 300 sf retail space; 4 workers per 1,000 sf of office space; 1 worker per 1,000 sf of light industrial spaces; and 3 workers per 1,000 sf of community facility (medical office) space.

Attachment B
Supplemental Screening

1160 FLUSHING AVENUE REZONING EAS
Attachment B: Supplemental Screening

I. INTRODUCTION

This Environmental Assessment Statement (EAS) has been prepared in accordance with the guidance and methodologies presented in the 2021 *City Environmental Quality Review* (CEQR) *Technical Manual*. For each technical area, thresholds are defined, which, if met or exceeded, require that a detailed technical analysis be undertaken. Using this guidance, preliminary analyses were conducted for all aspects of the proposed actions to determine whether detailed analyses of any technical areas would be appropriate.

Part II of the EAS Form identifies those technical areas that warrant additional assessments. The technical areas that warranted a "Yes" answer in Part II of the EAS form were land use, zoning, and public policy; socioeconomic conditions; open space; shadows; urban design and visual resources; hazardous materials; water and sewer infrastructure; transportation; air quality; greenhouse gas emissions; noise; public health; neighborhood character; and construction. As such, a supplemental screening assessment for each of the aforementioned analysis areas is provided in this attachment. All remaining technical areas detailed in the *CEQR Technical Manual* were not deemed to require supplemental screening, as they do not trigger initial CEQR thresholds and are unlikely to result in significant adverse impacts, including community facilities, historic and cultural resources, natural resources, solid waste and sanitation services, and energy.[1]

As detailed in Attachment A, "Project Description," the Applicant, 1160 Flushing Ave LLC, seeks City Planning Commission (CPC) approval of a discretionary action to facilitate the development of a new mixed-use development comprising approximately 238,104 gross square feet (gsf) in total (the "Proposed Project"). The Proposed Project would be constructed at 1160 Flushing Avenue (Block 3167, Lots 18 and 24) in the Bushwick neighborhood of Brooklyn Community District (CD) 4. Lots 18 and 24 are owned and controlled by the Applicant and comprise Projected Development Site 1. The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway. The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gsf of retail uses; the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf of light industrial uses; and the remaining floors (three through nine) of the proposed nine-story building would contain approximately 121,786 gsf of commercial office uses.

Specifically, the Applicant seeks CPC approval for a zoning map amendment that would rezone Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40 (the "Proposed Rezoning Area" or "Project Area") from a M1-1 district to a M1-5 district (the "Proposed Action"). As stated above, Lots 18 and 24 are owned and controlled by the Applicant and comprise Projected Development Site 1; Lots 12, 26, 29, and 40 are not owned or controlled by the Applicant.

In the future with the Proposed Action, the proposed zoning map amendment would be approved, allowing the Applicant to construct the Proposed Project at Projected Development Site 1 (Lots 18 and 24). However, as the proposed M1-5 zoning district permits a maximum floor area ratio (FAR) of 6.5 for community facility uses, the reasonable worst-case development scenario (RWCDS) for Projected Development Site 1 assumes an additional 1.5 FAR of community facility (medical office) uses. As such, for conservative

[1] Though further analysis of energy is not warranted and is not expected to result in significant adverse impacts, projected energy consumption demand will be disclosed to determine the potential impacts on greenhouse gas emission levels.

analysis purposes, it is assumed that Projected Development Site 1 could accommodate up to approximately 75,586 gsf of retail uses, approximately 40,732 gsf of light industrial uses, approximately 121,786 gsf of commercial office uses, and approximately 59,973 gsf of community facility (medical office) uses (the "RWCDS"). In total, the RWCDS for Projected Development Site 1 would comprise approximately 298,077 gsf of new development.

In addition, it is assumed that Lots 29 and 40 (both of which are non-Applicant-owned) would each be redeveloped in the future with approval of the Proposed Action as well. It is anticipated that Lot 29 would be redeveloped with a six-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space ("Projected Development Site 2"), and Lot 40 would be redeveloped with a five-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space ("Projected Development Site 3"). As a result, the total With-Action development scenario for the Project Area would include approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses, thus representing the RWCDS for the Project Area under the Proposed Action.

Table B-1: Summary of CEQR Technical Areas Screening

Technical Area	Screened out per EAS Form	Screened out per Supplemental Screening	Detailed Analysis Required
Land Use, Zoning, & Public Policy			X
Socioeconomic Conditions			X
Community Facilities	X		
Open Space			X
Shadows			X
Historic & Cultural Resources	X		
Urban Design & Visual Resources			X
Natural Resources	X		
Hazardous Materials		X	
Water & Sewer Infrastructure			X
Solid Waste & Sanitation Services	X		
Energy	X		
Transportation			X
Air Quality			X
Greenhouse Gas Emissions and Climate Change		X	
Noise			X
Public Health		X	
Neighborhood Character		X	
Construction		X	

It is expected that all three projected development sites would be constructed and fully operational by the end of 2027. Without discretionary approval, it is anticipated that the on-site conditions would remain unchanged from existing conditions, with exception to Projected Development Site 1 which is expected to be converted and reoccupied with commercial retail uses.

The supplemental screening assessment contained herein identified that detailed assessments are required in the areas of land use, zoning, and public policy; socioeconomic conditions; open space; shadows; urban design and visual resources; water and sewer infrastructure; transportation; air quality; and noise. These analyses are provided in **Attachments C** through **K**, and are summarized below. **Table B-1** identifies for each CEQR technical area whether (a) the potential for impacts can be screened out based on the EAS Form, Part II, Technical Analyses; (b) the potential for impacts can be screened out based on a supplemental screening provided herein per the *CEQR Technical Manual*; or (c) a more detailed assessment is required to make an impact determination.

II. LAND USE, ZONING, AND PUBLIC POLICY

Under New York City Environmental Quality Review (CEQR), a land use analysis characterizes the uses and development trends in the area that may be affected by a proposed project. The analysis also considers the project's compliance with and effect on the area's zoning and other applicable public policies. Even when there is little potential for a project to be inconsistent with or affect land use, zoning, or public policy, a description of these issues is appropriate to establish conditions and provide information for use in other technical areas. A detailed assessment of land use and zoning is appropriate if a proposed action would result in a significant change in land use or would substantially affect regulations or policies governing land use. An assessment of zoning is typically performed in conjunction with a land use analysis when the action would change the zoning on the site or result in the loss of a particular use. As the Proposed Action includes a zoning map amendment, a detailed land use, zoning, and public policy is warranted and is provided in **Attachment C, "Land Use, Zoning, and Public Policy."**

As presented in **Attachment C**, no significant adverse impacts on land use, zoning, or public policy, as defined by the guidelines for determining impact significant set forth in the *CEQR Technical Manual*, are anticipated in the 2027 future with the Proposed Action in the primary or secondary study areas. The Proposed Action would not directly displace any land uses so as to adversely affect surrounding land uses, nor generate land uses that would be incompatible with land uses, zoning, or public policy in the secondary study area. The Proposed Action would allow several new developments containing a mix of commercial office, light industrial/manufacturing, and/or local retail uses in an area where there is a strong demand for these particular uses that is well-served by infrastructure and public transportation. Additionally, the Proposed Project would support light industrial/manufacturing uses in the North Brooklyn Industrial Business Zone (the "North Brooklyn IBZ"). As there are currently limited retail uses within the 400-foot study area, the Proposed Action would also introduce ground-floor local retail uses on each of the projected development sites in an area that does not have an abundance of local retail uses.

The Proposed Project would be built at a density and bulk compatible with neighboring recently planned projects, including 25 Stewart Avenue adjacent to the Project Area. As such, the Proposed Action would result in development that, in addition to being appropriate for the area, would complement and improve the diverse land use character of the secondary study area.

Approval of the proposed zoning map amendment would help to create opportunities for retail, office, and community facility (medical office) uses that have limited siting opportunities, and maintain and expand the light industrial and manufacturing character of the East Williamsburg and Bushwick neighborhoods while allowing a mix of other complementary uses that are permitted within the proposed M1-5 zoning district. As such, the Proposed Action is not anticipated to result in significant adverse land use or zoning impacts.

Finally, as indicated in Attachment C, the assessment found that the Proposed Action and resultant RWCDS would be consistent with all applicable policies. The Proposed Action and resultant RWCDS would also be consistent with the public policies outlined in *OneNYC* and *New York Works*, which seek to diversify the

City's economic base and increase middle-class employment in the City. Therefore, the Proposed Project would not conflict with any applicable public policies.

III. SOCIOECONOMIC CONDITIONS

The *CEQR Technical Manual* identifies five principal issues of concern with respect to socioeconomic conditions are whether a proposed project would result in significant adverse impacts due to: (1) direct residential displacement; (2) direct business and institutional displacement; (3) indirect residential displacement; (4) indirect business and institutional displacement; and (5) adverse effects on specific industries. A socioeconomic assessment should be conducted if a project may reasonably be expected to create substantial socioeconomic changes in an area. This can occur if a project would directly displace a residential population, substantial numbers of businesses or employees, or eliminate a business or institution that is unusually important to the community. It can also occur if a project would bring substantial new development that is markedly different from existing uses and activities in the neighborhood, and therefore would have the potential to lead to indirect displacement of businesses or residents from the area. The purpose of a socioeconomic assessment is to disclose potentially adverse changes that would be created by an action and identify whether they rise to the level of significance. According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if an action may be reasonably expected to create socioeconomic changes in the area affected by the action that would not be expected to occur in the absence of the project. The following screening assessment considers threshold circumstances identified in the *CEQR Technical Manual* and enumerated below that can lead to socioeconomic changes warranting further assessment.

1. **Direct Residential Displacement: Would the project directly displace residential population to the extent that the socioeconomic character of the neighborhood would be substantially altered? Displacement of fewer than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood.**

As the Project Area is zoned M1-1 and does not currently contain any existing residential units, the Proposed Action would not directly displace any residents. Therefore, an assessment of direct residential displacement is not warranted.

2. **Direct Business Displacement: Would the project directly displace more than 100 employees? If so, assessments of direct business displacement and indirect business displacement are appropriate.**

The Project Area currently contains several active businesses, some of which are located on either Projected Development Site 2 or 3, and therefore, would be directly displaced as a result of the Proposed Action.[2] Projected Development Site 2 is currently occupied by a single-story building that, according to New York City Department of Buildings (DOB) records, is currently undergoing a conversion from industrial (warehouse) uses to commercial retail uses (DOB job no. 340525300), which will result in a building containing approximately 20,475 gsf of commercial retail space. Once operational, the newly converted retail building is projected to have a total of approximately 69 employees.[3] Projected Development Site 3 is currently occupied by a single-story warehouse building containing approximately 7,613 gsf of industrial

[2] While the existing building at Projected Development Site 1 is anticipated to be converted and reoccupied with retail uses in the future absent the Proposed Action, the building is currently vacant under existing conditions. Therefore, under CEQR guidance, no businesses or workers would be directly displaced at Projected Development Site 1 as a result of the Proposed Action.
[3] Based on rate of one employee per 300 sf of retail floor area.

uses, and is estimated to have approximately eight employees.[4] As the Proposed Action would not directly displace more than 100 employees, an assessment of direct business displacement is not warranted.

3. **Direct Business Displacement: Would the project directly displace a business whose products or services are uniquely dependent on its location, are the subject of policies or plans aimed at its preservation, or serve a population uniquely dependent on its services in its present location? If so, an assessment of direct business displacement is warranted.**

The Proposed Action would not directly displace a business whose products or services are uniquely dependent on its location, are the subject of policies or plans aimed at its preservation, or serve a population uniquely dependent on its services in its present location. However, as described above, the Proposed Action and associated RWCDS has the potential to result in some direct business displacement in the Project Area. Specifically, under the Proposed Action, the industrial warehouse building on Block 3167, Lot 40 (Projected Development Site 3) which currently employs an estimated eight workers, and the recently converted retail space on Lot 29 (Projected Development Site 2) which currently employs an estimated 69 workers, would be directly displaced. According to the *CEQR Technical Manual*, direct displacement of fewer than 100 employees would not typically be expected to alter the socioeconomic characteristics of a neighborhood. Therefore, the direct displacement of the 77 existing workers in the Project Area as a result of the Proposed Action is not expected to result in significant adverse impacts due to direct business displacement. Moreover, the industrial warehouse and retail space do not provide any goods or services that cannot be found within the trade area, and, as the Proposed Action is site-specific to the Project Area and does not include any citywide regulatory changes, it would not adversely affect the economic and operational conditions of certain types of businesses or processes in the City. Moreover, it is expected that the retail space could occupy the newly constructed commercial retail spaces on Lot 29 in the future with the Proposed Action. Therefore, the Proposed Action and associated RWCDS is not expected to result in significant adverse impacts due to direct business displacement, and no further analysis is warranted.

4. **Indirect Displacement due to Increased Rents: Would the project result in substantial new development that is markedly different from existing uses, development, and activities within the neighborhood? Residential development of 200 units or less or commercial development of 200,000 sf or less would typically not result in significant socioeconomic impacts. For projects exceeding these thresholds, assessments of indirect residential displacement and indirect business displacement are appropriate.**

The Proposed Action would result in the development of approximately 332,720 gsf of commercial space (234,154 gsf of commercial office and 98,566 gsf of local retail) and, therefore, exceeds the preliminary screening assessment threshold of 200,000 sf of commercial uses warranting a preliminary assessment of indirect business displacement. The Proposed Action would not introduce residential uses to the Project Area, and therefore, would not exceed the preliminary screening assessment threshold of 200 units warranting a preliminary assessment of indirect residential displacement. As such, the indirect displacement analysis provided in **Attachment D, "Socioeconomic Conditions"** assesses the potential of the Proposed Action to result in significant adverse impacts in regards to indirect businesses displacement.

As presented in Attachment D, a preliminary assessment finds that the Proposed Action would not result in significant adverse impacts due to indirect business displacement. According to the CEQR Technical Manual, indirect displacement of businesses or institutions could be an issue if a proposed action would increase property values and thus rents throughout the study area, making it difficult for some categories of businesses to remain in the area. The Proposed Action and associated RWCDS would introduce a net

[4] Based on rate of one employee per 1,000 sf of industrial floor area.

increase of approximately 234,154 gsf of commercial office space, 98,566 gsf of retail space, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses in the Project Area. The Proposed Action would be limited to the Project Area, and would not result in any changes to zoning in the remainder of the 400-foot study area. The Proposed Action would retain an M zoning district in the Project Area, increase the permitted manufacturing and/or commercial density for the site, and reduce the stringent parking requirements applicable under the existing M1-1 district, which is inappropriate for sites located within transit zones.

The area surrounding the Project Area supports a diverse amount of economic activity with an emerging commercial office and retail market. The Proposed Action and associated RWCDS would introduce a diverse mix of uses. All of the uses contemplated under the Proposed Action are established in the study area, and would not constitute new economic activities or alter existing economic patterns. The proposed office and local retail uses would be consistent with the existing and future mix of land uses in the study area and create new opportunities for businesses to expand and attract new companies. The study area has been experiencing commercial investment, including a limited amount of new construction and the transformation of former industrial buildings into a wide range of commercial uses. Development facilitated by the Proposed Action would be consistent with recent mixed-use development in the study area.

While the Proposed Action would contribute to the existing trend of increasing commercial development in the study area, any upward rent pressure experienced by industrial businesses in the area would be present in the future without the Proposed Action. Changes are already occurring in the study area; the area is already experiencing a trend of increase in commercial uses, rents are relatively high, and most investment in the area over the past decade has been commercial development – including hotels, studio/film/production spaces, office, and creative workspaces. New industrial space has been limited and is largely being introduced in conjunction with new commercial space as mixed-use commercial and industrial developments. Through leveraging the demand for office space, newly constructed industrial spaces are being created within mixed-use developments that provide flexible, modern workspaces that serve current industry needs and standards. Additionally, along with the proposed commercial and community facility spaces, the Proposed Action would also introduce a net increase of approximately 40,732 gsf of light industrial space in the Project Area, helping to alleviate any upward rent pressure experienced by these uses in the future with the Proposed Action.

5. **Indirect Business Displacement due to Retail Market Saturation: Would the project result in a total of 200,000 sf or more of retail on a single development site or 200,000 sf or more of region-serving retail across multiple sites? This type of development may have the potential to draw a substantial amount of sales from existing businesses within the study area, resulting in indirect business displacement due to market saturation.**

The Proposed Action would result in the development of approximately 98,566 gsf of local retail and, therefore, would not exceed the preliminary screening assessment threshold of 200,000 sf of region-serving retail. As such, an assessment of indirect business displacement due to market saturation is not warranted.

6. **Adverse Effects on Specific Industries: Is the project expected to affect conditions within a specific industry? This could affect socioeconomic conditions if a substantial number of workers or residents depend on the goods and services provided by the affected businesses, or if the project would result in the loss or substantial diminishment of a particularly important product or service within the City.**

As presented in **Attachment D**, a preliminary assessment finds that the Proposed Action would not have a significant adverse impact on specific industries. The Proposed Action is site-specific to the Project Area,

and does not include any citywide regulatory changes that would adversely affect the economic or operational conditions of certain types of businesses or processes. Therefore, the Proposed Action would not result in significant adverse impacts on specific industries, and no further analysis is warranted.

IV. OPEN SPACE

An open space assessment may be necessary if a proposed action could potentially have a direct or indirect effect on open space resources within or in the vicinity of the Project area. A direct effect would "physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value." An indirect effect may occur when the population generated by a proposed action would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. Typically, an assessment is warranted if a proposed action would generate more than 200 residents or 500 employees, or a similar number of other uses, to an area.

The Proposed Action would not have any direct effect on open space, as there are no publicly accessible open spaces in the Project Area. Therefore, an analysis of direct impacts on existing open space in the Project Area is not warranted; however, based on other EAS attachments, this assessment will summarize the findings of potential direct effects on open space related to shadows, noise, and construction. The Proposed Action would generate a net 1,305 employees at the Project Area, and therefore, would require further assessment of the potential for non-residential indirect open space impacts pursuant to *CEQR Technical Manual* guidance.

As indicated in **Attachment E, "Open Space,"** compared to No-Action conditions, in the future with the Proposed Action, the passive open space ratio within the non-residential (0.25-mile) study area would decrease by more than five percent (a 9.81 percent reduction) but would remain above the City's planning guideline of 0.15 acres per 1,000 non-residents, at 0.342 acres per 1,000 non-residents. Additionally, the residential population in the 0.25-mile open space study area would not experience any reductions in the total, active, or passive open space ratios between No-Action and With-Action conditions. In addition, the Project Area is located within a Walk to a Park Service Area and, therefore, is not located within a walk gap area (i.e., an area of the City that is not within a walking distance to a park). As such, workers in the 0.25-mile study area would continue to have access to passive open space resources, and there would be no significant adverse impact on open space in the defined study area as a result of the Proposed Action. Furthermore, although the Proposed Project would increase the demand for passive open space for the daytime population in the study area, that demand could be partially absorbed by the 0.11-acre publicly accessible area that would be provided on Projected Development Site 1 in the future with the Proposed Action, as well as the approximately 0.33 acres of outdoor office amenity space located on the Proposed Project's second- and fourth-floor terraces. Therefore, the Proposed Action would not result in any significant adverse indirect impacts to study area open space resources.

V. SHADOWS

As stated in the *CEQR Technical Manual*, a shadow assessment considers projects that result in new shadows long enough to reach a sunlight-sensitive resource. Therefore, a shadow assessment is generally required only if the project would either (a) result in new structures (or additions to existing structures, including the addition of rooftop mechanical equipment) of 50 feet or more; or (b) be located adjacent to, or across the street from, a sunlight-sensitive resource.

Based on the anticipated height and bulk of the RWCDS envelope, the Proposed Action would result in the construction of new buildings that would be greater than 50 feet in height. As the potential for significant adverse shadow impacts could not be screened out, a detailed analysis was prepared, which is provided in **Attachment F, "Shadows."** As presented in **Attachment F,** the RWCDS would result in incremental

shadow coverage (i.e. additional, or new, shadow coverage) on portions of one sunlight-sensitive open space resource. The extent and duration of the incremental shadows on this open space resource would generally (1) not significantly reduce or completely eliminate direct sunlight exposure on any of the sunlight-sensitive features found within these two open spaces; and (2) would not significantly alter the public's use of the open space or threaten the viability of vegetation or other elements located within the open space. The open space resource would continue to receive adequate sunlight during the morning, afternoon, and evening hours (at least the six- to eight-hour minimum specified in the CEQR Technical Manual). Therefore, incremental shadows from the RWCDS on the one identified sunlight-sensitive resource would not be considered a significant adverse impact, in accordance with *CEQR Technical Manual* methodology.

VI. URBAN DESIGN AND VISUAL RESOURCES

An area's urban design components and visual resources together define the look and character of the neighborhood. The urban design characteristics of the neighborhood encompass the various components of buildings and streets in the area, including building bulk, use, and type; building arrangement; block form and street pattern; streetscape elements; street hierarchy; and natural features. An area's visual resources are its unique or important public view corridors, vistas, or natural or built features. For CEQR analysis purposes, this includes only views from public and publicly accessible locations and does not include private residences or places of business.

An analysis of urban design and visual resources is appropriate if a proposed action would (a) result in buildings that have substantially different height, bulk, form, setbacks, size, scale, use, or arrangement than exists in an area; (b) change block form, demap an active street or map a new street, or affect the street hierarchy, street wall, curb cuts, pedestrian activity or streetscape elements; or (c) would result in above-ground development in an area that includes significant visual resources.

As the Proposed Action includes a zoning map amendment that would change the permitted bulk allowed in the Project Area, a preliminary urban design analysis is required and is provided in **Attachment G, "Urban Design and Visual Resources."** As discussed therein, the Proposed Action would allow development that differs from what is permitted as-of-right on the three projected development sites. However, the Proposed Action and associated RWCDS would not result in significant adverse impacts on urban design based on the guidance for determining impact significance set forth in the *CEQR Technical Manual*. In the future with the Proposed Action, the visual appearance within the primary study area would be enhanced and thus the pedestrian experience of the development site would change; however, this change would not meet the *CEQR Technical Manual* threshold for a significant adverse urban design impact in that it would not alter the arrangement, appearance, or functionality of the primary study area such that the alteration would negatively affect a pedestrian's experience of the area.

In addition, development resulting from the Proposed Action would not negatively alter views in the study area from adjacent publicly-accessible locations and would not obstruct any view corridors of significant visual resources. As such, the Proposed Action would not result in significant adverse impacts to urban design and visual resources.

VII. HAZARDOUS MATERIALS

A hazardous material is any substance that poses a threat to human health or the environment. Substances that can be of concern include, but are not limited to, heavy metals, volatile and semi-volatile organic compounds (VOCs and SVOCs), methane, polychlorinated biphenyls (PCBs), and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic. According to the *CEQR Technical Manual*, the potential for significant impacts from hazardous materials can occur when: (a)

hazardous materials exist on a site and (b) an action would increase pathways to their exposure; or (c) an action would introduce new activities or processes using hazardous materials.

Phase I Environmental Site Assessment (ESA)

As the Proposed Action would result in new in-ground disturbance at the Applicant-owned site (Block 3167, Lots 18 and 24; or "Projected Development Site 1"), a Phase I Environmental Site Assessment (ESA) was prepared for Projected Development Site 1 to determine whether hazardous materials exist on the site. The Phase I ESA for Projected Development Site 1 were prepared by Roux Environmental Engineering and Geology, D.P.C. (Roux). The Phase I ESA for Projected Development Site 1 was originally prepared in May 2018 and updated in July 2020. The Phase I ESA was prepared in conformance with the guidelines described in ASTM International Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process – E1527-13. The Phase I ESAs consisted of a review of historical sources (including historical aerial photographs, historical topographic maps, and a City Directory Abstract), visual observations, environmental databases, information provided by the applicant, and interviews with current site representatives. As outlined in the Phase I ESA, which is provided in **Appendix II**, Roux evaluated the findings associated with the subject property and identified one Recognized Environmental Conditions (RECs), and no Controlled RECs (CRECs) or Historic RECs (HRECs) with respect to the subject property. Conditions determined to be RECs are identified below:

- Projected Development Site 1 is in a predominantly industrial and manufacturing area of Brooklyn, New York and has historically contained nearby environmentally damaging businesses. Sanborn Maps indicated adjoining properties of environmental concern including a velvet dyeing and finishing company, an auto electric parts manufacturer, the Long Island Railroad Freight Yard, an electric-metallic company (potential electroplating identified as Sherron Corp) and a private garage with gasoline tanks. Sanborn Maps also identified numerous garages, filling station and auto repairs throughout this area, which were noted to have gasoline storage tanks. Radius Map records also identified adjoining open spills (#1410058 and #0510000), which are both related to the Former Universal Scrap Processing/Auto Parts facility (Brownfield Cleanup Program [BCP] Site # C224210). This facility was identified with petroleum-related soil and groundwater contamination in connection to its former site operations. Dry cleaning operations were also identified at 2 Wyckoff Avenue, which is approximately 176 feet away from and upgradient of Projected Development Site 1. Due to the presence of these nearby and adjoining sites, the soil, groundwater and soil vapor quality of Projected Development Site 1 may be adversely impacts.

Draft Phase II Environmental Site Assessment (ESA)[5]

Based on the RECs identified in the Phase I ESA, a Phase II was recommended by Roux to further evaluate the subsurface conditions at Projected Development Site 1. As shown in **Appendix III**, the Phase II ESA for Projected Development Site 1, also prepared by Roux, included an evaluation of soil and groundwater quality based on data collected through field work conducted between April and May 2018. The scope of work for the Phase II ESA included installation of soil borings, temporary well points, and temporary soil vapor pointes, as well as collecting soil, groundwater, and soil vapor for laboratory analysis. Soil sampling

[5] It should be noted that in May 2018, Roux prepared a draft Phase II report for the purposes of site reconnaissance at the request of the Applicant. As per CEQR standards, the hazardous materials assessment recommends that the Phase II soil borings be advanced to at least two feet below the proposed maximum excavation depth. However, due to site limitations and the existing on-site building at the projected development sites, it was determined that it would not be physically possible to advance the borings to the necessary depth to adequately characterize the site for CEQR purposes. Therefore, in coordination with DCP and DEP, it was recommended that an (E) Designation for hazardous materials be placed on the projected development sites to ensure no significant adverse impacts related to hazardous materials would occur. The (E) Designation would provide the necessary sampling and remediation protocols for the sites.

results were compared to the New York State Department of Environmental Conservancy (NYSDEC) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) and NYSDEC Part 375 Restricted Residential Soil Cleanup Objectives (RRSCOs). Groundwater sampling results were compared to the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQSGVs). The findings of the Phase II ESA are detailed in **Appendix III** and summarized below:

- *Soil.* Based on the data collected from the soil samples, no samples exceeded the UUSCOs or RRSCOs.

- *Groundwater.* The groundwater sample results contain elevated Chlorinated Volatile Organic Compound (CVOC) concentrations. Chloroform and tetrachloroethene (PCE) and two of its daughter products, cis-1,2-dichloroethelene and trichloroethene (TCE) were each detected at concentrations slightly exceeding their AWQGSVs in at least one of the four on-site temporary well points. The exceedance of polycyclic aromatic hydrocarbons (PAHs) in one groundwater sample are not considered to be indicative of groundwater quality at the site, and are likely due to sediments in the groundwater grab sample. The exceedances of metals are not considered to be indicative of groundwater quality at the site, but are likely naturally occurring.

- *Soil Vapor.* The soil vapor samples collected at the site show detections for Volatile Organic Compounds (VOCs) at each of the sampling locations, with the highest detection being at soil vapor point located in the southeast corner of the site (SV-3). The source of the VOCs is unknown. Based on New York State Department of Health (NYSDOH) guidance, remediation and/or mitigation measures will be required to address CVOC-affected soil vapor beneath the existing foundation slab.

After coordination with the lead agency, DCP, and DEP, it was determined that as part of the Proposed Action, an (E) designation (E-674) will be assigned to Projected Development Site 1 (Block 3167, Lots 18 and 24), as well as Projected Development Site 2 (Block 3167, Lot 29), and Projected Development Site 3 (Block 3167, Lot 40), in order to avoid the potential for significant adverse impacts related to hazardous materials at the Project Area.[6] The (E) designation provides the impetus to identify and address environmental conditions so that significant adverse impacts during site development would be reduced, with the New York City Office of Environmental Remediation (OER) providing the regulatory oversight of the environmental investigation and remediation during the process. Building permits are not issued by the New York City Department of Buildings (DOB) without prior OER approval of the investigation and/or remediation pursuant to the provisions of Section 11-15 ("Environmental Requirements") of the *Zoning Resolution of the City of New York* (ZR).

The text of the hazardous materials (E) designation (E-674) for Projected Development Site 1 (Brooklyn Block 3167, Lots 18 and 24), Projected Development Site 2 (Block 3167, Lot 29), and Projected Development Site 3 (Block 3167, Lot 40) would be as follows:

Task 1-Sampling Protocol

The applicant submits to OER, for review and approval, a Phase I ESA of the site along with a soil, groundwater and soil vapor testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, specific sources of suspected contamination (i.e., petroleum based contamination and

[6] See Footnote #5.

non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2-Remediation Determination and Protocol

A written report with findings and a summary of the data must he submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER.

If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed.

A construction-related health and safety plan must be submitted to OER and implemented during excavation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review prior to implementation.

All demolition or rehabilitation would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials.

VIII. WATER AND SEWER INFRASTRUCTURE

For assessment purposes, the City's "infrastructure" comprises the physical systems supporting its population, including: water supply, wastewater treatment, and stormwater management. Other infrastructure components are addressed separately per CEQR guidance. Given the size of New York City's water supply system and the City's commitment to maintaining adequate water supply and pressure, few actions have the potential to cause significant impacts on this system. Therefore, only very large developments or actions having exceptionally large water demands (e.g., more than one million gallons per day) would warrant a detailed water supply assessment. For wastewater and stormwater conveyance and treatment, the *CEQR Technical Manual* indicates that a preliminary assessment is needed if a project is located in a combined sewer area and would exceed the following incremental development of residential units or commercial space thresholds above the predicted No-Action scenario: (a) 1,000 residential units or 250,000 sf of commercial space or more in Manhattan; or (b) 400 residential units or 150,000 sf of commercial space or more in the Bronx, Brooklyn, Staten Island, or Queens.

The Proposed Action and resultant RWCDS would exceed the CEQR analysis threshold for wastewater and stormwater conveyance and treatment; therefore, an assessment of the Proposed Action's potential for impacts was prepared, which is provided in **Attachment H, "Water and Sewer Infrastructure."** As presented in **Attachment H**, the Proposed Action would not result in significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure.

The Proposed Action would generate an incremental water demand of approximately 111,582 gallons per day (gpd) over No-Action conditions. The increased demand associated with the Proposed Action would represent approximately 0.01 percent of the over one billion gallons of water supplied daily to New York City by the New York City Department of Environmental Protection (DEP). As changes of this magnitude would not be large enough to have a significant adverse impact on the City's water system pursuant to *CEQR Technical Manual* guidelines, the incremental demand as a result of the Proposed Action would not adversely affect the City's water supply or system water pressure. Therefore, no significant adverse impacts on area water supply would result in the future with the Proposed Action.

The Newtown Creek Water Pollution Control Plant (WPCP), which is designed to treat a dry weather flow of 310 million gallons per day (mgd), handled an average of 197 mgd of sewage flow between July 2019 and June 2020. Based on rates in the *CEQR Technical Manual*, the Proposed Action has the potential to result in an increase of up to approximately 0.08 mgd of sanitary sewage flow. This amount represents approximately 0.0004 percent of the average daily flow of 197 mgd at the Newtown Creek WPCP and would not result in an exceedance of the plant's permitted capacity of 310 mgd. Therefore, the Proposed Project would not result in a significant adverse impact to the City's sanitary sewage conveyance and treatment system.

Depending on the rainfall volume and duration, the total volume to the combined sewer system could be between 0.02 and 0.26 million gallons per day (mgd) in the future with the Proposed Action. Compared to existing conditions, this would represent an increase in combined sewer flows of up to 0.04 mgd, depending on rainfall intensities. With the incorporation of selected stormwater source control best management practices (BMPs) that would be required as part of the site connection approval process, subject to the review and approval of the New York City Department of Environmental Protection (DEP), the peaks stormwater runoff rates would be reduced. Overall, the Proposed Action would not result in significant adverse impacts on the City's sewage conveyance and treatment systems.

IX. TRANSPORTATION

The objective of the transportation analysis is to determine whether a proposed action may have a potential significant impact on traffic operations and mobility, public transportation facilities and services, pedestrian elements and flow, safety of all roadway users (pedestrians, bicyclists, and vehicles), on- and off-street parking, or goods movement.

The *CEQR Technical Manual* identifies minimum development densities that have the potential to result in significant adverse impacts to transportation conditions and therefore require a detailed transportation analysis. As shown in Table 16-1 of the *CEQR Technical Manual*, actions with a single or multiple land use(s) that would result in fewer than fifty peak hour vehicle trips, 200 peak hour subway/rail or bus transit trips, and/or 200 peak hour pedestrian trips are generally unlikely to cause significant adverse impacts. According to the *CEQR Technical Manual*, if an action would result in development greater than one of the minimum development density thresholds presented in Table 16-1, a Level 1 (Project Trip Generation) Screening Assessment should be prepared. In most areas of New York City, including the Project Area, if a proposed action is projected to result in fewer than 50 peak-hour vehicle trips, 200 peak-hour subway/rail or bus transit riders, or 200 peak-hour pedestrian trips, it is unlikely that further analysis would be necessary. If these trip-generation screening thresholds are exceeded, a Level 2 (Project-generated Trip Assignment) Screening should be prepared to determine if a proposed action would generate or divert 50 peak-hour vehicle trips through any intersection, 200 peak-hour subway trips through a single station, 50 peak-hour bus trips on a single bus route in the peak direction, or 200 peak-hour pedestrian trips through a single pedestrian element. If any of these Level 2 screening thresholds are met or exceeded, detailed analysis for the respective mode would be required.

As the Proposed Action and resultant RWCDS would exceed the Level 2 (Project-generated Trip Assignment) screening threshold for vehicular traffic, transit (subway), and pedestrians (refer to **Appendix IV,** "Transportation Planning Factors and Travel Demand Forecast Technical Memorandum"), a preliminary transportation assessment was prepared for the Proposed Action, which is included in **Attachment I, "Transportation."**

As presented in **Attachment I**, based on the preliminary travel demand forecast (see **Appendix IV**) and the following preliminary assessment, the anticipated level of new transportation demand generated by the Proposed Action is expected to result in significant adverse impacts to traffic conditions in the vicinity of the Project Area, and therefore, a detailed traffic analysis is warranted and will be included in the EIS. While no significant adverse impacts related to transit (subway, bus, and Citywide ferry services [CWFS]), pedestrians, parking, or vehicular and pedestrian safety are anticipated as a result of the Proposed Action, in consultation with the lead agency, DCP, and other relevant City agencies, it may be necessary to include preliminary and/or detailed analyses for each of these technical areas in the EIS. As such, the EIS will present the finalized travel demand forecast for which the detailed traffic analysis will be based upon, and, if warranted, detailed transit (subway, bus, or CWFS), pedestrians, parking, and/or vehicular and pedestrian safety analyses will also be provided in the EIS.

X. AIR QUALITY

Stationary Sources

Heating and Hot Water Systems

Actions can result in stationary source air quality impacts when they create new stationary sources of pollutants that can affect surrounding uses (such as emission stacks from industrial plants or exhaust from boiler stack(s) used for heating/hot water, ventilation, or air conditioning [HVAC] systems of a building); or when they locate new sensitive uses (schools, hospitals, residences) near such stationary sources. Air quality impacts from HVAC sources are unlikely at distances of 400 feet or more, but a large or major emission source within 1,000 feet warrants further evaluation.

The projected development sites would use fossil fuels for HVAC purposes. Emissions from the HVAC system of the projected development sites may affect air quality levels at other nearby existing land uses. According to *CEQR Technical Manual* guidance, the impacts of these emissions would be a function of fuel type, stack height, building size, and location of each emissions source relative to nearby sensitive land uses.

The preliminary screening analyses were conducted using the nomogrpah screening graphs provided in the Air Quality Appendix of the *CEQR Technical Manual*. The nomograph screening graphs indicate the size of the projected developments and distance to the nearest building of a height similar to or greater than the stack height of the proposed building. If the distance between the source and receptor buildings is less than or equal to the threshold distance (i.e., falls above the curve on the nomograph), further analysis is required using the U.S. Environmental Protection Agency's (EPA's) AERSCREEN or AERMOD models. If the source building is taller than the receptor building or the distance between the two buildings falls below the applicable curve provided in the *CEQR Technical Manual* nomographs, a potential significant impact due to boiler stack emissions is unlikely and no further analysis is needed.

As described in **Attachment A, "Project Description,"** the Proposed Action would facilitate the development of the Proposed Project on Projected Development Site 1, as well as the construction of two additional non-Applicant-owned development sites (Projected Development Sites 2 and 3). The Proposed Project would comprise a total of approximately 238,104 gsf of non-residential floor area and have a

maximum building height of 138 feet; Projected Development Site 2 would comprise a total of approximately 96,551 gsf of non-residential floor area and have a maximum building height of 86 feet; and Projected Development Site 3 would comprise a total of 38,797 gsf of non-residential floor area and have a maximum building height of 71 feet. A survey of existing residential land uses and other sensitive receptor sites within 400 feet of the development site was conducted through field observation and use of the New York City Open Accessible Space Information System (OASIS) mapping network system. The closest existing or planned residential/commercial building of similar or greater height to the Project Area that could be affected by HVAC emissions generated by the Proposed Action is the planned hotel development at 25 Stewart Avenue (Block 2994, Lot 75) , approximately 200 feet to the west of the Project Area. As this future building is the closest sensitive receptor of similar or greater height, if the projected development sites would not cause significant impacts at this site, no impacts would occur at sensitive receptors located further from the development site. Based on the nomograph screening (refer to **Attachment J, "Air Quality"**), the potential for the projected development sites' HVAC system to result in significant adverse impacts on this sensitive receptor (the closest sensitive receptor) was screened out. However, as Projected Development Site 2 abuts Projected Development Site 3, the screening assessment using the nomograph is not applicable, and a detailed analysis to determine the potential for project-on-project impacts is required. As such, a detailed HVAC analysis is warranted and is provided in **Attachment J. "Air Quality."** As presented in **Attachment J**, the detailed air dispersion analysis for Projected Development Site 3 stack emissions resulting concentrations at Projected Development Site 2 required certain stack and equipment control measures. The control measures, specified in the (E) Designation (E-674) on Projected Development Site 3, include stack height and location, fossil fuel type used, and use of low-NOx burner(s) in the HVAC equipment. With adherence to the minimum stack setback location and the exclusive use of natural gas pursuant to the (E) designation (E-674), no significant adverse project-on-project air quality impacts from the HVAC emissions would occur.

Air Toxics

To assess air quality impacts on the projected development sites associated with emission from nearby industrial and major sources, an investigation of potential sources of concern (as defined in the *CEQR Technical Manual*) was carried out. While there are no Title V or Air State facilities (major or large sources) warranting detailed analyses within 1,000 feet of the Project Area, the industrial sources assessment identified one industrial source (a silk screen facility) located within 400 feet, warranting a detailed air toxics analysis in accordance with *CEQR Technical Manual* methodology. As presented in **Attachment J, "Air Quality,"** the industrial sources analysis showed that the air toxics emissions from the silk screening facility would not result in significant adverse air quality impacts on any of the projected development sites. The air toxics concentrations would not exceed the Annual and Short-Term Guideline Concentrations (AGCs and SGCs, respectively), and the cumulative inhalation excess cancer risk or the cumulative hazardous quotient thresholds would not be exceeded.

Mobile Sources

As stated in the *CEQR Technical Manual*, a project—whether site-specific or generic—may result in significant mobile source air quality impacts when they increase or cause a redistribution of traffic, create any other mobile sources of pollutants, or add new users near mobile sources. According to the *CEQR Technical Manual* screening threshold criteria for the City, if 170 or more project-generated vehicles pass through an intersection in any given peak period for CO impact, or if a project would result in 12-23 heavy-duty diesel vehicle trips or equivalent PM emission, depending on road type for PM2.5 impact, there is the potential for mobile air quality impacts and a detailed analysis is required.

As discussed in **Attachment I, "Transportation,"** the Proposed Action is not anticipated to result in a substantial number of diesel vehicle trips. Therefore, a detailed analysis of carbon monoxide (CO) is not

required. However, the screening analysis for project-generated peak hour HDDVs traffic or its equivalent in vehicular emissions depending on the type of road, showed an exceedance at the intersections of Irving Avenue and Jefferson Street and the intersection of Irving Avenue and Troutman Street. $PM_{2.5}$ detailed air dispersion analysis was conducted for the intersection of Irving Avenue and Jefferson Street, the most effected intersection. The air dispersion analysis showed that the increment between the future With-Action to the No-Action $PM_{2.5}$ concentrations would not exceed the *de minimis* design values. Therefore, no significant adverse air quality impacts are expected at intersections effected by project-generated traffic. However, as is described in **Attachment J, "Air Quality,"** as there is the potential for the transportation planning factors and/or the No-Action or With-Action traffic volumes associated with this application's transportation analysis to be modified during the preparation of the EIS, further analysis is warranted. The DSOW details the mobile source air quality analysis that will be conducted in the EIS, consistent with the detailed traffic analysis.

In addition, the Proposed Action would not include any accessory parking spaces. Therefore, a detailed parking facilities analysis screened out, and no further assessment is warranted.

XI. GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

As noted in the *City Environmental Quality Review* (CEQR) *Technical Manual,* increased concentrations of greenhouse gases (GHGs) are changing the global climate, resulting in 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.

The contribution of a proposed project's GHG emissions to global GHG emissions is likely to be considered insignificant when measured against the scale and magnitude of global climate change. However, certain projects' contribution of GHG emissions still should be analyzed to determine their consistency with the City's GHG reduction goal, which is currently the most appropriate standard by which to analyze a project under CEQR. The GHG consistency assessment focuses on those projects that have the greatest potential to produce GHG emissions and evaluates their potential to result in significant inconsistencies with the GHG reduction goal. The *CEQR Technical Manual* recommends that a GHG consistency assessment be conducted for any project resulting in 350,000 square feet (sf) or more of development, and other energy-intense projects.

The Proposed Action would facilitate the construction of three predominantly commercial developments with a combined total of approximately 433,425 gsf.[7] Therefore, a GHG consistency assessment is warranted. Based on the FEMA Preliminary Flood Insurance Rate Maps (FIRMs) dated January 30, 2015, the Development Site is not located within the 100- or 500-year flood zones, nor is it located within the NPCC 100- and 500-year projections for the 2020s and 2050s, or any other projected future flood zones. As such, the Development Site is not expected to experience storm surge and coastal flooding, and thus, an assessment of climate change has not been provided.

Building Operational Emissions

According to the *CEQR Technical Manual,* for projects such as the Proposed Actions, where details such as the specific fuel type to be used are unknown at this time, annual GHG emissions should be estimated based on a project's anticipated future floor area. Table 18-5 of the *CEQR Technical Manual* provides the carbon intensities of New York City building types, which were used to calculate annual operations

[7] Pursuant to CEQR, the GHG assessment is based on the total GHG emissions associated with a project, rather than the relative increment of a project's GHG emissions as compared to a No-Action scenario.

emissions of the Proposed Actions' reasonable worst case development scenario (RWCDS) projected development. Future emissions are expected to be lower as efficiency and renewable energy use for grid-supplied electric power continue to increase with the objective of meeting State and City future GHG reduction goals.

Table B-4: Annual Building Operational GHG Emissions

Building Type	CTM Carbon Intensity Rates [kg Carbon Dioxide Equivalent/sq. ft]	RWCDS Floor Area (sq. ft)	GHG Emissions (kg)	GHG Emissions (metric tons)
Commercial	9.43	332,720	3,137,550	3,138
Industrial	23.18	40,732	944,168	944
Institutional	11.42	59,973	684,892	685
Large Residential (> 4 Family)	6.59	0	0	0
Small Residential (< 4 Family)	4.52	0	0	0
Total Operational GHG Emissions		**433,425**	**4,766,609**	**4,767**

Notes:
Commercial = Office, Local Retail
Institutional = Public Elementary School
1 Metric Ton = 1,000 kg

Table B-4, above, displays the estimated GHG emissions associated with the operation emissions of the projected development sites resulting from the Proposed Action under the RWCDS. As shown in the table, operational GHG emissions are estimated to be approximately 4,767 metric tons of carbon dioxide equivalents. This represents approximately 0.009 percent of the City's overall 2017 GHG emissions of approximately 50.7 million metric tons.[8] It should be noted that the estimated GHG emissions for the Proposed Action conservatively do not account for any energy efficiency measures that may be implemented at each of the projected development sites.

Mobile Source Emissions

The number of annual vehicle trips by mode (cars, taxis, and trucks) that would be generated by the Proposed Action was calculated using the transportation planning assumptions developed for the traffic analysis and presented in **Attachment I, "Transportation."** The assumptions used in the calculation include average daily weekday and Saturday person trips and delivery trips by use, the percentage of vehicle trips by mode, and the average vehicle occupancy. To calculate annual totals, the number of trips on Sundays was assumed to be the same as on Saturdays. Average one-way trip distances as shown in Tables 18-6 and 18-7 of the *CEQR Technical Manual* were used in the calculations of annual vehicle miles traveled by cars and taxis. The average truck trip was assumed to be 38 miles as per the *CEQR Technical Manual*. Table 18-8 of the *CEQR Technical Manual* was used to determine the percentage of vehicle miles traveled by road type and the mobile GHG emissions calculator provided with the manual was used to estimate GHG emissions from car, taxi, and truck trips attributable to the proposed project.

The projected annual vehicle miles traveled as a result of the RWCDS, forming the basis for the GHG emissions calculations from mobile sources, are summarized in **Table B-5**. The mobile GHG emissions calculator was used to obtain an estimate of car, taxi, and truck GHG emissions attributable to the Proposed Actions. As presented in **Table B-5**, it is estimated that the vehicle trips generated by the Proposed Action

[8] *City of New York Inventory of New York City Greenhouse Gas Emissions, February 2019,* by Ross MacWhinney, Mayor's Office of Sustainability, New York, 2019.

would travel a total of 4,692,561 miles annually; annual passenger vehicle miles would total 3,230,420, annual taxi vehicle miles would total 389,004, and annual truck trip miles would total 1,073,137.

Table B-5: Proposed Project's Annual Vehicle Miles Traveled (miles per year)

Use	Passenger	Taxis	Trucks	Total
Residential	0	0	0	0
Office	2,437,879	384,071	601,405	3,423,355
Local Retail	598,317	0	166,593	764,910
Light Industrial	194,224	4,933	305,139	504,296
Community Facility (Medical Office)	640,947	270,363	235,789	1,147,099
Total Increase in VMT	**3,230,420**	**389,004**	**1,073,137**	**4,692,561**

The mobile GHG emissions calculator was used to obtain an estimate of car, taxi, and truck GHG emissions attributable to the Proposed Project. As shown **Table B-6**, annual mobile source emissions related to the Proposed Action and resultant RWCDS would result in approximately 3,752 metric tons of carbon dioxide equivalents.

Table B-6: Annual Mobile Source Emissions for 2027 – RWCDS

Carbon Dioxide Equivalent (CO_2e) Emissions (metric tons/year)				
Road Type	**Passenger Vehicles**	**Taxis**	**Trucks**	**Total**
Local	331	50	562	942
Arterial	615	93	972	1,679
Interstate/Expressway	404	61	630	1,095
Total	**1,349**	**204**	**2,163**	**3,716**

Construction Emissions

Consistent with common CEQR practice, emissions associated with construction have not been estimated explicitly for the RWCDS, but analyses prepared for development projects in New York City[9] have shown that construction emissions (both direct and emissions embedded in the production of materials, including on-site construction equipment, delivery trucks, and upstream emissions from the production of steel, rebar, aluminum, and cement used for construction) would be equivalent to the total operational emissions from the operation of the buildings over approximately five to ten years. Annualized emissions associated with construction were found to represent approximately three to 7.6 percent of the overall annual emissions for such projects.

Emissions from Solid Waste Management

The Proposed Action would not change the City's solid waste management system. Therefore, pursuant to *CEQR Technical Manual* guidance, GHG emissions from solid waste generation, transportation, treatment, and disposal are not quantified.

Summary

The total projected GHG emissions from the RWCDS under the Proposed Actions are shown in **Table B-7**. The estimated total of 8,483 metric tons of GHG emissions is approximately 0.02 percent of New York City's 2017 annual total of 50.7 million metric tons. As noted above, the estimated operational GHG

[9] Examples include GHG analyses prepared for the EISs for Riverside Center, the Domino Sugar Rezoning, and Western Rail Yard.

emissions for the Proposed Action conservatively do not include any additional energy efficiency measures that may be implemented as a part of the projected development sites. As described above, construction emissions were not modeled explicitly, but are estimated to be equivalent to approximately five to ten years of operational emissions, including both direct energy and emissions embedded in materials (extraction, production, and transport). The Proposed Action is not expected to change the City's solid waste management system, and therefore emissions associated with solid waste are not presented.

Table B-7: Summary of Total Annual GHG Emissions Resulting from the Proposed Action

Emissions Source	CO_2e Emissions (metric tons)
Operations	4,767
Mobile Sources	3,716
Total	***8,483***

Consistency with the GHG Reduction Goal

According to the *CEQR Technical Manual*, the assessment of consistency with the City GHG reduction goal should answer the following question: "Is the project consistent with the goal of reducing GHG emissions, specifically the attainment of the City's established GHG reduction goal of reducing citywide GHG emissions by 30 percent below 2005 levels by 2030?" To determine consistency with the City's overall GHG reduction goal, the following assesses consistency with the four major goals as cited in the *CEQR Technical Manual*, as relevant to the project:

- Pursue transit-oriented development;
- Generate clean renewable power through replacement of inefficient power plants with state-of-the-art technology and expanding the use of clean distributed generation (not applicable in the case of the Proposed Actions);
- Construct new resource- and energy-efficient buildings (including the use of sustainable construction materials and practices) and improve the efficiency of existing buildings; and
- Encourage sustainable transportation through improving public transit, improving the efficiency of private vehicles, and decreasing the carbon intensity of fuels.

The Proposed Action shows consistency with these goals in that:

- The Project Area is well-served by public transportation. A total of four bus routes (B57, B13, B38, B60) and one New York City Transit (NYCT) subway station (Jefferson Street) are located within, or in close proximity to, the Project Area. The Proposed Action would allow increases in commercial/community facility density along a commercial corridor (Flushing Avenue) in Bushwick, Brooklyn to expand opportunities for commercial and community facility uses, as well as directing higher densities to areas that can accommodate future growth, such as those close to subway lines. The Proposed Action would also incentivize mixed-use development, facilitate active streetscapes with publicly accessible open spaces, and encourage new retail development. By revitalizing and reactivating the Project Area with new office, retail, and open space uses, which is well-served by transit facilities and services, the Proposed Action supports transit-oriented development in New York City.
- The new buildings facilitated by the Proposed Action, which would replace existing structures or vacant lots, would be subject to the New York City Energy Conservation Code (NYCECC), which comprises the 2010 Energy Conservation Construction Codes of New York State (ECCCNYS) in

addition to a series of local laws, including the New York City Building Code. The NYCECC governs performance requirements of HVAC systems, as well as the exterior building envelope of new buildings. In compliance with this code, new development resulting from the Proposed Action must meet standards for energy efficiency.

XII. NOISE

A noise analysis examines an action for its potential effects on sensitive noise receptors (which can be both indoors and outdoors), including the effects on the interior noise levels of residential, commercial, and certain community facility uses, such as hospitals, schools, and libraries. The principal types of noise sources affecting the City are mobile sources (primarily motor vehicles), stationary sources (typically machinery or mechanical equipment associated with manufacturing operations or building HVAC systems) and construction noise (e.g., trucks, bulldozers, power tools, etc.). An initial impact screening would consider whether a proposed action would generate any mobile or stationary source noise, or would be located in an area with high ambient noise levels.

As the Proposed Action would introduce new sensitive uses, a detailed noise analysis was conducted in compliance with *CEQR Technical Manual* guidance to determine whether traffic generated by the Proposed Action would have the potential to result in significant noise impacts and determine the level of building attenuation necessary to ensure that the projected development sites' interior noise levels satisfy applicable interior noise criteria.

As presented in **Attachment K, "Noise,"** noise from the increased traffic volumes generated by the Proposed Action would not cause significant adverse noise impacts, as the noise levels increases would fall well below the applicable *CEQR Technical Manual* significant adverse impact threshold (3.0 dBA).

Based on the noise analysis presented in **Attachment K**, the maximum predicted L_{10} noise levels adjacent to the Project Area's Flushing Avenue (western), Wyckoff Avenue (northern), and Jefferson Street (eastern) frontages are expected to be 71.11 dBA, 74.14 dBA, and 64.49 dBA, respectively. As the maximum predicted With-Action noise levels along Flushing and Wyckoff avenues would fall in the Marginally Unacceptable (I) and Marginally Unacceptable (II) CEQR Noise Exposure categories, a minimum 31 dBA of composite window/wall attenuation would be required for community facility uses on any northern-facing (Wyckoff Avenue) frontage at Projected Development Sites 2 and 3, as well as any western-(Flushing Avenue) or eastern-facing (Jefferson Street) frontage within 50 feet from Wyckoff Avenue at Projected Development Sites 2 and 3; and a minimum of 28 dBA of composite window/wall attenuation would be required for community facility uses on any western-facing (Flushing Avenue) frontage beyond 50 feet from Wyckoff Avenue at Projected Development Sites 1 and 2, any northern facing frontage within 50 feet of Flushing Avenue at Projected Development Site 1; and any southern-facing (Irving Avenue) frontage within 50 feet of Flushing Avenue at Projected Development Sites 1 and 2.By providing the attenuation described above and presented in **Attachment K**, the projected development sites would achieve the required community facility interior noise level of 45 dBA or lower. Any future commercial office uses would be required to provide an attenuation rating of 5 dBA less than the community facility requirement in order to maintain an interior noise level 50 dBA or lower.

The composite window/wall noise attenuation described above would be required through the assignment of an (E) designation (E-674) for noise to Projected Development Site 1 (Block 3167, Lots 18 and 24), Projected Development Site 2 (Block 3167, Lot 29), and Projected Development Site 3 (Block 3167, Lot 40) in conjunction with the Proposed Action.

The text of the (E) designation (E-674) is as follows:

Block: 3167, Lots: 18, 24 (Projected Development Site 1)

To ensure an acceptable interior noise environment, future community facility and commercial office uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on all facades facing Flushing Avenue and all facades facing Wyckoff Avenue and Irving Avenue within 50 feet of Flushing Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses, as illustrated in the EAS. To maintain a closed-window condition, an alternate means of ventilation must also be provided. **Alternate means of ventilation includes, but is not limited to, air conditioning.**

Block: 3167, Lot: 29 (Projected Development Site 2)

To ensure an acceptable interior noise environment, future community facility and commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades facing Wyckoff Avenue and all facades facing Flushing Avenue and Jefferson Street within 50 feet of Wyckoff Avenue, and a minimum of 28 dBA window/wall attenuation on all facades facing Flushing Avenue beyond 50 feet of Wyckoff Avenue and all facades facing Irving Avenue within 50 feet of Flushing Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses, as illustrated in the EAS. To maintain a closed-window condition, an alternate means of ventilation must also be provided. **Alternate means of ventilation includes, but is not limited to, air conditioning.**

Block: 3167, Lot: 40 (Projected Development Site 3)

To ensure an acceptable interior noise environment, future community facility and commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades facing Wyckoff Avenue and all facades facing Flushing Avenue and Jefferson Street within 50 feet of Wyckoff Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses, as illustrated in the EAS. To maintain a closed-window condition, an alternate means of ventilation must also be provided. **Alternate means of ventilation includes, but is not limited to, air conditioning**

With implementation of the attenuation levels outlined above, the projected development sites would provide sufficient attenuation to achieve *CEQR Technical Manual* interior noise level guidelines of 45 dBA for community facility uses and 50 dBA for commercial office uses. Therefore, the Proposed Action and associated RWCDS would not result in any significant adverse noise impacts. The DSOW details the mobile source noise analysis that will be conducted in the EIS, consistent with the detailed traffic analysis. However, as described in **Attachment K, "Noise,"** as there is the potential for the transportation planning factors and/or the No-Action or With-Action traffic volumes associated with this application's transportation analysis to be modified during preparation of the EIS, further analysis is warranted. The DSOW details the mobile source noise analysis that will be conducted in the EIS, consistent with the detailed traffic analysis.

XIII. PUBLIC HEALTH

Public health involves the activities that society undertakes to create and maintain conditions in which people can be healthy. Many public health concerns are closely related to air quality, water quality, hazardous materials, and noise.

According to *CEQR Technical Manual* guidance, a public health assessment may be warranted if a project results in (a) increased vehicular traffic or emissions from stationary sources resulting in significant adverse air quality impacts; (b) increased exposure to heavy metals and other contaminants in soil/dust resulting in significant adverse impacts, or the presence of contamination from historic spills or releases of substances that might have affected or might affect groundwater to be used as a source of drinking water; (c) solid waste management practices that could attract vermin and result in an increase in pest populations; (d) potential significant adverse impacts to sensitive receptors from noise and odors; (e) vapor infiltration from contaminants within a building or underlying soil that may result in significant adverse hazardous materials or air quality impacts; (f) exceedances of accepted federal, state, or local standards; or (g) other actions that might not exceed the preceding thresholds but might, nonetheless, result in significant health concerns.

As detailed in the analyses provided in this EAS, the Proposed Action and associated RWCDS would not result in significant adverse impacts in the areas of air quality, water quality, hazardous materials, or noise. Therefore, the Proposed Action does not have the potential to result in significant adverse public health impacts. However, as described above and as detailed in the DSOW, the EIS may include further discussions of Task X, "Air Quality," and Task XII, "Noise," to ensure consistency with Task IX, "Transportation." In the event that the EIS identifies unmitigated significant adverse impacts related to air quality or noise, and if the lead agency determines that a public health assessment is warranted, an analysis will be provided for the specific technical area or areas in the EIS.

XIV. NEIGHBORHOOD CHARACTER

A supplemental screening analysis is necessary to determine if a detailed neighborhood character analysis is warranted in accordance with *CEQR Technical Manual* methodology, because the Proposed Action require analyses of land use, zoning, and public policy, socioeconomic conditions, open space, urban design and visual resources, shadows, transportation, and noise.

The Proposed Action would not adversely affect any component of the surrounding area's neighborhood character. The Proposed Action would facilitate the development of underutilized land. Neither the Applicant-owned Proposed Project nor non-Applicant-owned projected development sites would conflict with the surrounding activities, nor would they significantly impact land use patterns or alter the socioeconomic character of the neighborhood. In fact, the Proposed Action and resultant RWCDS would improve the pedestrian character of the Project Area, introducing active ground floor retail at several development sites.

While the Proposed Action would increase traffic, pedestrian, and noise levels in the surrounding area, these increases would not be out of character with the existing neighborhood context. Moreover, the Proposed Action is not expected to result in any significant adverse impacts on the technical areas related to neighborhood character, including land use, socioeconomic conditions, open space, urban design and visual resources, historic and cultural resources, shadows, and noise.

While the Proposed Action would result in increased transportation activities and significant adverse traffic impacts, these impacts would not result in a significant change to one of the determining elements of neighborhood character, and the resulting conditions would be similar to those seen in the study area and would not result in levels of activity or service conditions that would be out of character with the

surrounding neighborhood, which is already characterized by heavy vehicle volumes, predominantly in the form of truck traffic, moderate transit (subway and bus) volumes, and low pedestrian volumes. Thus, the changes in transportation due to the Proposed Action would not result in significant adverse impacts on neighborhood character. In addition, while incremental vehicle volumes introduced as a result of the Proposed Action would increase noise levels adjacent to the Project Area, the increases would not be perceptible to individuals (i.e., would be less than 3 dBA) and would, therefore, not alter the character of the surrounding neighborhood.

As there is the potential for the transportation planning factors and/or the No-Action or With-Action traffic volumes associated with this application's transportation analysis to be modified during the preparation of the EIS, further analysis is warranted. The DSOW details the mobile source air quality and noise analyses that will be conducted in the EIS, consistent with the detailed traffic analysis.

XV. CONSTRUCTION

Although temporary, construction impacts can include noticeable and disruptive effects from a project that is associated with construction or could induce construction. Determination of the significance of construction impacts and need for mitigation is generally based on the duration and magnitude of the impacts. Based on *CEQR Technical Manual* guidelines, when the duration of construction is expected to be short-term (less than two years), any impacts resulting from construction generally do not require detailed assessment. Construction impacts are usually important when construction activity could affect traffic conditions, archaeological resources, the integrity of historic resources, community noise patterns, and air quality conditions.

According to the *CEQR Technical Manual*, construction duration is broken into short-term (less than two years) and long-term (two or more years). Where the duration of construction is expected to be short-term, any resulting impacts generally do not require detailed assessment. For conservative analysis purposes, it is estimated that the Proposed Project would take up to 22 months to complete, whereas the two non-Applicant-owned RWCDS projected development sites would each take up to 20 months to complete, with potential overlaps of construction period timing. As such, a preliminary assessment of potential construction impacts is warranted for the Proposed Action.

Governmental Coordination and Oversight

The governmental oversight of construction in New York City is extensive and involves a number of city, state, and federal agencies. **Table B-8** shows the main agencies involved in construction oversight and each agency's areas of responsibility. DOB has the primary responsibility for ensuring that construction meets the requirements of the Building Code, and that buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both construction workers and the public. The areas of responsibility include the installation and operation of construction equipment, such as cranes and lifts, sidewalk sheds, safety netting, and scaffolding. OER enforces the Noise Code, approves remedial action plans (RAPs) and Construction Health and Safety Plans (CHASPs), and regulates water disposal into the sewer system. The New York City Fire Department (FDNY) has primary oversight for compliance with the Fire Code and for the installation of tanks containing flammable materials. The New York City Department of Transportation (DOT) reviews and approves any traffic land and sidewalk closures. New York City Transit (NYCT) is in charge of bus stop relocations and any subsurface construction within 200 feet of a subway. The Landmarks Preservation Commission (LPC) approves studies and testing to prevent loss of archaeological materials and to prevent damage to fragile historic structures.

Table B-8: Construction Oversight in New York City

Agency	Area(s) of Responsibility
New York City	
Department of Buildings (DOB)	Primary oversight for the Building Code and site safety, noise*
Mayor's Office of Environmental Remediation (OER)	Noise*, hazardous materials, dewatering, air quality, dust mitigation
Fire Department (FDNY)	Compliance with the Fire Code, tank operation
Department of Transportation (DOT)	Traffic lane and sidewalk closures
New York City Transit Authority (NYCT)	Bus stop relocation; any subsurface construction within 200 feet of a subway
Landmarks Preservation Commission (LPC)	Archaeological and historic architectural protection
New York State	
Department of Labor (DOL)	Asbestos workers
Department of Environmental Conservation (DEC)	Dewatering, hazardous materials, tanks, Stormwater Pollution Prevention Plan, Industrial State Pollution Discharge Elimination System (SPDES), if any discharge into the Hudson River
United States	
Environmental Protection Agency (EPA)	Air emissions, noise, hazardous materials, toxic substances
Occupational Safety and Health Administration (OSHA)	Worker safety

***** The Noise Code is typically enforced by OER, except for Special Mixed-Use Districts, where it is enforced by DOB.

The NYSDEC regulates discharge of water into rivers and streams, disposal of hazardous materials, and construction, operation, and removal of bulk petroleum and chemical storage tanks. The New York State Department of Labor (DOL) licenses asbestos workers. On the federal level, the United States Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons. Much of the responsibility is delegated to the state level. The United States Occupational Safety and Health Administration (OSHA) sets standards for work site safety and construction equipment.

Conceptual Construction Schedule and Activities

Hours of Work

Construction activities for buildings in New York City generally take place Monday through Friday, with exceptions that are discussed separately below. In accordance with City laws and regulations, construction work on the projected development sites would generally begin at 7AM on weekdays, with workers arriving to prepare work areas between 6AM and 7AM. Construction work would typically end at 3:30PM, but at times the workday could be extended to complete some specific tasks beyond normal work hours, such as completing the drilling of piles, finishing a concrete pour for a floor deck, or completing the bolting of a steel frame erected that day. The extended workday could last until about 9PM and would not include all construction workers on-site, but just those involved in the specific task requiring additional work time. Extended work hours would be subject to after-hours work variance permits from DOB. Additionally, all construction sites require preparation of a noise mitigation plan as outlined in Section 24-219 of the Administrative Code of the City of New York.

Occasionally, Saturday or overtime hours may be required to complete time-sensitive tasks. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from the DEP under the City's Noise Code. The New York City Noise Control Code, as amended December 2005 and effective July 1, 2007, limits construction (absent special circumstances as described below) to weekdays between the hours of 7AM and 6PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6PM and 7AM and on weekends) may be permitted only to accommodate: (i) emergency conditions; (ii) public safety; (iii) construction projects by or on behalf of City agencies; (iv) construction activities with minimal noise

impacts; and (v) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts and/or financial considerations. In such cases, the numbers of workers and pieces of equipment in operation would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than a normal workday. The typical weekend workday would be on Saturday from 7AM with worker arrival and site preparation to 5PM for site cleanup, or as specified in DOB-issued work variance permits.

Construction Sequencing

As with all construction projects in New York City, construction activities would normally take place Monday through Friday, although the delivery/installation of certain critical equipment could occur on weekend days with special permission from DOB. Construction staging would most likely occur on the projected development sites and may occasionally extend within portions of the sidewalks, curbs, and travel lanes of public streets adjacent to the sites. Any sidewalk or street closures require the approval of DOT's Office of Construction Management and Coordination (DOT-OCMC), the entity that insures critical arteries are not interrupted, especially in peak travel periods. Builders would be required to plan and carry out noise and dust control measures during construction. In addition, there would be requirements for street crossing and entrance barriers, protective scaffolding, and strict compliance with all applicable construction safety measures.

As previously noted, for conservative analysis purposes, it is estimated that the Proposed Project would take up to 22 months to complete, whereas the two non-Applicant-owned RWCDS projected development sites would each take up to 20 months to complete. While it is unlikely that construction timelines would overlap between Projected Development Site 1 and Projected Development Site 2 or Projected Development Site 1 and Projected Development Site 3 (as there would be a minimum three-month gap between completion of Projected Development Site 1 and the demolition of Projected Development Sites 2 or 3), construction timelines may overlap between the non-Applicant-owned Projected Development Site 2 and 3. **Table B-9** illustrates the conceptual construction sequencing of the two RWCDS projected development sites associated with the Proposed Actions. As shown in the table, it is expected that each site would undergo an initial approximately six months of demolition/excavation/foundation work and approximately six months of building superstructure erection; Projected Development Site 1 is expected to undergo approximately 10 months of exterior and interior building fit-out, whereas the same task at Projected Development Sites 2 and 3 are expected to last approximately 8 months each. An outline of typical construction activities expected to take place during these stages is provided below.

Table B-9: Conceptual Design and Construction Sequencing of the Projected Development Sites

Projected Development Sites	2022				2023				2024				2025				2026				2027			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1 (Lots 18, 24)																								
2 (Lot 29)																								
3 (Lot 40)																								

KEY:	
	Design/Construction Document Approvals
	Demolition/Excavation/Foundation
	Building Superstructure
	Exterior/Interior Fit-Out

Typical Construction Activities

- Stage 1 (Months 1-6): Site clearance, excavation, and foundation. The first step in this construction phase would be a remediation of hazardous materials on each projected development site. Typical equipment used for these activities would include excavators, backhoes, tractors, pile-drivers,

hammers, and cranes. Trucks would arrive at the sites to remove any material and construction debris. As discussed in the assessment of potential hazardous materials impacts above, remediation is required at each projected development site, and all necessary abatement activities would be conducted in accordance with OER-approved Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP). Subsequently, the remainder of the sites would be cleared in preparation for excavation.

Once soil remediation is completed, below grade excavation and construction would begin. Project construction activities are expected to be typical of similar medium-density construction projects in New York City, including digging; excavation for the foundation; dewatering (to the extent required), and reinforcing and pouring of the foundation. Typical equipment used for these activities would include excavators, backhoes, tractors, hammers, and cranes. Trucks would arrive at the sites with pre-mixed concrete and other building materials, and would remove any excavated material and construction debris.

- Stage 2 (Months 7-10): Erection of the superstructure. Once the foundations have been completed, the construction of the buildings' steel, block, and plank framework would take place. This process involves the installation of CMU blocks, beams, columns and decking or concrete plank, and would require the use of cranes, derricks, hoists, and welding equipment, as warranted.

- Stage 3 (Months 11-22): Façade and roof construction, mechanical installation, interior and finishing work. This would include the assembly of exterior walls and cladding; installation of heating, ventilation and air conditioning (HVAC) equipment and ductwork; installation and checking of elevator, utility, and life safety systems; and work on interior walls and finishes. During these activities, hoists and cranes would continue to be used as warranted, and trucks would remain in use for material supply and construction waste removal. It should be noted that much of this work occurs when the building is fully enclosed, and therefore is not disruptive to the surrounding neighborhood.

During the course of construction, traffic lanes and sidewalks adjacent to the projected development sites may have to be intermittently or temporarily closed or protected for varying periods of time to allow for certain construction activities. Any sidewalk or street closures would require the approval of DOT-OCMC, the entity that ensures critical arteries are not interrupted, especially in peak travel periods. Construction activities would be subject to compliance with the New York City Noise Code and EPA noise emission standards for construction equipment. In addition, there would be requirements for street crossing and entrance barriers, protective scaffolding, and strict compliance with all construction safety measures outlined in the DEP-approved CHASP.

As shown in **Table B-9**, the anticipated construction timeline of Projected Development Site 1 detailed above would not overlap with that of Projected Development Sites 2 and 3 as there would be a minimum three-month gap between completion of Projected Development Site 1 and the demolition of Projected Development Sites 2 or 3. However, as illustrated in **Table B-9**, there is the potential for construction timelines of the non-Applicant-owned development sites to overlap with one another. As such, construction overlaps between Projected Development Site 2 and Projected Development Site 3 could occur for approximately 17-to-20 months between mid-to-late 2025 and early 2027. However, a majority of the overlapping construction activities would consist of at least one or both sites undergoing exterior/interior building fit-out. As noted above, the last few months of construction (during the exterior/interior building fit-out stage) typically occur within the fully enclosed building envelope, and this stage is therefore not externally disruptive. As such, only approximately seven-to-ten months of overlapping construction activities would include more intensive tasks including demolition, excavation, foundation, and superstructure work.

Potential Impacts During Construction

In accordance with the *CEQR Technical Manual*, development facilitated by the Proposed Action was reviewed to determine whether further analysis of the proposed construction activities is needed for any technical area, as discussed below.

Land Use and Neighborhood Character

According to the *CEQR Technical Manual*, a construction impact analysis of land use and neighborhood character is typically needed if construction would require continuous use of a property for an extended duration, thereby having the potential to affect the nature of the land use and character of the neighborhood. A land use and neighborhood character assessment for construction impacts looks at the construction activities that would occur on the site (or portions of the site) and their duration. The analysis determines whether the type and duration of the activities would affect neighborhood land use patterns or neighborhood character. For example, a single property might be used for staging for several years, resulting in a "land use" that would be industrial in nature. Depending on the nature of existing land uses in the surrounding area, this use of a single piece of property for an extended duration and its compatibility with neighboring properties may be assessed to determine whether it would have a significant adverse impact on the surrounding area.

Construction activities would affect land uses on the three projected development sites (which are either currently vacant or accommodate commercial retail and/or light industrial uses), but would not alter surrounding land uses. Construction of each building would occur over a period of between 20 and 22 months. As is typical with construction projects in New York City, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the site as well as noise, sometimes intrusive, from building construction, and trucks and other vehicles backing up, loading, and unloading. These disruptions would be temporary in nature and would have limited effects on land uses in the surrounding area, particularly as most construction activities would take place on the projected development sites or on portions of sidewalks, curbs, and/or travel lanes of public streets immediately adjacent to the sites.

Throughout the construction period, access to residences, businesses, and institutions in the area surrounding the projected development sites would be maintained, as required by City regulations. In addition, as required by applicable laws and regulations, measures would be implemented to control noise, vibration, emissions, and dust on construction sites, including the erection of construction fencing. Because none of these impacts would be continuous or ultimately permanent and would be limited to the Project Area and its immediate vicinity, they would not create significant impacts on land use patterns or neighborhood character in the area. Therefore, while construction of the projected development sites would cause temporary impacts, it is expected that such impacts in any given area would be relatively short-term and therefore not create a land use or neighborhood character impact. Therefore, no significant adverse construction impacts to land use or neighborhood character are expected as a result of the Proposed Action and further assessment is not warranted.

Socioeconomic Conditions

According to the *CEQR Technical Manual*, construction impacts to socioeconomic conditions are possible if a development would entail construction of a long duration that could affect the access to and therefore viability of a number of businesses, and if the failure of those businesses has the potential to affect neighborhood character. Construction activities associated with the Proposed Action would not result in any significant adverse impacts to socioeconomic conditions. Construction of the three projected development sites would be of limited duration, each lasting between 20 and 22 months. Construction

would, in some instances, temporarily affect pedestrian and vehicular access on street frontages immediately adjacent to the projected development sites, including Flushing Avenue, Wyckoff Avenue, and Jefferson Street. However, lane and/or sidewalk closures are expected to be of very limited duration and would not occur in front of entrances to any existing businesses. In addition, construction activities would not obstruct major thoroughfares used by customers or businesses, and businesses would not be significantly affected by any temporary reductions in the amount of pedestrian foot traffic or vehicular delays that could occur as a result of construction activities. As such, no significant adverse construction impacts to socioeconomic conditions are anticipated as a result of the Proposed Action and further assessment is not warranted.

Community Facilities & Services

According to the *CEQR Technical Manual*, construction impacts on community facilities are possible if a community facility would be directly affected by construction (i.e., if construction would disrupt services provided at a facility or close a facility temporarily). Construction activities facilitated by the Proposed Action would not physically displace or alter any existing community facilities. No community facilities would be directly affected by construction activities for an extended duration. The projected development sites would be surrounded by construction fencing and barriers that would limit the effects of construction on nearby facilities. Construction workers would not place any burden on public schools and would have minimal, if any, demands on libraries, child care facilities, and health care services in the area. Construction of the projected development sites would not block or restrict access to any community facilities in the area, and would not materially affect emergency response times. NYPD and FDNY emergency services and response times would not be materially affected as a result of the geographic distribution of the police and fire facilities and their respective coverage areas throughout the City. Therefore, no significant adverse construction impacts to community facilities are anticipated as a result of the Proposed Action and further assessment is not warranted.

Open Space

According to the *CEQR Technical Manual*, construction impacts to open space are possible if open space resources are taken out of service for a period of time during the construction process. No open space resources would be disrupted during the construction of the projected development sites, nor would access to any publicly accessible open spaces be impeded during construction. Although construction activities may generate higher noise levels during the early stages of construction, those levels would be temporary and construction activities in the Project Area would be required to comply with the New York City Noise Code, which regulates construction noise to reduce the effects on noise sensitive receptors including public parks. Additionally, construction fences around the projected development sites would shield nearby open space resources from construction activities. As such, no construction impacts related to open space are expected as a result of the Proposed Action, and no further assessment is warranted.

Historic and Cultural Resources

According to the guidelines in the *CEQR Technical Manual*, construction impacts may occur on historic and cultural resources if in-ground disturbances or vibrations associated with project construction could undermine the foundation or structural integrity of nearby resources. As discussed above, the Project Area does not contain any architecturally and/or archaeologically significant resources of concern, and there are no architectural or archaeological resources within 90 feet of the proposed rezoning area (refer to Appendix I). Therefore, no construction impacts related to historic and cultural resources are anticipated as a result of the Proposed Action, and further assessment is not warranted.

Natural Resources

According to the *CEQR Technical Manual*, a preliminary construction assessment is not required for natural resources unless the construction activities would disturb a site or be located adjacent to a site containing natural resources. As there are no natural resources within the Project Area or its vicinity, no significant adverse construction impacts to natural resources are likely as a result of the Proposed Action, and no further assessment is warranted.

Hazardous Materials

According to the guidelines of the *CEQR Technical Manual*, a construction assessment is not needed for hazardous materials unless the construction activities would disturb a site or be located adjacent to a site containing hazardous materials. Both a Phase I and Phase II ESA were conducted for Projected Development Site 1 on Lots 18 and 24, as detailed above. Based on the findings of the Phase II ESA, Roux determined that pursuant to New York State Department of Health (NYSDOH) guidance, remediation and/or mitigation measures will be required to address CVOC-affected soil vapor beneath the existing foundation slab. In addition, to further avoid the potential for significant adverse impacts related to hazardous materials, as part of the Proposed Action, an (E) designation (E-674) will be assigned to Projected Development Site 1 (Lots 18 and 24), Projected Development Site 2 (Lot 29), and Projected Development Site 3 (Lot 40). As described above, the (E) designation will provides the impetus to identify and address environmental conditions so that significant adverse impacts during site development would be reduced, with OER providing the regulatory oversight of the environmental investigation and remediation during the process. Building permits are not issued by DOB without prior OER approval of the investigation and/or remediation pursuant to the provisions of Section 11-15 ("Environmental Requirements") of the *Zoning Resolution of the City of New York* (ZR). With the implementation of the (E) designation and required remediation measures, the Proposed Action would not result in significant adverse impacts related to hazardous materials. Additionally, all applicable federal, state, and city regulations pertaining to the asbestos, lead paint, and other toxic substances would be required during and after completion of demolition activities, and any required CHASPs would be submitted to OER. Therefore, no significant adverse construction impacts related to hazardous materials are anticipated as a result of the Proposed Action, and further assessment is not warranted.

Transportation

Construction of the proposed buildings would generate trips resulting from arriving and departing construction workers, movement of materials and equipment, and removal of construction waste. As discussed above, construction of the projected development sites are expected to occur during the typical construction hours of 7AM and 3:30PM. Therefore, worker trips would be concentrated in off-peak hours and would not represent a substantial increment during the area's peak travel periods. Construction workers would use both public transportation and private automobiles. Construction workers typically park off-site for larger developments and at curbside in the vicinity of smaller developments. These curbside spaces are typically available as area residents use their autos to travel to work and elsewhere, and are vacated by construction workers in the afternoon before resident demand increases after the typical workday.

Truck movements would be spread throughout the day and would generally occur between the hours of 6AM and 3PM, depending on the stage of construction. Flaggers are expected to be present during construction to manage the access and movements of trucks to and from the proposed development sites. Little if any rerouting of traffic is anticipated as a result of the construction of the proposed buildings. Additionally, moving lanes of traffic are expected to be available at all times along the affected streets except on limited days when cranes will be erecting planks. These conditions would be temporary and not result in significant adverse impacts on traffic conditions.

Construction activities could result in short-term disruption of pedestrian movements around the Project Area, occurring primarily as a result of the temporary loss of curbside lanes from the staging of equipment and the movement of materials to and from the site. Additionally, it is anticipated that some sidewalks immediately adjacent to the projected development sites on Flushing Avenue, Wyckoff Avenue, and Jefferson Street could also be closed to accommodate heavy loading areas for at least several months of the construction period for activities associated with the construction of each projected development site. These activities would include the unloading of construction materials from trucks and the loading of trucks with construction debris. Curb lane and/or sidewalk closures would not affect access points to public transportation including subway and bus stops. In these instances, pedestrians would either walk on the opposite side of the street or in a sectioned-off portion of the street. Detailed Maintenance and Protection of Traffic (MPT) Plans for each building would be submitted prior to construction for approval by DOT-OCMC, which issues permits for any street/sidewalk closures after evaluation of traffic and pedestrian conditions. Appropriate protective measures for ensuring pedestrian safety surrounding each of the projected development sites would be implemented under these plans. Therefore, no significant adverse construction impacts on transportation are anticipated as a result of the Proposed Actions, and no further analysis is warranted.

Air Quality

Possible impacts on local air quality during construction of the three projected development sites include: fugitive dust (particulate) emissions from land clearing operations; and mobile source emissions, including hydrocarbons, nitrogen oxide, and carbon monoxide.

Fugitive dust emissions could occur from land clearing, excavation, hauling, dumping, spreading, grading, compaction, wind erosion, and traffic over unpaved areas. Actual quantities of emissions depend on the extent and nature of the land clearing operations, the type of equipment employed, the physical characteristics of the underlying soil, the speed at which construction vehicles are operated, and the type of fugitive dust control methods employed. Much of the fugitive dust generated by construction activities consists of relatively large-size particles, which are expected to settle within a short distance from the construction site and to not significantly impact nearby buildings or people. All appropriate fugitive dust control measures, including watering of exposed areas and dust covers for trucks, would be employed during construction of the projected developments.

Mobile source emissions may result from the operation of construction equipment, trucks delivering materials and removing debris, workers' private vehicles, or occasional disruptions in traffic near a construction site. Localized increases in mobile source emissions would be minimized by following standard traffic maintenance requirements, such as:

- Construction requiring temporary street closings would be performed during off-peak hours wherever possible;
- The existing number of traffic lanes would be maintained to the maximum extent possible;
- Idling of delivery trucks or other equipment would not be permitted during unloading or other inactive times.
- Use of best available technologies with regard to emissions for construction equipment; and
- Implementation of real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed.

Additionally, as detailed above in "Land Use, Zoning, & Public Policy," the buildings in the immediate vicinity of the projected development sites are predominately classified as industrial/ manufacturing (refer

to **Figure C-1**). Due to the distances of sensitive receptors from the projected development sites, it is not expected that any fugitive dust or mobile source emissions occurring in the immediate vicinity of the sites would negatively affect these sensitive receptors. Therefore, no significant adverse construction impacts related to air quality are expected as a result of construction facilitated by the Proposed Actions, and further analysis is not warranted.

Noise

Impacts on noise levels during construction of the projected development sites would include noise and vibration from the operation of construction equipment and delivery vehicles traveling to and from each construction site. The severity of impacts from these noise sources would depend on the noise characteristics of the equipment and activities involved, the construction schedule, and the distance to potentially sensitive noise receptors. Noise and vibration levels at a given location are dependent on the kind and number of pieces of construction equipment being operated, as well as the distance from the construction site. Noise caused by construction activities would vary widely, depending on the phase on construction – demolition, land clearing and excavation, foundation and capping, erection of structural steel, construction of exterior walls, etc. – and the specific task being undertaken. Increased noise levels caused by construction activities can be expected to be most significant during the early phases of construction before the buildings are enclosed (approximately ten months for each building). Increases in noise levels caused by delivery trucks and other construction vehicles would not be significant. Small increases in noise levels are expected to be found near a few defined truck routes and the streets in the immediate vicinity of the Project Area. Additionally, as detailed in **Attachment K, "Noise,"** it is not anticipated that construction of the projected development sites would result in noise that would negatively affect nearby sensitive receptors.

Construction noise is regulated by the New York City Noise Control Code and by EPA emission standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7AM and 6PM; and that construction material be handled and transported in such a manner as not to create unnecessary noise. These regulations would be carefully followed in the future with the Proposed Action. In addition, appropriate low-noise emission level equipment and operational procedures would be used. Compliance with noise control measures would be ensured by directives to the construction contractor. Therefore, no significant adverse construction impacts related to noise are anticipated as a result of the Proposed Action, and no further analysis is warranted.

Attachment C
Land Use, Zoning & Public Policy

1160 FLUSHING AVENUE EAS
Attachment C: Land Use, Zoning, and Public Policy

A. INTRODUCTION

Under 2021 *City Environmental Quality Review* (CEQR) *Technical Manual* guidance, a land use analysis evaluates the uses and development trends in the area that may be affected by a proposed action and determines whether the proposed action is compatible with those conditions or may affect them. Similarly, the analysis considers a proposed action's compliance with, and effect on, the area's zoning and other applicable public policies.

As described in **Attachment A, "Project Description,"** the Applicant seeks CPC approval for a zoning map amendment that would rezone Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40 (the "Proposed Rezoning Area" or "Project Area") from an M1-1 district to an M-15 district (the "Proposed Action"). The Proposed Action is being proposed to facilitate the construction of a mixed-use development comprising approximately 238,104 gross square feet (gsf) of commercial/manufacturing uses (the "Proposed Project") at 1160 Flushing Avenue (Block 3167, Lots 18 and 24), a 37,928-sf rectangular-shaped lot with frontages on Flushing Avenue and Jefferson Street in the Bushwick neighborhood of Brooklyn Community District (CD) 4 ("Projected Development Site 1").

The Proposed Action would facilitate the demolition of the existing single-story building on Projected Development Site 1 and the construction of the Proposed Project. As stated above, Lots 18 and 24 are owned and controlled by the Applicant and comprise Projected Development Site 1; Lots 12, 26, 29, and 40 are not owned or controlled by the Applicant. The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway. The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gsf (36,730 zoning square feet (zsf)) of retail uses (0.97 FAR); the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf (37,846 zsf) of light industrial uses (1.0 FAR); and the remaining floors (three through nine) of the proposed nine-story building would contain approximately 121,786 gsf (114,983 zsf) of commercial office uses (3.03 FAR). Three loading bays would be provided with a single curb cut along Flushing Avenue to satisfy the M1-5 zoning requirements associated with the proposed office, retail, and light industrial uses; no accessory parking spaces would be required under the proposed M1-5 zoning district. In total, the Proposed Project would contain approximately 238,104 gsf (189,559 zsf) of new development.

In addition, it is assumed that Lots 29 and 40 (both of which are non-Applicant-owned) would each be redeveloped in the future with approval of the Proposed Action as well. It is anticipated that Lot 29 would be redeveloped with a six-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space ("Projected Development Site 2"), and Lot 40 would be redeveloped with a five-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space ("Projected Development Site 3").

It is expected that all three projected development sites would be constructed and fully operational by the end of 2027. Without discretionary approval, it is anticipated that the on-site conditions would remain unchanged from existing conditions, with exception to Projected Development Site 1 which is expected to be converted and reoccupied with commercial retail uses

B. PRINCIPAL CONCLUSIONS

No significant adverse impacts on land use, zoning, or public policy are anticipated in the future with the Proposed Action in the primary or secondary study areas in the 2027 analysis year. The Proposed Action would not directly displace any land uses so as to adversely affect surrounding land uses, nor generate land uses that would be incompatible with land uses, zoning, or public policy in the secondary study area. The Proposed Action would allow several new developments containing a mix of commercial office, light industrial/manufacturing, and/or local retail uses in an area where there is a strong demand for these particular uses that is well-served by infrastructure and public transportation. Additionally, the Proposed Project would support light industrial/manufacturing uses in the North Brooklyn Industrial Business Zone (the "North Brooklyn IBZ"). As there are currently limited retail uses within the 400-foot study area, the Proposed Action would also introduce ground-floor local retail uses on the projected development sites in an area that does not have an abundance of local retail uses.

The Proposed Project would be built at a density and bulk compatible with neighboring recently planned projects, including 25 Stewart Avenue adjacent to the Project Area. As such, the Proposed Action would result in development that, in addition to being appropriate for the area, would complement and improve the diverse land use character of the secondary study area.

Approval of the zoning map amendment would help to create opportunities for retail, office, and community facility (medical office) uses that have limited siting opportunities, and maintain and expand the light industrial and manufacturing character of the East Williamsburg and Bushwick neighborhoods while allowing a mix of other complementary uses that are permitted within the proposed M1-5 zoning district. As such, the Proposed Action is not anticipated to result in significant adverse land use or zoning impacts.

Finally, as indicated below, the assessment provided herein found that the Proposed Action and resultant RWCDS would be consistent with all applicable policies. The Proposed Action and resultant RWCDS would also be consistent with the public policies outlined in *OneNYC* and *New York Works*, which seek to diversify the City's economic base and increase middle-class employment in the City. Therefore, the Proposed Project would not conflict with any applicable public policies.

C. METHODOLOGY

The purpose of this chapter is to examine the effects of the Proposed Action on land use, zoning, and public policy and determine whether they would be compatible with those conditions or whether they may adversely affect them. The analysis methodology is based on the guidance of the *CEQR Technical Manual* and examines the Proposed Action's consistency with land use patterns and development trends, zoning regulations, and other applicable public policies.

According to the *CEQR Technical Manual*, a detailed assessment of land use, zoning, and public policy may be appropriate when a change in land use and zoning would occur and a preliminary assessment cannot succinctly describe land use conditions in the study area. As the Proposed Action involves a zoning map amendment that would result in changes to permitted commercial and manufacturing densities, uses, and bulk, a detailed assessment is necessary to provide a sufficient description and assessment of the effects of the Proposed Action. In addition, a detailed assessment is needed to sufficiently inform other technical reviews and determine whether changes in land use could affect conditions analyzed in those technical areas. Therefore, this chapter includes a detailed analysis that involves a thorough description of existing land uses within the directly affected area and the broader study area. Following the guidance of the *CEQR Technical Manual*, the detailed analysis describes existing and anticipated future conditions in the 2027 analysis year to a level necessary to understand the relationship of the Proposed Action to such conditions,

assesses the nature of any changes on these conditions that would be created by the Proposed Action, and identifies those changes, if any, that could be significant or adverse.

Analysis Year

As stated in **Attachment A, "Project Description,"** the EAS will use a 2027 analysis year, as all developments facilitated by the Proposed Action are expected to be completed and operational in 2027. Therefore, the future No-Action condition accounts for land use and development projects, initiatives, and proposals that are expected to be completed by 2027.

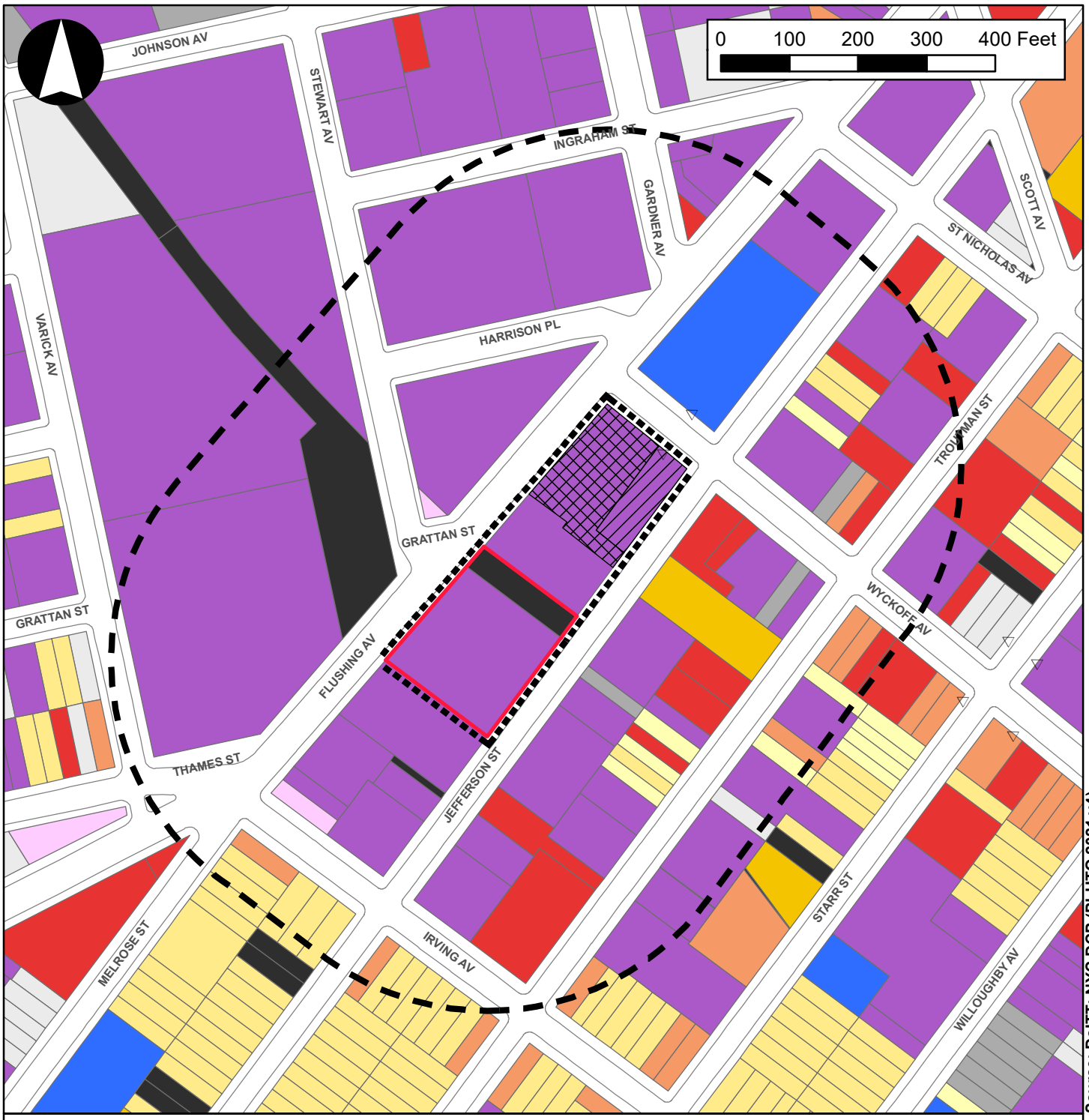
Study Area Definition

To identify and assess the direct and indirect effects of the Proposed Action, this analysis has defined two study areas within which the Proposed Action would have the potential to affect land use or land use trends. Following guidance provided in the *CEQR Technical Manual*, these include a primary study area, consisting of the Project Area subject to the zoning map amendment (Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40), which would be directly affected by the Proposed Action, and a secondary study area encompassing properties that have the potential to experience indirect impacts as a result of the Proposed Action. According to the *CEQR Technical Manual*, the appropriate size of the secondary study area for land use, zoning, and public policy is related to the type and size of the proposed development, as well as the location and context of the area that could be affected by the project. Study area boundaries vary according to these factors, with suggested study areas ranging from 400 feet for a small project to 0.5 miles for a very large project. Given the geographic scope of the Proposed Action, affecting a single block, and the scale of the proposed development relative to the density of the surrounding area, a 400-foot radius from the Project Area has been selected as the secondary study area as it is considered unlikely that the Proposed Action would have indirect effects beyond a 400-foot radius. As shown in **Figure C-1**, the secondary study area extends to include Brooklyn lots within an approximate 400-feet boundary of the Project Area[1], and is generally bound by portions of Stewart and Varrick Avenues to the west, Irving Street to the south, Troutman Street to the east, and Ingraham Street and St. Nicholas Avenue to the north.

Data Sources

Existing land uses were identified through review of a combination of sources including 2020 field surveys and secondary sources, comprising the City's 2021 Primary Land Use Tax Lot Output (PLUTO™) data files, online Geographic Information Systems (GIS) databases such as the New York City Open Accessible Space Information System (OASIS, http://www.oasisnyc.net), and NYCityMap (http://gis.nyc.gov/doitt/nycitymap). Other publications and approved environmental review documents that have been completed for projects in the area were also consulted, many of which are discussed in the "Public Policy" section, below. New York City Zoning Maps and the Zoning Resolution of the City of New York (ZR) were consulted to describe existing zoning districts in the study areas and provided the basis for the zoning evaluation of the future No-Action and With-Action conditions. Relevant public policies, recognized by the New York City Department of City Planning (DCP) and other City agencies were utilized to describe existing public policies pertaining to the study areas.

[1] Secondary study area includes tax lots which have 50 percent or more of their area within a 400-feet radius of the Project Area. Where appropriate, the boundaries of the secondary study area have been expanded to include entire blocks.



Source: DoITT; NYC DCP (PLUTO 2021 v4)

Legend

- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 400-ft Radius
- One & Two Family Buildings
- Multi-Family Walkup Buildings
- Multi-Family Elevator Buildings
- Mixed Commercial/Residential Buildings
- Commercial/Office Buildings
- Industrial/Manufacturing
- Transportation/Utility
- Public Facilities & Institutions
- Open Space
- Parking Facilities
- Vacant Land
- All Others or No Data

D. DETAILED ASSESSMENT

Existing Conditions

Land Use

PRIMARY STUDY AREA/DEVELOPMENT SITES

As shown in **Figure C-1**, the primary study area encompasses Block 3167 containing Lots 12 (p/o), 18, 24, 26, 29, and 40, and is bounded by Flushing Avenue to the west, Wyckoff Avenue to the north, Jefferson Street to the east, and Irving Street to the south. Lots 18 and 24 are owned and controlled by the Applicant and comprise the Proposed Project, or Projected Development Site 1. Lots 18 and 24 are currently occupied by one single-story vacant industrial (warehouse) building, and are currently zoned M1-1 with a maximum permitted FAR of 1.0. The building contains approximately 30,388 sf of former warehouse floor area (0.80 FAR). Lot 24 also contains a small portion of vacant, underdeveloped land on the northernmost portion of the lot, totaling approximately 3,750 sf. Projected Development Site 1 encompasses a total of approximately 37,928 sf of lot area. The remainder of primary study area is non-Applicant owned. Lot 12 is a 19,265-sf lot zoned M1-1 with a maximum permitted FAR of 1.0, but only a four-foot-wide, 725-ft portion of the lot (less than four percent) is located within the primary study area. It is currently occupied by a one-story lumber yard building and contains approximately 19,874 gsf of industrial uses (0.98 FAR). Lot 26 is a 15,200-sf lot located entirely within the primary study area. It is zoned M1-1 with a maximum permitted FAR of 1.0. It is currently occupied by a three-story warehouse building containing approximately 45,780 gsf of industrial uses (2.87 FAR), making the building noncompliant under existing zoning. Lot 29 is an 18,530-sf lot located entirely within the primary study area. It is currently zoned M1-1 with a maximum permitted FAR of 1.0. It is currently occupied by a three-story building. It is currently undergoing a conversion from industrial to commercial uses. It is assumed that Lot 29 would be redeveloped with a six-story, 5.0 FAR predominately commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space ("Projected Development Site 2"). Lot 40 is a 7,450-sf lot located entirely within the primary study area. It is zoned M1-1 with a maximum permitted FAR of 1.0. It is currently occupied by a single-story warehouse building containing approximately 7,613 gsf of industrial uses (0.97 FAR). It is assumed that Lot 40 would be redeveloped with a five-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space ("Projected Development Site 3").

Within the primary study area, Projected Development Site 1 is the currently occupied by a single-story vacant industrial (warehouse) building which was formerly the home of the textile and apparel manufacturer B&B Sweater Mills, Inc. The vacant building currently occupies the entirety of Lots 18 and 24 (37,928 sf of total lot area), with frontage on the east side of Flushing Avenue and the west side of Jefferson Street. There is a curb-cut and three loading docks along the Flushing Avenue frontage. The vacant facility comprises one interconnected one-story building on Lot 18 and an attached expansion on the southern half of the vacant Lot 24 with a total of approximately 31,907sf of built floor area.

Projected Development Site 2 (Lot 29) is an approximately 18,530-sf irregularly shaped property with corner frontage on Flushing and Wyckoff avenues and extends to Jefferson Street where a loading dock and curb cut is located. Lot 29 is currently occupied by a single-story building that, according to New York City Department of Buildings (DOB) records, is currently undergoing a conversion from industrial (warehouse) uses to commercial retail uses, which will result in a building containing approximately 20,475 gsf of commercial retail space on an 18,530-sf lot (1.05 FAR).

Projected Development Site 3 (Lot 40) is an approximately 7,450-sf corner property with frontage on Wyckoff Avenue and Jefferson Street. Lot 40 is currently occupied by a single-story warehouse building containing approximately 7,613 gsf of industrial uses (0.97 FAR). There are two separate loading docks

and curb cuts along Jefferson Street. In addition, a small, northeastern portion of Lot 40 is encumbered by a Real Estate of Utility Companies (REUC) easement due to the location of street stairs serving the Canarsie-bound L-line's Jefferson Street Station.

There are two other lots located within the primary study area that are not projected to be developed. Lot 12 is a 19,265-sf through-lot with frontage on the west side of Flushing Avenue and the east side of Jefferson Street. Lot 12 is currently occupied by a single-story warehouse containing Oriental Lumber, a lumber yard and building supplies retailer. The building contains approximately 19,874 gsf of industrial uses (0.98 FAR). As described above, an approximately four-foot wide, 725-sf portion (less than four percent) of the lot is located within the Project Area.

Lot 26 is a 15,200-sf through-lot located entirely within the Project Area with frontage on the east side of Flushing Avenue and the west side of Jefferson Street. Lot 26 is currently occupied by a three-story warehouse containing Julia Trading, Inc., a wholesale clothing distributor. The building contains approximately 45,780 gsf of industrial uses (2.87 FAR).

The primary study area is served by various public transit options. The Jefferson Street L subway station (located to the north at the intersection of Jefferson Street and Wyckoff Avenue) is directly adjacent to the Project Area. The entrance to the Canarsie-bound L-train is located within the Project Area in Lot 40. In addition, the B57 bus (connecting Maspeth, Queens and Red Hook, Brooklyn) runs along Flushing Avenue. The B57 bus also makes a wide variety of connections to other local bus lines along Flushing Avenue in Brooklyn, including connections with the B15, B43, B44, B44 SBS, B46, B46, B47, B48, B60, B62, B69 bus lines. There are two nearby CitiBike stations, at the corner of Jefferson Street and Irving Avenue and on Wyckoff Avenue between Jefferson Street and Flushing Avenue. Taken together, these transit options provide access to the Project Area from much of north Brooklyn and beyond.

SECONDARY STUDY AREA

The secondary study area encompasses areas that have the potential to experience indirect impacts as a result of the Proposed Action. The secondary study area includes portions of 12 blocks and extends to portions of Stewart and Varrick avenues to the west, Irving Street to the south, Troutman Street to the east, and Ingraham Street and St. Nicholas Avenue to the north. Like the rest of East Williamsburg and western Bushwick, the secondary study area was developed more than 100 years ago, during Brooklyn's industrial age, when both sides of Newtown Creek were dominated by large commercial docks, factories, oil refineries, and breweries. Along Flushing Avenue, for which the Project Area has a frontage, industrial uses dominated the corridor, connecting the Brooklyn Navy Yard on the eastern most end to Queens along one contiguous thoroughfare. Further south and east of the Project Area, inland from Newtown Creek, residential neighborhoods developed to house workers for these industrial uses. Over time, as manufacturing operations on the waterfront declined, these neighborhoods developed their unique blend of commercial, residential, and industrial uses.

In recent years, these neighborhoods have grown and adapted. As refineries and factories have departed, new businesses have emerged to take their place. Due to their character, proximity to Manhattan, eclectic building typologies, and comparatively lower rents, by the end of the 20th Century, Bushwick had become sought-after communities for artists and Manhattan commuters. However, the industrial areas nearest to the waterfront, including the Project Area and other large lots in the vicinity of the primary study area, remained largely underutilized, a product of restrictions on residential use and ever-evolving economic conditions.

New development in the North Brooklyn Industrial Business Zone (IBZ) has tended toward industrial and manufacturing uses and a limited amount of office. However, as described in **Attachment A, "Project Description,"** Brooklyn as a whole has seen a significant increase in its office inventory in Downtown Brooklyn, DUMBO, the Navy Yard and Williamsburg over the past five years.

In 2018, New York City Department of City Planning released the Bushwick Neighborhood Plan, a draft plan covering over 300 blocks in the Bushwick neighborhood intent on adding housing units and jobs. The plan would add approximately 5,613 new housing units, of which 1,873 would be permanently below-market. It would also add approximately 18,000 residents and approximately 6,000 new jobs over a ten-year period. The secondary study area east of Troutman Street and south of Irving Avenue would be directly affected by the rezoning. In 2020, the City announced that it has paused its effort to rezone the neighborhood.

The commercial office space facilitated by the Proposed Action would contribute toward addressing an increase in demand from the media, technology, and creative industries for new commercial space in East Williamsburg and Bushwick. Commonly cited reasons given for this demand include the desire of tenants to occupy non-traditional converted loft-spaces and the attraction of operating near the communities in which their workforces reside. Office spaces that are accessible, and offer efficient space and amenities are highly competitive. In particular, significantly renovated office buildings located adjacent to transit-accessible areas have generally leased rapidly. Small and mid-sized companies, which make up most of Brooklyn's business growth, as well as startups are driving the market and are seeking to locate in areas in close proximity to, or otherwise accessible by, their workforces, near public transportation, and growing residential markets. The success of the neighboring Greenpoint and Williamsburg residential markets is contributing to the growth of the commercial market in the area and the associated demand for additional office space.

As presented in **Figure C-1** and **Table C-1**, the secondary study area is predominantly comprised of industrial/manufacturing buildings (approximately 69.0 percent of built gsf in the secondary study area). Residential uses account for nearly 11.3 percent of the building area in the secondary study area, and are largely concentrated on the blocks bounded by Jefferson Street, Troutman Street, Wyckoff Avenue, and Irving Avenue, as well as blocks south of Irving Avenue. Residential uses generally consist of low-rise two- to four-story buildings, including two-and three-family residences, as well as walk-up multi-unit residential apartment buildings. Commercial uses comprise almost 8.3 percent of the building area, and include creative workspaces, restaurants, and retail. There is one public facility and institution space that comprises 7.4 percent of the building area. Mixed-use commercial/residential uses are located on Wyckoff Avenue and Irving Avenue and comprises 3.5 percent of total building area. Parking and transportation/utilities comprise less than half of one percent of the total building area each. Four vacant lots and one unidentified land use exists in the secondary study area. There are no open space uses located within the secondary study area.[2]

[2] Although no tax lots which have 50 percent or more of their area within the 400-foot radius include open space uses, it should be noted that the 6.87 acre Maria Hernandez Park is located one block to the east of the southernmost boundary of the secondary study area. Furthermore, the 770 sq ft greenstreet located at the intersection of Varick Avenue and Thames Street is within the Secondary Study Area.

Table C-1: Existing Land Uses within the Secondary Study Area

Land Use	Number of Lots	Percentage of Total Lots (%)	Lot Area (sf)	Percentage of Total Lot Area (%)	Building Area	Percentage of Total Building Area (%)
Residential	18	21.7	58,800	8.1	99,216	11.3
One- & Two-Family Buildings	*6*	*7.2*	*14,000*	*1.9*	*8,752*	*1.0*
Multi-Family Walkup Buildings	*11*	*13.3*	*29,800*	*4.1*	*66,344*	*7.6*
Multi-Family Elevator Buildings	*1*	*1.2*	*15,000*	*2.1*	*24,120*	*2.7*
Mixed Commercial/Residential Buildings	7	8.4	16,788	2.3	30,808	3.5
Commercial/Office Buildings	13	15.7	63,003	8.6	72,883	8.3
Industrial/Manufacturing	34	41.0	492,771	67.6	605,743	69.0
Transportation/Utility	2	2.4	3,291	0.5	2,500	0.3
Public Facilities & Institutions	1	1.2	34,965	4.8	65,402	7.4
Open Space	0	0.0	0	0.0	0	0.0
Parking Facilities	3	3.6	6,944	1.0	1,400	0.2
Vacant Land	4	4.8	49,816	6.8	0	0.0
All Others or No Data	1	1.2	2,500	0.3	0	0.0
Total	***83***	***100.0***	***728,878***	***100.0***	***877,952***	***100.0***

Source: New York City 2021v4 PLUTO™ data files, 2019 field visits.
Note: Total lot areas and built areas included for all lots which have 50 percent or more of their area within a 400-feet radius of the Primary Study Area.

Zoning

PRIMARY STUDY AREA

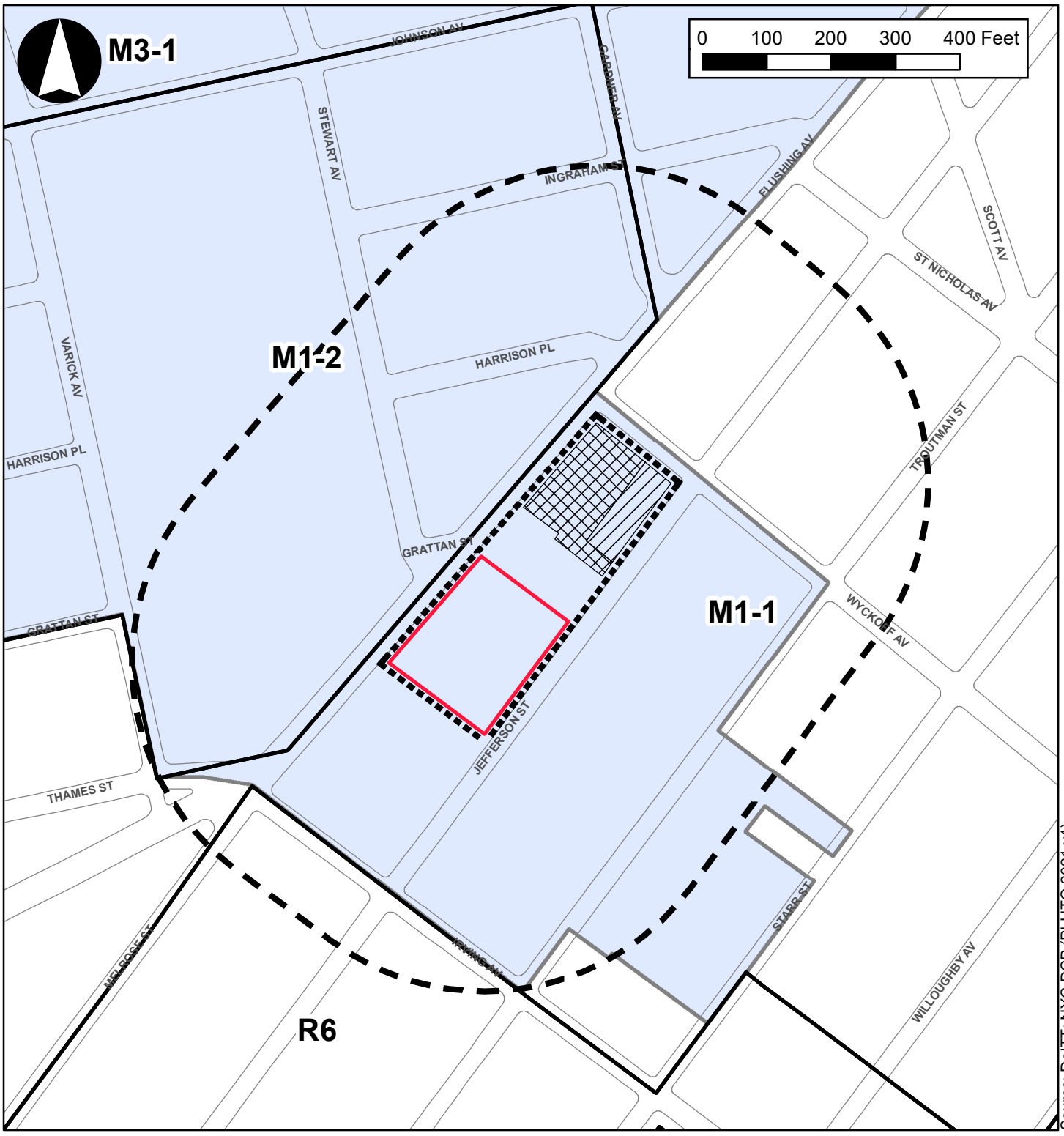
As shown in **Figure C-2**, the primary study area is located in an M1-1 zoning district, which is generally mapped along Flushing Avenue, Gardner Avenue, and Grattan Street to the west, Irving Avenue and Melrose Street to the south, Johnson Avenue in Brooklyn and Metropolitan and Grand Avenues in Ridgewood, Queens to the north, and Starr Street, Willoughby Avenue, and Dekalb Avenue to the east. M1-1 is a light manufacturing/industrial district that has performance standards and may serve as industrial front yards or buffers between heavy manufacturing M2 and M3 districts to adjacent residential and commercial zoning districts. M1 districts usually include light manufacturing/industrial uses such as woodworking shops, repair shops, and wholesale services. High performance industrial uses are allowed, as well as a range of commercial uses. Pursuant to the recently-approved M1 Hotel Text Amendment, hotels are only permitted by special permit. Additional Use Group 4 community facilities are allowed in M1 districts by special permit.[3] Residential development is generally not permitted as-of-right in M1 districts. M1-1 districts have a maximum floor area ratio (FAR) of 1.0 for manufacturing and commercial uses and 2.4 for community facility uses (Use Group 4, only).[4] Buildings in M1-1 districts are governed by the sky exposure plane, which begins 30 feet above the street line. Within M1-1 districts, off-street parking is required and varies by use.

SECONDARY STUDY AREA

Zoning classifications within the secondary study area, which are also shown in **Figure C-2** and listed in **Table C-2**, consists of an M1-2 district, which is a high performance, low-density manufacturing zoning district. Additionally, an R6 residential zoning district is mapped along the southern edge of the secondary study area south of Irving Avenue.

[3] Pursuant to the ZR, section 42-11, Use Group 4A containing health facilities and houses of worship are permitted as-of-right and do not require a special permit; Use Group 4B (which includes open uses, such as agriculture, cemeteries, golf courses, parks, and railroad right-of-ways and Use Group 4C (which includes accessory uses to Use Groups 4A and 4B) are not permitted as-of-right and thus, would require a special permit.
[4] See footnote 3.

Figure C-2
Zoning Map



Legend

- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 400-ft Radius
- Zoning District Boundary
- North Brooklyn IBZ

Table C-2: Existing Zoning Districts within the Secondary Study Area

Name	Definition/General Use	Maximum FAR
Residential Districts		
R6	R6 districts are widely mapped in built-up, medium-density areas. Developers can choose between Height Factor and Quality Housing bulk regulations.	R: 0.78-2.43 (Height Factor); 2.2-3.0 (Quality Housing); 2.42-3.6 (Inclusionary Housing); C: 0.0; CF: 4.8; M: 0.0
Manufacturing Districts		
M1-2	M1 districts are often buffers between M2 or M3 districts and adjacent residential or commercial districts. M1 districts typically include light industrial uses, which must meet the stringent M1 performance standards.	R: 0.0; C: 2.0; CF: 4.8[1]; M: 2.0

Source: Zoning Resolution of the City of New York
Notes: R=Residential; C=Commercial; CF=Community Facility; M=Manufacturing
[1] Nursing homes and non-profit residential facilities limited to residential FAR, except by special permit

Public Policy

In addition to zoning, officially adopted and promulgated public policies also describe the intended use applicable to an area or particular site(s) in New York City. These include Urban Renewal Plans, 197-a Plans, Industrial Business Zones (IBZs), the New York City Comprehensive Waterfront Plan, the Criteria for the Location of City Facilities ("Fair Share" criteria), Solid Waste Management Plan, Business Improvement Districts ("BIDs"), the New York City Landmarks Law, the Waterfront Revitalization Program ("WRP"), and OneNYC. Some of these policies have regulatory status, while others describe general goals. They can help define the existing and future context of the land use and zoning of an area.

Public policies applicable to the study areas are discussed below. The Proposed Action's consistency with each of these policies is assessed in the "The Future with the Proposed Action (With-Action Condition)" section of this chapter. The primary and secondary study areas are located within the boundaries of the North Brooklyn IBZ. Additionally, applicable public policies include OneNYC, 10-Point Industrial Action Plan, New York Works, and the Federal Emergency Management Agency (FEMA) Flood Plains.

NORTH BROOKLYN INDUSTRIAL BUSINESS ZONE (IBZ)

As shown in **Figure C-2**, the primary study area and most of the secondary study area are located within the North Brooklyn IBZ. The North Brooklyn IBZ covers over several hundred blocks (or portions thereof) in the Greenpoint, Williamsburg, East Williamsburg, and Bushwick neighborhoods, and is generally bounded by Newtown Creek to the north and east, Flushing Avenue and Jefferson Street to the south, and McGuinnes Boulevard, Morgan Avenue, Van Dam Street, and Waterbury Street to the west. In 2006, the Mayor's Office for Industrial and Manufacturing Businesses ratified the establishment of 16 IBZs in which the City provides expanded assistance services to industrial firms in partnership with local development groups. Since 2006, additional IBZs have been established and the boundaries of select IBZs modified. There are currently 21 IBZs throughout New York City. Usually built upon pre-existing In-Place Industrial Parks, IBZs offer various incentives to prevent industrial uses from relocating outside of the City and represent a commitment by the City not to rezone these areas for residential uses.

Planning studies are performed to determine changes that can be made to improve business efficiency within the City's IBZs. These changes can include traffic and parking monitoring, clustering of similar businesses, and IBZ-specific marketing. Higher regulation and steeper penalties for illegal conversions, as well as a guarantee not to rezone to residential districts, help to alleviate real estate uncertainty. Tax incentives also encourage new industrial uses to move to these areas of the City.

Within an IBZ, Industrial Business Solutions Providers offer industrial firms guidance on accessing appropriate financial and business assistance programs, navigating and complying with regulatory requirements, developing workforces, and ensuring the neighborhood is well-maintained. The Industrial

Business Solutions Provider for the North Brooklyn IBZ is Evergreen: Your North Brooklyn Business Exchange. As noted in **Attachment A, "Project Description,"** the Applicant has partnered with Evergreen, which is a local organization that provides support for manufacturing, creative production and industrial service businesses in North Brooklyn.

The North Brooklyn IBZ identifies six subareas based on existing trends and assets. These subareas help advance the goal to create a better business environment, improve the quality of life for workers and residents, and identify improvements to transportation and infrastructure to support economic growth. The Project Area would be located within the Growth District of the North Brooklyn IBZ. The Growth District is identified as the most transit-accessible subarea with the greatest concentration of multi-story industrial loft buildings. The goal of the Growth District aims to grow the technology, advertising, media and information (TAMI) sector by increasing density for commercial and light industrial uses, reducing parking requirements, rightsizing loading requirements to reflect excellent business needs and facilitate development, and creating new loft-like building envelopes.

ONENYC (PREVIOUSLY PLANYC)

In April 2015, former Mayor Bill de Blasio released OneNYC, a comprehensive plan for a sustainable and resilient city for all New Yorkers that speaks to the profound social, economic, and environmental challenges faced. OneNYC is the update to the sustainability plan for the City started under the Bloomberg administration, previously known as *PlaNYC 2030: A Greener, Greater New York*. Growth, sustainability, and resiliency remain at the core of OneNYC, but with the poverty rate remaining high and income inequality continuing to grow, the de Blasio administration added equity as a guiding principle throughout the plan. In addition to the focuses of population growth; aging infrastructure; and global climate change, OneNYC brings new attention to ensuring the voices of all New Yorkers are heard and to cooperating and coordinating with regional counterparts. Since the 2011 and 2013 updates of PlanNYC, the City has made considerable progress towards reaching original goals and completing initiatives. OneNYC includes updates on the progress towards the 2011 sustainability initiatives and 2013 resiliency initiatives and also sets additional goals and outlines new initiatives under the organization of four visions: growth, equity, resiliency, and sustainability.

Goals of the plan are to make New York City:

- A Growing, Thriving City—by fostering industry expansion and cultivation, promoting job growth, creating and preserving affordable housing, supporting the development of vibrant neighborhoods, increasing investment in job training, expanding high-speed wireless networks, and investing in infrastructure.
- A Just and Equitable City—by raising the minimum wage, expanding early childhood education, improving health outcomes, making streets safer, and improving access to government services.
- A Sustainable City—by reducing greenhouse gas emissions, diverting organics from landfills to attain Zero Waste, remediating contaminated land, and improving access to parks.
- A Resilient City—by making buildings more energy efficient, making infrastructure more adaptable and resilient, and strengthening coastal defenses.

10-POINT INDUSTRIAL ACTION PLAN

The 10-Point Industrial Action Plan, announced in November 2015, outlines tools and strategies to strengthen and invest in New York City's core industrial areas, including IBZs, and provides essential protections against non-industrial uses and development that will help ensure that existing manufacturing firms and new businesses have the space and support they need to thrive. The Industrial Action Plan also

affirms the Administration's commitment to strengthening the City's core industrial areas and aims to support industrial job growth in IBZs, New York City's most active manufacturing zones. It also establishes a new $150 million loan and grant fund for new and growing industrial businesses, helps firms access advanced technologies like 3D printing, and opens new career centers to connect New Yorkers directly with industrial employers. The Plan was enacted to help achieve three major goals: to protect and strengthen core industrial areas; invest in the long-term development of industrial and manufacturing businesses; and prepare New York's labor force for future industrial and manufacturing jobs.

NEW YORK WORKS

In June 2017, former Mayor Bill de Blasio released New York Works, a 10-year economic development plan to invest in and support new industries and employment opportunities, as well as raise wages, train New Yorkers for new careers, and create jobs. New York Works includes 25 initiatives to spur the creation of 100,000 new quality jobs in key sectors that have the potential to support well-paid jobs, including cyber security, freight, life sciences and healthcare, virtual reality, culture, tech, manufacturing, and apprenticeships. As affordability has persisted as an issue for many New Yorkers, this plan attempts to identify opportunities to spur job creation for jobs paying more than $50,000 a year, making New York a more affordable place to live and work. The plan comprises three broad objectives:

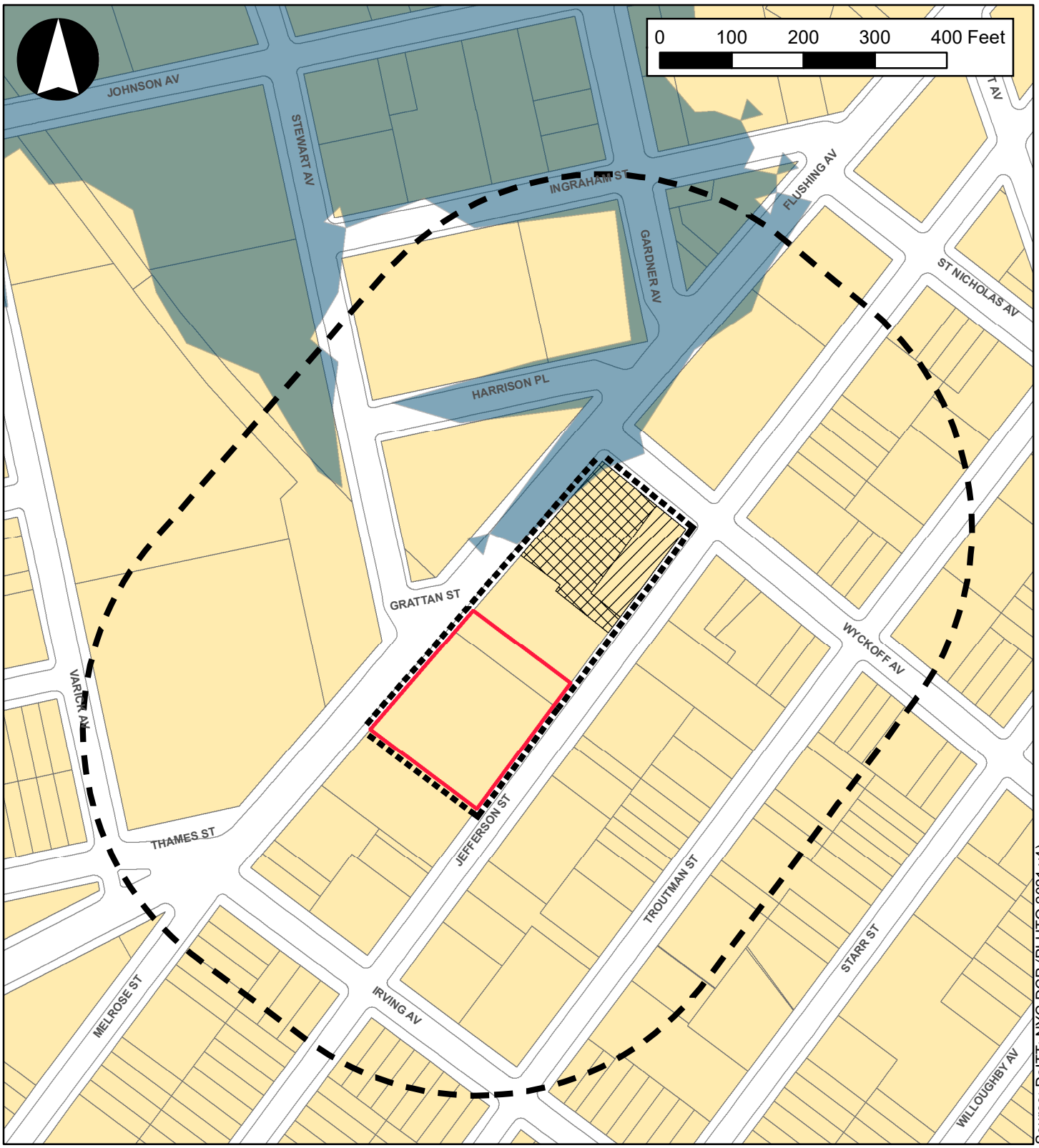
- Invest in the creation of middle-class jobs.
- Ensure those jobs are accessible to New Yorkers.
- Prepare for jobs of the future.

The plan seeks to create 25,000 jobs through investments in existing and emerging commercial centers across the five boroughs to support jobs closer to where New Yorkers live, and strengthen core job markets and global competitiveness. The plan indicates the demand for office space in New York City is projected to grow by over 60 million square feet by 2025, with nearly half of the demand outside of Manhattan. Activating and increasing the supply of commercial office space is essential to expanding opportunity and increasing the number of middle income jobs from private sector professional services based in offices. The plan also outlines several strategies for public support, including modernizing and repurposing City-owned properties for commercial or manufacturing uses, financing and tax incentives, and infrastructure investments.

FEMA Flood Zones

In June 2013, FEMA issued Preliminary Work Maps for New York City to show coastal flood hazard data. Subsequently, the City made immediate accommodations to zoning regulations and upgrades to the New York City Building Code so that new construction would be built to these higher standards. In January 2015, FEMA issued Revised Preliminary Flood Insurance Rate Maps (FIRMs) for New York City, which are considered the best available flood hazard data, replacing the FEMA Preliminary Work Maps. As shown in **Figure C-3a** to **Figure C-3d**, the Project Area is located within the currently applicable 100-year flood zones for the 2080s and 2100s and 500-year flood zones for the 2020s, 2050s, 2080s, and 2100s. According to FEMA's zone classification, the Project Area is located within Zone X. Zone X is identified as a moderate- to low-risk area by FEMA. Zone X is an area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. It may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. According to New York City Flood Maps, Zone X is a moderate-risk zone, but property owners are not required to purchase flood insurance.

Figure C-3a
FEMA 2020s Flood Map

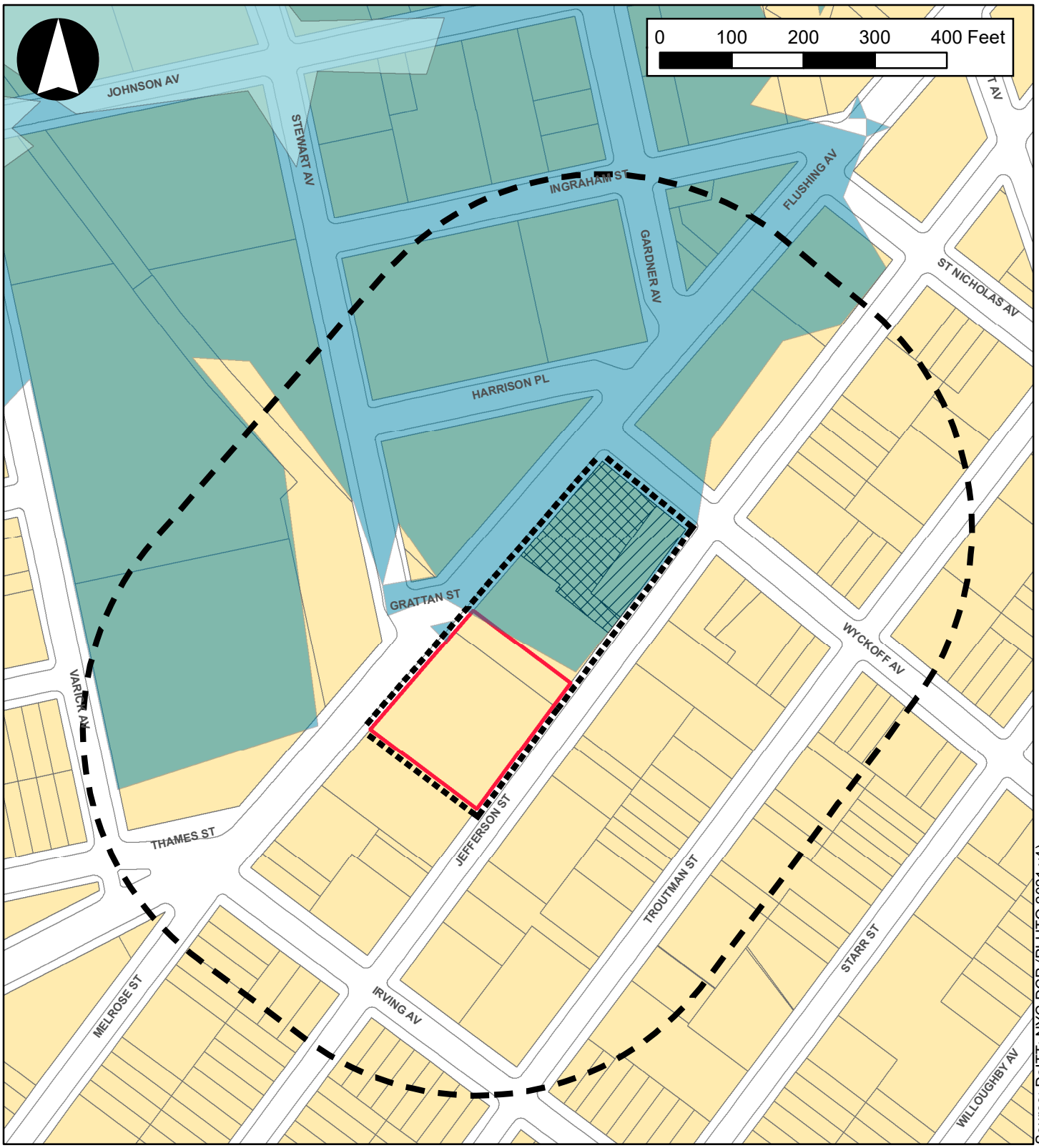


Source: DoITT; NYC DCP (PLUTO 2021 v4)

Legend

- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 400-ft Radius
- FEMA NPCC 2020s 500 Year Flood Scenario

Figure C-3b
FEMA 2050s Flood Map

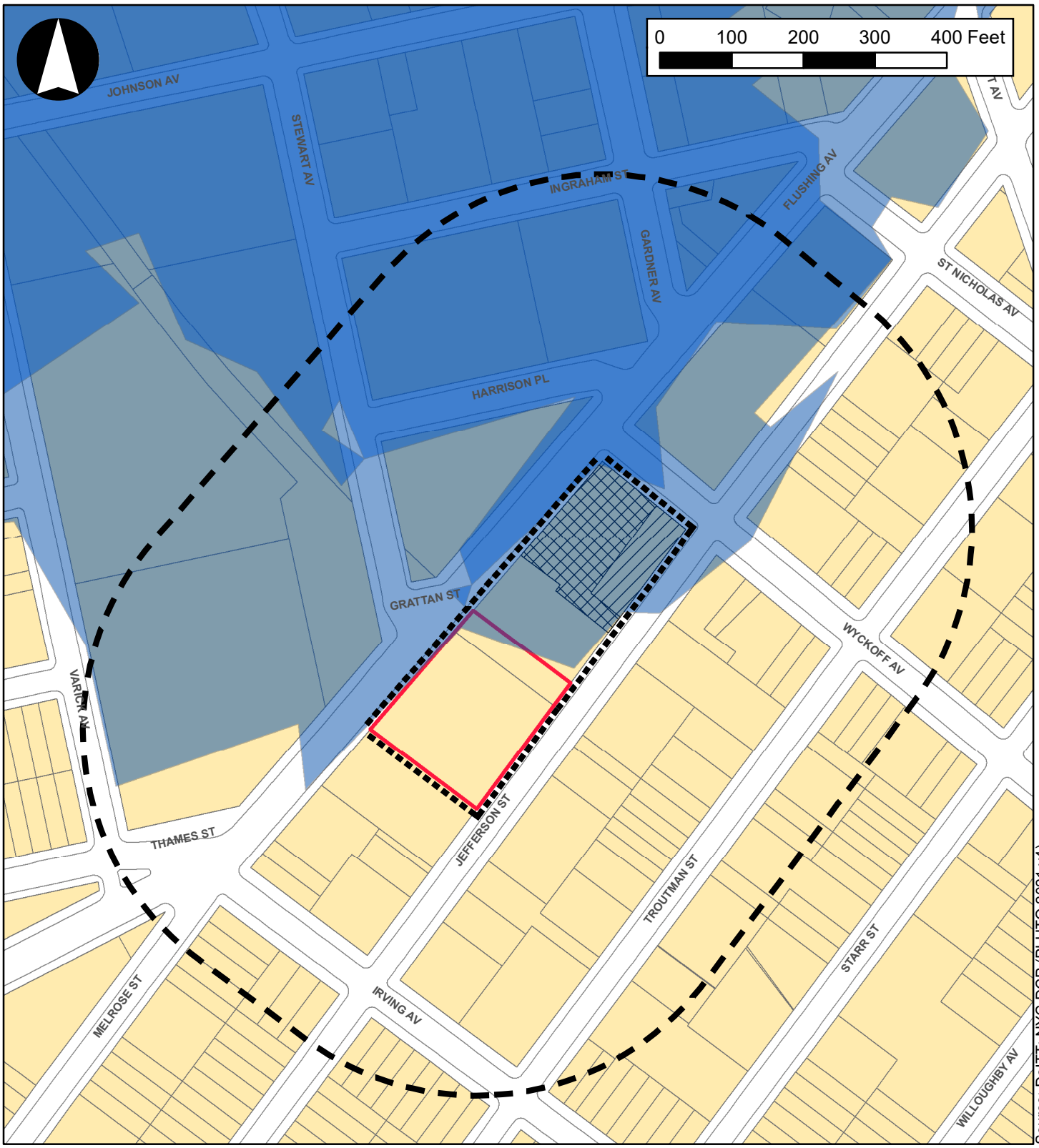


Source: DoITT; NYC DCP (PLUTO 2021 v4)

Legend

- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 400-ft Radius
- FEMA NPCC 2050s 100 Year Flood Scenario
- FEMA NPCC 2050s 500 Year Flood Scenario

Figure C-3c
FEMA 2080s Flood Map

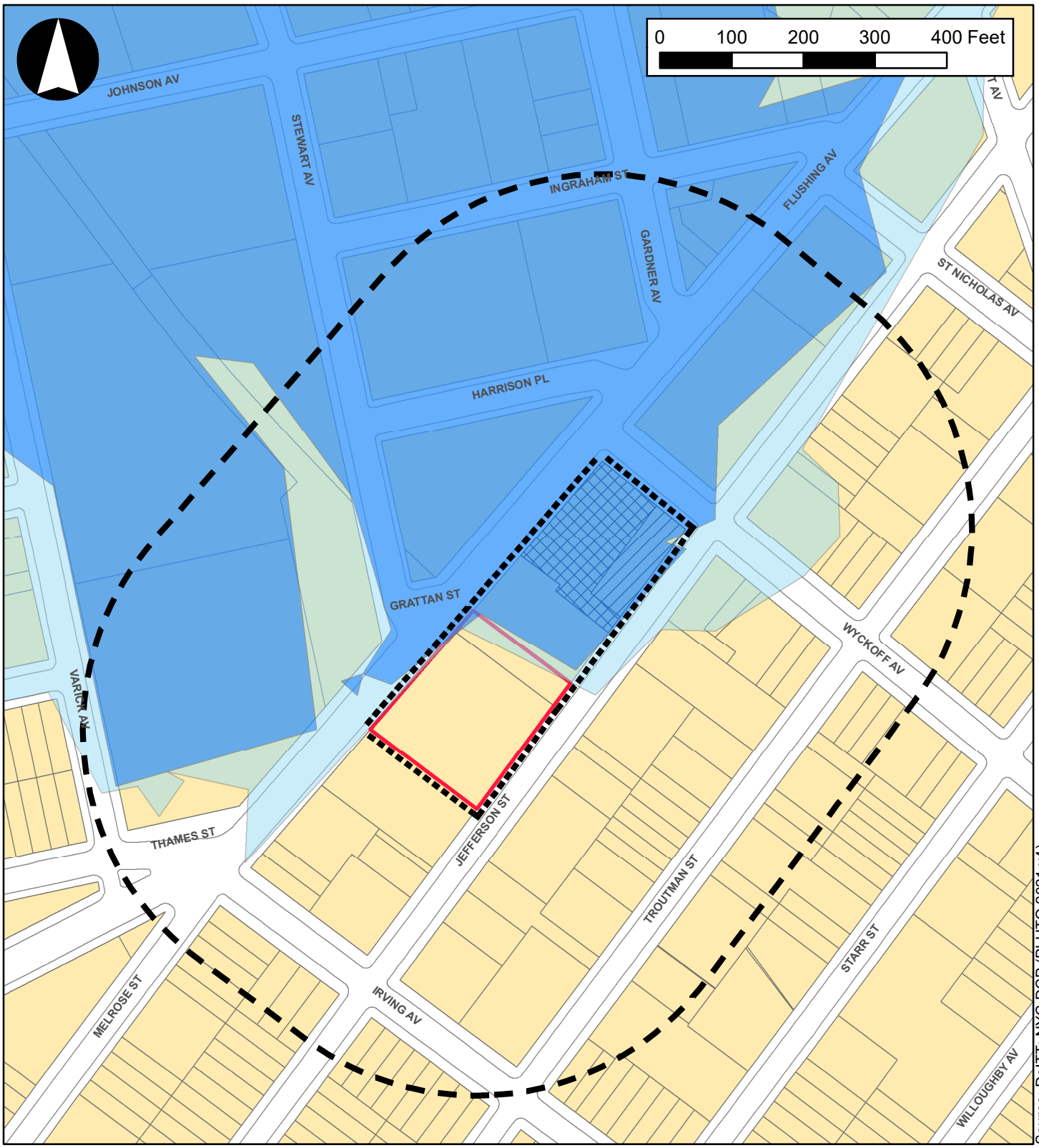


Source: DoITT; NYC DCP (PLUTO 2021 v4)

Legend

- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 400-ft Radius
- FEMA NPCC 2080s 100 Year Flood Scenario
- FEMA NPCC 2080s 500 Year Flood Scenario

Figure C-3d
FEMA 2100s Flood Map



Source: DoITT; NYC DCP (PLUTO 2021 v4)

Legend

- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 400-ft Radius
- FEMA NPCC 2100s 100 Year Flood Scenario
- FEMA NPCC 2100s 500 Year Flood Scenario

The Future without the Proposed Action (No-Action Condition)

Land Use

PRIMARY STUDY AREA

In the 2027 future without the Proposed Action, it is assumed that while no new construction would be planned for the Applicant-owned Projected Development Site 1, the currently vacant, approximately 30,388 sf former industrial building on Lots 18 and 24 would be converted and reoccupied with commercial retail uses in the No-Action condition. As a result, Projected Development Site 1 would be occupied by approximately 31,907 gsf (30,388 zsf) of commercial retain uses on a 37,928-sf lot (0.80 FAR). No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Action.

SECONDARY STUDY AREA

There is one known and anticipated development that is in the preliminary stage of development and is expected to be completed and occupied in the secondary study area by 2027, which is shown in **Figure C-4** and summarized in **Table C-3**, below. A new planned 11-story hotel, located at 25 Stewart Avenue, would be approximately 130-feet tall with 140 keyed-hotel rooms (80,014 zsf). According to DOB records, permits were filed approved in 2015. However, in 2019, the owners of the property sold the lot, and no new plans have been filed for the property.[5]

For purposes of analyses provided in other chapters of this EAS, No-Action developments anticipated within a quarter-mile radius of the Project Area are also included in **Table C-3**. As shown in **Figure C-4** and **Table C-3**, including the project within the secondary study area, there are two new development projects and one significant enlargement project in various stages of development within a quarter-mile radius of the primary study area. Combined, these three projects would introduce 67 residential units, approximately 6,749 gsf of retail space, 9,042 gsf of community facility space, and 37 parking spaces.

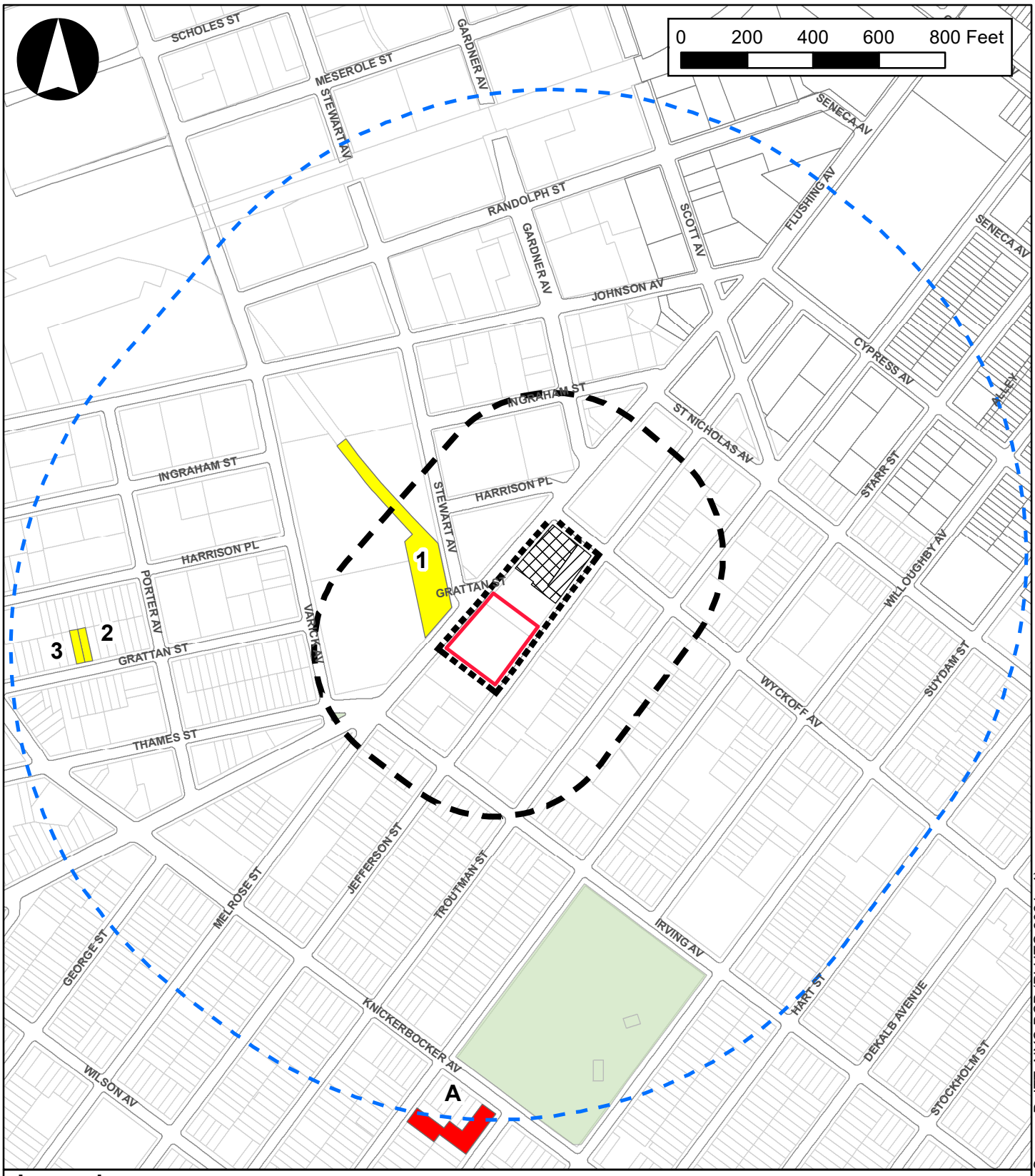
Table C-3: No-Action Developments

		Secondary Study Area (400-foot)									
Map Number	Project	Dwelling Units (DUs)	Residential (sf)	Commercial (sf)	Hotel (keyed rooms)	Hotel (sf)	Manufacturing (sf)	Community Facilities (sf)	Parking Spaces	Number of Floors	Build Year
1	25 Stewart Street[1]	0	0	0	140	80,014	0	29,320	116	11	-
		Within a Quarter-Mile Radius									
2	95 Grattan Street	7	4,838	0			0	0	0	4	-
3	97 Grattan Street	7	4,739	0			0	0	0	4	-
A	260 Knickerbocker Avenue	53	35,895	6,749			0	9,042	37	11	-

Notes:
[1]These numbers represent the most recent filing with DOB from 2019.
Sources: New York City Department of Buildings (DOB) Building Information System (BIS); Articles from *CityRealty, Curbed NY, The Real Deal, and YIMBY.*

[5] Although no new permits have been filed, it is currently expected that the new ownership will file permits for a similarly planned development.

Figure C-4
No-Action Developments



Legend

- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 400-ft Radius
- 1/4-Mile Radius
- A — No-Action Enlargement
- 1 — No-Action Development

Source: DoITT; NYC DCP (PLUTO 2021 v4)

As evidenced by recently completed and ongoing development projects within the secondary study area and ¼-mile surrounding area, the land use trend of the Bushwick neighborhood is moving towards more conversions and new construction of hotels[6], retail, entertainment uses and mixed-use developments, although the neighborhood continues to contain a number of industrial spaces and jobs. Anticipated development under the No-Action scenario will support the future economic development and growth in the area.

Zoning and Public Policy

No changes to zoning or public policy in the primary or secondary study areas are anticipated in the 2027 No-Action condition.

The Future with the Proposed Action (With-Action Condition)

As described in detail in **Attachment A, "Project Description,"** the Applicant proposes to demolish the existing single-story building on Projected Development Site 1 in order to facilitate the Proposed Project. The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway. The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gsf (36,730 zsf) of retail uses (0.97 FAR); the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf (37,846 zsf) of light industrial uses (1.0 FAR); and the remaining floors (three through nine) of the proposed nine-story building would contain approximately 121,786 gsf (114,983 zsf) of commercial office uses (3.03 FAR). Loading bays would be provided with a single curb cut along Flushing Avenue to satisfy the M1-5 zoning requirements associated with the proposed office, retail, and industrial uses; no accessory parking spaces would be required under the proposed M1-5 zoning district. In total, the Proposed Project would contain approximately 238,104 gsf (189,559 zsf) of new development (5.0 FAR). However, under the proposed M1-5 district would allow a maximum community facility FAR of 6.5, the reasonable worst case development scenario (RWCDS) would assume an additional 1.5 FAR of community facility (medical office) uses on Projected Development Site 1. As such, it is assumed that Projected Development Site 1 would accommodate approximately 75,586 gsf (36,730 zsf) of retail uses, approximately 40,732 gsf (37,846 zsf) of light industrial uses, approximately 121,786 gsf (114,983 zsf) of commercial office uses, and approximately 59,973 gsf (56,975 zsf) of community facility (medical office) uses. The RWCDS would require three loading bays, which would be accommodated by a curb cut along Flushing Avenue, and would not contain any accessory parking spaces. In total, the RWCDS for Projected Development Site 1 would contain approximately 298,077 gsf (246,534 zsf) of new development (6.5 FAR).

It is also assumed that Projected Development Sites 2 and 3 would be redeveloped in the future with the Proposed Action. It is anticipated that Projected Development Site 2 would be redeveloped with a six-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space. Projected Development Site 3 would be redeveloped with a five-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space. As such, the total With-Action Condition for the Project Area would include approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses.

[6] On December 20, 2018 the City Council adopted the M1 Hotel Text Amendment which modified the Zoning Resolution to require special permits for the construction of hotels in most high performance (M1) zoning districts. Most of the hotels in the study area and larger Greenpoint and Williamsburg that are located within M1 zoning district were constructed or under construction prior to the adoption of this zoning text amendment.

Land Use

PRIMARY STUDY AREA

The Proposed Action would result in changes to some land uses in the primary study area, as compared to the No-Action condition.

Table C-4 provides a summary of the RWCDS for the Project Area compared to the No-Action condition. Projected Development Sites 1, 2, and 3 represent the RWCDS for the Project Area. As indicated in the table, the total development expected to occur in the primary study area under the With-Action condition would consist of approximately 433,425 gsf, including 332,720 gsf of commercial office and retail space, 40,732 gsf of light industrial/manufacturing space, and 59,973 gsf of community facility (medical office) space. The incremental (net) change between the No-Action and With-Action conditions that would result from the Proposed Action would be 28,338 gsf of commercial office and retail space, 40,732 gsf of industrial space, and 59,973 gsf of community facility (medical office) space, as well as a net reduction of approximately 7,613 gsf of warehousing space and 3,750 gsf of open storage area space.

Table C-4: 2027 RWCDS No-Action and With-Action Land Uses – Primary Study Area (Development Site)

Use	No-Action Scenario [gsf]	With-Action Scenario [gsf]	Increment
Commercial	52,382 gsf	332,720 gsf	**+280,338 gsf**
Office	--	234,154 gsf	**+234,154 gsf**
Retail	52,382 gsf	98,566 gsf	**+46,184 gsf**
Community Facility (Medical Office)	--	59,973 gsf	**+59,973 gsf**
Light Industrial	7,613 gsf	40,732 gsf	**+33,119 gsf**
Population/Employment[1]	**No-Action Scenario**	**With-Action Scenario**	**Increment**
Workers	183 workers	1,488 workers	**1,305 workers**

Notes:
[1]Assumes 1 employee per 250 sf of office; 1 employee per 300 sf of retail; 1 employee per 1,000 sf of light industrial uses; 1 employee per 333 sf of community facility (medical office).

SECONDARY STUDY AREA

The Proposed Action is not expected to affect land use patterns in the secondary study area. The consistency of the Proposed Action with secondary study area land uses is discussed in the "Assessment" section, below.

Zoning

PRIMARY STUDY AREA

Proposed Action

The Project Area requires the approval for a zoning map amendment that would rezone Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40 from a M1-1 district to a M1-5 district.

SECONDARY STUDY AREA

The Proposed Action is site-specific and would not alter zoning designations within the secondary study area surrounding the primary study area. The consistency of the Proposed Action with zoning in the secondary study area is discussed in the "Assessment" section, below.

Public Policy

No changes to the applicable primary or secondary study area public policies are proposed as part of the Proposed Action. The consistency of the Proposed Action with the applicable primary and secondary study area public policies are discussed in the "Assessment" section, below.

Assessment

LAND USE

Primary Study Area

The Proposed Action would not result in significant adverse impacts to land use in the primary study area. The Proposed Action would not directly displace existing land uses in such a way as to adversely affect surrounding land uses. The Proposed Project would preserve and support existing industrial uses and retain light industrial/manufacturing uses in an existing IBZ, as well as provide increased walk-to-work opportunities within Brooklyn CD 4, contribute to an increase in density of appropriate land uses in an area of the City well-served by existing infrastructure and public transportation, strengthen the economic base of the Bushwick neighborhood, enhance the value of land and buildings, contribute to a diverse mix of business uses and employment in the neighborhood, and protect the City's tax revenues.

Bushwick and the adjacent East Williamsburg have both experienced stagnant residential development, but experienced residential growth over the past several years. The amount of existing office, industrial, and retail space in the surrounding area has not expanded sufficiently to meet the needs of the area's growing residential population. Therefore, the introduction of approximately 238,104 gsf of commercial office/manufacturing space facilitated by the Proposed Action would provide new office, industrial, and retail space within an area of the City experiencing substantial growth in residential population. The Proposed Action would allow a new building containing space for commercial office, retail, and light industrial/manufacturing uses to be constructed on Projected Development Site 1 in an area where there is strong demand for these particular uses.

The projected development sites would also introduce local retail which would activate street frontage and enhance the pedestrian experience. The proposed/projected retail uses are expected to serve the needs of the surrounding area.

Furthermore, the introduction of additional commercial office space in Bushwick would address increasing borough-wide demand for new commercial office space. As discussed in **Chapter 3, "Socioeconomic Conditions,"** small and mid-sized companies, which make up most of Brooklyn's business growth, as well as startups, are driving the market and are seeking to locate in areas in close proximity to, or otherwise accessibly by, their workforces, near public transportation, and growing residential markets. The success of neighboring residential markets is contributing to the growth of the commercial market in the area and the associated demand for additional office space. The commercial office space facilitated by the Proposed Action would contribute toward addressing an increase in demand from the media, technology, and creative industries for new commercial space in Downtown Brooklyn, DUMBO, and Williamsburg. Particularly in light of the Covid-19 health crisis, the commercial component of the Proposed Project would meet the need for new, modern, office space offering the latest in health and wellness measures (e.g., state-of the art infrastructure and HVAC systems). It would also allow companies to locate in the Bushwick neighborhood, closer to a large pool of available workforce that currently lives there, thereby allowing many office workers to walk or bike to work.

Secondary Study Area

The Proposed Action would not result in significant adverse impacts to land use in the secondary study area. The secondary study area, which includes a diverse assortment of existing land uses, would not undergo any land use changes as a result of the Proposed Action; the proposed changes would be limited to the Project Area and would introduce commercial and industrial uses complementary to existing

secondary study area land uses. A majority of the properties located within the secondary study area have not been the subject of new development, with the exception of the one No-Action development expected to be completed and occupied in the secondary study area and the three additional No-Action developments expected to be completed and occupied in the ¼-mile study area by 2027 (summarized in Table C-3). Together, these four projects will introduce 67 dwelling unit, 140 hotel rooms, 6,749 gsf of retail space, 38,362 gsf of community facility space, and approximately 153 parking spaces into the ¼-mile study area. As exemplified by these No-Action developments, the new commercial office and local retail uses provided in the Project Area would be consistent with, and complementary to, the under construction and planned land uses in the secondary and ¼-mile study areas. As such, the Proposed Action would support existing land use trends in the secondary and ¼-mile study areas and would not introduce any new land uses that would be incompatible with their surroundings.

ZONING

Primary Study Area

According to the criteria set forth in Section 410 in Chapter 4 of the *CEQR Technical Manual*, the Proposed Action would not result in significant adverse impacts on zoning. As shown in **Table C-5**, in the With-Action condition, the primary study area would be rezoned from M1-1 to M1-5. The proposed zoning map amendment would increase the maximum allowable density in the primary study area to 6.5 FAR for community facility uses and 5.0 FAR for commercial and manufacturing uses. The proposed zoning designation would also increase the performance standards for industrial uses in the primary study area. While the proposed M1-5 zoning designation would facilitate a development at a higher density than what is currently allowed in the primary study area's M1-1 zoning district, the higher density zoning designation and associated increased density would be appropriate, given the primary study area's proximity to existing infrastructure and public transportation, as well as the proposed zoning designation's consistency with M1 districts mapped adjacent to the boundaries of the primary study area.

The proposed zoning change would be consistent with recently approved zoning actions in the surrounding North Brooklyn IBZ. Each of these projects sought special permits to incentivize the construction of new mixed-use commercial and manufacturing buildings that allocate a portion of their floor area to certain light industrial uses, allowing additional floor area devoted to certain types of commercial and light industrial uses. As proposed, the combined industrial/commercial Proposed Project is in keeping with the City's policy of encouraging the retention and expansion of industrial businesses, especially in IBZ areas, by providing increased commercial floor area and acknowledging the site constraints that such developments may entail. For these reasons, the Proposed Action would have no significant adverse impact on zoning in the primary study area.

Table C-5: Comparison of Existing and Proposed Zoning – Primary Study Area (Development Site)

	Existing Zoning [M1-1]	**Proposed Zoning [M1-5]**
Use Groups	4-17*	4-17*
Maximum Permitted FAR		
Residential	Not Permitted	Not Permitted
Community Facility	2.4	6.5
Commercial	1.0	5.0
Manufacturing	1.0	5.0

Source: *Zoning Resolution of the City of New York.*
*In M1 zoning districts, Use Groups 4 (with the exception of health facilities and houses of worship) and 5 are only allowed by CPC special permit.

Secondary Study Area

The Proposed Action would allow for the as-of-right development of a mix of commercial and industrial uses in the primary study area. Although the Proposed Action would increase the allowable density in the primary study area, this increase would be appropriate given the context of zoning in the secondary study area. The projected development sites' zoning designation and proposed uses would be compatible to the existing and permitted uses in the neighboring secondary study area zoning districts. Consistent with most planned development in the secondary study area, the projected development sites would occupy either the entire or a majority of each respective site and create continuous street walls. Planned buildings with comparable density and height are located within the secondary study area at 25 Stewart Avenue (2.7 FAR, 11 stories) and 260 Knickerbocker Avenue (3.4 FAR, 11 stories). The Proposed Action would therefore be compatible with zoning in the surrounding secondary study area and would not affect the relationship between the primary and secondary study areas. Therefore, it is not expected that the Proposed Action would result in any significant adverse impacts on zoning in the secondary study area.

PUBLIC POLICY

OneNYC

OneNYC was released in April 2015. As discussed above, *OneNYC* is a comprehensive plan for a sustainable and resilient city for all New Yorkers that speaks to the profound social, economic, and environmental challenges faced. The Proposed Action is consistent with the City's sustainability goals, including those outlined in *OneNYC*. Notably, the Proposed Action would support the plan's land use goals of focusing development in areas that are served by mass transit; increasing walk-to-work opportunities; creating jobs in proximity to established and/or growing residential neighborhoods; and fostering walkable retail destinations. The Proposed Action is expected facilitate the development of the Proposed Project, a single-story building and a nine-story building separated by a pedestrian alleyway for a total approximately 238,104 gsf (189,559 zsf) of new mixed use commercial/manufacturing development.. As such, the Proposed Action would help to foster the expansion and retention of an existing industrial business, which would be consistent with the *OneNYC* goal of fostering an environment in which small businesses can succeed. The Proposed Project would be in close proximity to the Jefferson Street L subway station and several other transit options. As such, the Proposed Action would be consistent with the *OneNYC* goal of focusing development in areas that are served by mass transit and fostering walkable retail destinations. Overall, the Proposed Action would be supportive of the applicable goals and objectives of *OneNYC*.

New York Works

New York Works was released in June 2017. As discussed above, the plan attempts to identify initiatives that will spur 100,000 new jobs for middle-class households that will lead to careers in several sectors. The Proposed Action and resulting RWCDS are consistent with this policy and would help to support the mission of *New York Works*. The projected development sites would be located in a transit accessible area and would create approximately 332,720 gsf of commercial office and local retail uses, 40,732 gsf of industrial uses, and approximately 59,973 gsf of community facility (medical offices) uses. This mix of commercial office, local retail, industrial, and medical office uses would create much needed flexible work space in the Bushwick neighborhood of Brooklyn, an emerging market, and allow for a wider range of commercial and light industrial uses. The Proposed Action would facilitate a new development that increases the supply of commercial space, which is essential to expanding opportunity and increasing the number of middle income, outer borough, private sector jobs.

Attachment D
Socioeconomic Conditions

1160 FLUSHING AVENUE EAS
Attachment D: Socioeconomic Conditions

I. INTRODUCTION

This attachment assesses whether the Proposed Action would result in significant adverse impacts to the socioeconomic character of the area within and surrounding the Project Area, which includes a portion of Block 3167 in the Bushwick neighborhood of Brooklyn Community District (CD) 4 as shown in **Figure D-1**. As described in the 2021 *City Environmental Quality Review* (CEQR) *Technical Manual*, the socioeconomic character of an area includes its population, housing, and economic activities. Socioeconomic changes may occur when a project directly or indirectly changes any of these elements. Although some socioeconomic changes may not result in environmental 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. In some cases, these changes may be substantial, but not adverse. The objective of a CEQR analysis is to disclose whether any changes created by the action would have a significant adverse impact compared to what would happen in the future without the action.

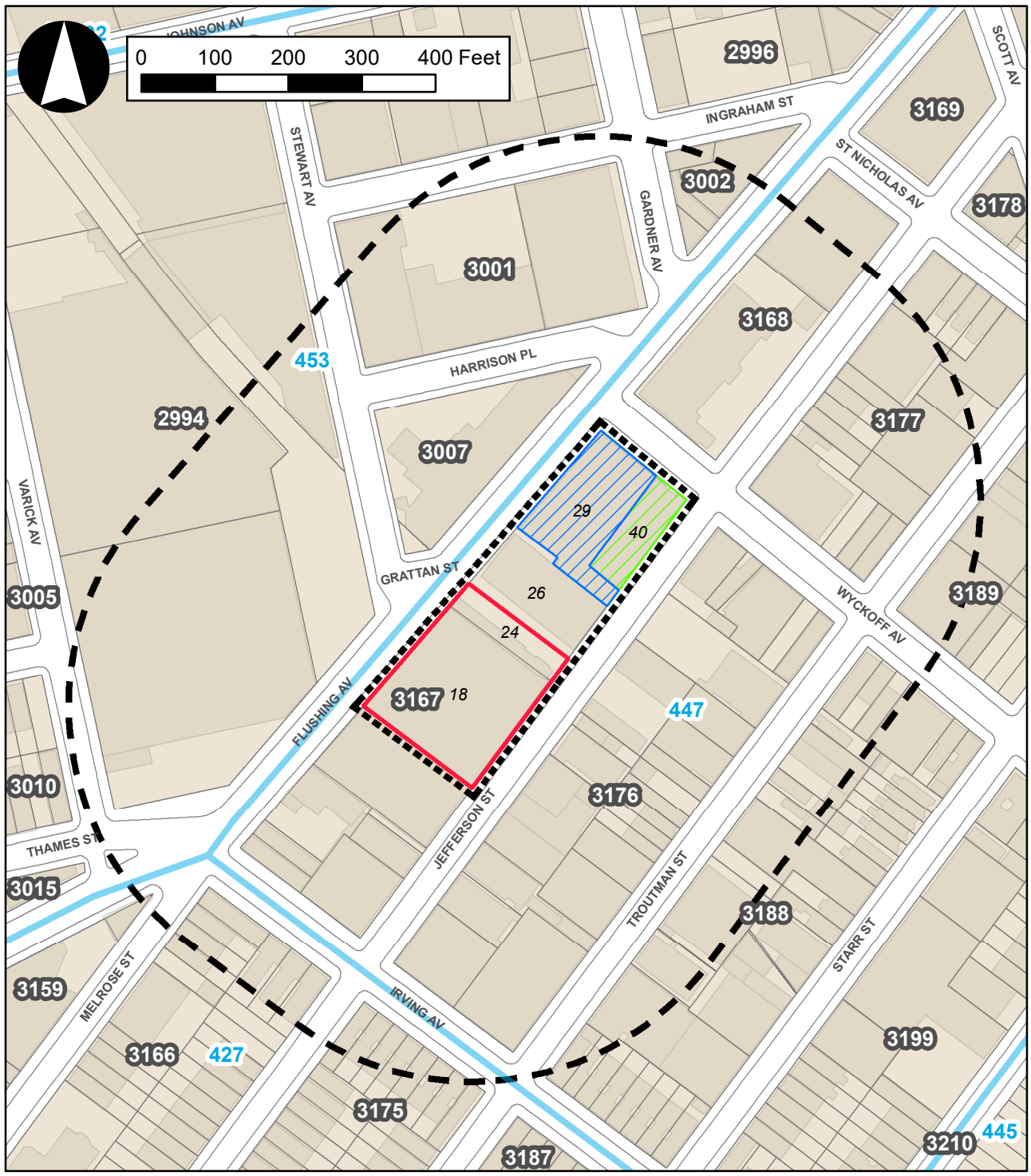
As detailed in **Attachment A, "Project Description,"** the Applicant is seeking City Planning Commission (CPC) approval for a zoning map amendment that would rezone the Project Area (Brooklyn Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40 in **Figure D-1**) from a M1-1 district to a M1-5 district. The Proposed Action would facilitate the construction of a new, mixed-use development comprising approximately 238,104 gross square feet (gsf) on Projected Development Site 1 at 1160 Flushing Avenue (Block 3167, Lots 18 and 24). The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway. The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gsf of retail uses; the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf of light industrial uses; and the remaining floors (three through nine) of the proposed nine-story building would contain approximately 121,786 gsf of commercial office uses.

However, as the proposed M1-5 zoning district permits a maximum floor area ratio (FAR) of 6.5 for community facility uses, the reasonable worst-case development scenario (RWCDS) for Projected Development Site 1 assumes an additional 1.5 FAR of community facility (medical office) uses. As such, for conservative analysis purposes, it is assumed that Projected Development Site 1 could accommodate up to approximately 75,586 gsf of retail uses, approximately 40,732 gsf of light industrial uses, approximately 121,786 gsf of commercial office uses, and approximately 59,973 gsf of community facility (medical office) uses.

In addition, it is assumed that Lots 29 and 40 on Block 3167 (both of which are non-Applicant-owned) would be redeveloped in the future with approval of the Proposed Action. It is anticipated that Lot 29 ("Projected Development Site 2") would be redeveloped with a six-story commercial building with approximately 16,730 gsf of ground-floor retail and approximately 79,821 gsf of office space. It is also anticipated that Lot 40 ("Projected Development Site 3") would be redeveloped with a five-story commercial building with approximately 6,250 sf of ground-floor retail and approximately 32,547 gsf of office space. As a result, the total With-Action development scenario for the Project Area would include approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses, thus representing the RWCDS for the Project Area under the Proposed Action.

Figure D-1

Socioeconomic Study Area



Legend

- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- Project Area
- 400-Foot Study Area
- 447 Census Tract
- 3167 Block
- 18 Lot

It is expected that all three projected development sites would be constructed and operational by the end of 2026. Without discretionary approval, it is anticipated that the on-site conditions would remain unchanged from existing conditions, with exception to Projected Development Site 1, which is expected to be converted and reoccupied with commercial retail uses absent the Proposed Action.

II. PRINCIPAL CONCLUSIONS

The preliminary assessment determined that the Proposed Action would not result in significant adverse socioeconomic impacts. The following summarizes the conclusions for each of the five CEQR areas of socioeconomic concern.

Direct Residential Displacement

As the Project Area is zoned M1-1 and does not currently contain residential units, the Proposed Action and associated RWCDS would not result in any direct residential displacement, and therefore, are not expected to result in significant adverse impacts due to direct residential displacement.

Indirect Residential Displacement

The Proposed Action would retain the Project Area's existing M1 and not introduce a residential population and therefore, would not introduce a trend that could potentially result in changing socioeconomic conditions for the residents within the surrounding area. As such, the Proposed Action would not result in significant adverse socioeconomic impacts due to indirect residential displacement.

Direct Business Displacement

The Proposed Action and associated RWCDS have the potential to result in some direct business displacement in the Project Area. In the future with the Proposed Action, the industrial warehouse building on Block 3167, Lot 40 in the Project Area, which currently employees approximately eight workers, and the recently converted retail space on Lot 29 which currently employees approximately 69 workers, would be directly displaced by the Proposed Action and associated RWCDS. According to the *CEQR Technical Manual*, direct displacement of fewer than 100 employees would not typically be expected to alter the socioeconomic characteristics of a neighborhood. Therefore, the direct displacement of the 77 existing workers in the Project Area as a result of the Proposed Action is not expected to result in significant adverse impacts due to direct business displacement. Moreover, the industrial warehouse and retail space do not provide any goods or services that cannot be found within the trade area, and, as the Proposed Action is site-specific to the Project Area and does not include any citywide regulatory changes, it would not adversely affect the economic and operational conditions of certain types of businesses or processes in the City. Therefore, the Proposed Action and associated RWCDS is not expected to result in significant adverse impacts due to direct business displacement.

Indirect Business Displacement

A preliminary assessment finds that the Proposed Action would not result in significant adverse impacts due to indirect business displacement. According to the *CEQR Technical Manual*, indirect displacement of businesses or institutions could be an issue if a proposed action would increase property values and thus rents throughout the study area, making it difficult for some categories of businesses to remain in the area. The Proposed Action and associated RWCDS would introduce a net increase of approximately 234,154 gsf of commercial office space, 98,566 gsf of retail space, 40,732 gsf of light industrial uses, and 59,973 gsf of

community facility (medical office) uses in the Project Area. The Proposed Action would be limited to the Project Area, and would not result in any changes to zoning in the remainder of the 400-foot study area. The Proposed Action would retain an M zoning district in the Project Area, increase the permitted manufacturing and/or commercial density for the site, and reduce the stringent parking requirements applicable under the existing M1-1 district, which is inappropriate for sites located within transit zones.

The area surrounding the Project Area supports a diverse amount of economic activity with an emerging commercial office and retail market. The Proposed Action and associated RWCDS would introduce a diverse mix of uses. All of the uses contemplated under the Proposed Action are established in the study area, and would not constitute new economic activities or alter existing economic patterns. The proposed office and local retail uses would be consistent with the existing and future mix of land uses in the study area and create new opportunities for businesses to expand and attract new companies. The study area has been experiencing commercial investment, including a limited amount of new construction and the transformation of former industrial buildings into a wide range of commercial uses. Development facilitated by the Proposed Action would be consistent with recent mixed-use development in the study area.

While the Proposed Action would contribute to the existing trend of increasing commercial development in the study area, any upward rent pressure experienced by industrial businesses in the area would be present in the future without the Proposed Action. Changes are already occurring in the study area; the area is already experiencing a trend of increase in commercial uses, rents are relatively high, and most investment in the area over the past decade has been commercial development – including hotels, studio/film/production spaces, office, and creative workspaces. New industrial space has been limited and is largely being introduced in conjunction with new commercial space as mixed-use commercial and industrial developments. Through leveraging the demand for office space, newly constructed industrial spaces are being created within mixed-use developments that provide flexible, modern workspaces that serve current industry needs and standards. Additionally, along with the proposed commercial and community facility spaces, the Proposed Action would also introduce a net increase of approximately 40,732 gsf of light industrial space in the Project Area, helping to alleviate any upward rent pressure experienced by these uses in the future with the Proposed Action.

Adverse Effects on Specific Industries

The Proposed Action and associated RWCDS are not expected to result in significant adverse impacts due to direct business displacement, and the potential for any indirect business displacement would be limited and not specific to any industry or any category of business. The Proposed Action is site-specific to the Project Area, and does not include any citywide regulatory changes that would adversely affect the economic or operational conditions of certain types of businesses or processes. Therefore, the Proposed Action would not result in significant adverse impacts on specific industries, and no further analysis is warranted.

III. METHODOLOGY

Under CEQR, the socioeconomic character of an area is defined by its population, housing, and economic activities. 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. In some cases, these changes may be substantial but not adverse. In other cases, these changes may be good for some groups but bad for others. The objective of the CEQR analysis is to disclose whether any changes created by the

Proposed Action would have a significant impact compared with what would happen in the future without the Proposed Action (i.e., the "No-Action condition").

The assessment of socioeconomic conditions distinguishes between the socioeconomic conditions of an area's residents and businesses. However, proposed action(s) affect either or both of these segments in similar ways: they may directly displace residents or businesses; or they may alter one or more of the underlying forces that shape socioeconomic conditions in an area and thus may cause indirect displacement of residents or businesses.

Direct displacement is defined as the involuntary displacement of residents, businesses, or institutions from the actual site of (or sites directly affected by) a proposed action. Examples include the proposed redevelopment of a currently occupied site for new uses or structures, or a proposed easement or right-of-way that would take a portion of a parcel and thus render it unfit for its current use. Since the occupants of a particular site are usually known, the disclosure of direct displacement focuses on identifying specific businesses and estimating current employment levels, and an identifiable number of residents and workers.

Indirect or secondary displacement is defined as the involuntary displacement of residents, businesses, or employees in an area adjacent to, or close to, a project site that results from changes in socioeconomic conditions created by a proposed project. Examples include rising rents in an area that result from a new concentration of higher-income housing introduced by a project, which ultimately could make existing housing unaffordable to lower income residents; a similar turnover of industrial to higher-rent commercial tenancies induced by the introduction of a successful office project in an area; or the flight from a neighborhood that can occur if a proposed project creates conditions that break down the community (such as a highway dividing the area).

Even if projects do not directly or indirectly displace businesses, they may affect the operation and viability of a major industry or commercial operation in the City. An example would be new regulations that prohibit or restrict the use of certain processes that are critical to certain industries. In these cases, CEQR may assess the economic impacts of the project on the specific industry in question.

Determining Whether a Socioeconomic Assessment is Appropriate

According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if an action may be reasonably expected to create socioeconomic changes in the area affected by the action that would not be expected to occur in the absence of the Proposed Action (No-Action condition). The following screening assessment considers threshold circumstances identified in the *CEQR Technical Manual* and bulleted below that can lead to socioeconomic changes warranting further assessment.

The Proposed Action would affect the Project Area, which as shown in **Figure D-1** includes Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40 in the Bushwick neighborhood of Brooklyn. As detailed further in **Attachment A, "Project Description,"** the RWCDS for the Project Area assumes that the Proposed Action would result in the incremental (net) increase of approximately 234,154 gsf of commercial office uses, approximately 98,566 gsf of retail uses, approximately 40,732 gsf of light industrial uses, and approximately 59,973 gsf of community facility (medical office) uses in the Project Area.

- *Direct Residential Displacement: Would a proposed project directly displace residential population to the extent that the socioeconomic character of the neighborhood would be substantially altered? Displacement of fewer than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood.*

As the Project Area does not currently contain residential units, the Proposed Action and associated RWCDS would not result in any direct residential displacement, and therefore, is not expected to result in significant adverse impacts due to direct residential displacement.

- *Direct Business Displacement: Would a proposed project directly displace more than 100 employees, or directly displace a business whose products or services are uniquely dependent on its location, are the subject of policies or plans aimed at its preservation, or serve a population uniquely dependent on its services in its present location? If so, assessments of direct business displacement and indirect business displacement are appropriate.*

The Proposed Action and associated RWCDS have the potential to result in some direct business displacement in the Project Area. Active uses in the Project Area include industrial warehouse buildings on Lots 26 and 40, a lumber yard on Lot 12, and recently converted retail space on Lot 29. Additionally, the vacant industrial warehouse on Lots 18 and 24 is expected to be converted to approximately 31,907 gsf of commercial retail space in the future without the Proposed Action.

No changes to Lots 12 or 26 are expected to occur as a result of the Proposed Action, and as such, no direct business displacement would occur on these sites. In the future with the Proposed Action, Lots 18, 24, 28, and 40 are all expected to be redeveloped with predominately commercial office buildings with lower-level retail spaces; the building on Lots 18 and 24 would also contain light industrial and medical office spaces. Therefore, it is expected that any businesses looking to move into the converted retail spaces on Lots 18 and 24 in the No-Action condition would also be able to occupy the newly constructed retail spaces in the Project Area in the With-Action condition, and as such, no direct business displacement would occur on these sites.

Nevertheless, in the future with the Proposed Action, the approximately 7,613 gsf industrial warehouse business on Lot 40 would be directly displaced by the Proposed Action and associated RWCDS. It is unknown how many workers are currently employed at the industrial warehouse building on Lot 40; however, based on standard CEQR worker generation rates of one employee per 1,000 sf of warehouse space, it is estimated that the warehouse employees approximately eight workers. Additionally, the recently converted retail space on Lot 29 would also be directly displaced by the Proposed Action. The approximately 20,475 gsf retail business currently employees approximately 69 workers.

According to the *CEQR Technical Manual*, direct displacement of fewer than 100 employees would not typically be expected to alter the socioeconomic characteristics of a neighborhood. Therefore, the direct displacement of the 77 existing workers in the Project Area as a result of the Proposed Action is not expected to result in significant adverse impacts due to direct business displacement. Moreover, the industrial warehouse and retail space do not provide any goods or services that cannot be found within the trade area, and, as the Proposed Action is site-specific to the Project Area and does not include any citywide regulatory changes, it would not adversely affect the economic and operational conditions of certain types of businesses or processes in the City. In addition, retail uses expected to occupy the single-story structure and first two floors and cellar floor of the nine-story building in the With-Action condition are likely to be of a similar type and operation to the existing retail businesses on Lot 29. Therefore, the Proposed Action and associated RWCDS is not expected to result in significant adverse impacts due to direct business displacement.

- *Indirect Residential and/or Business Displacement due to Increased Rents: Would a proposed project result in substantial new development that is markedly different from existing uses, development, and activities within the neighborhood? Residential development of 200 units or less or commercial development of 200,000 sf or less would typically not result in significant*

socioeconomic impacts. For projects exceeding these thresholds, an assessment of indirect residential displacement and indirect business displacement is appropriate.

The Proposed Action and associated RWCDS has the potential to introduce commercial uses in excess of 200,000 sf. Therefore, an assessment of potential indirect business displacement is warranted pursuant to *CEQR Technical Manual* guidance, and is provided below. The Proposed Action would not result in the development of any residential units, and as such, would not result in any indirect residential displacement due to increased rents.

- *Indirect Business Displacement due to Retail Market Saturation: Would a proposed project result in a total of 200,000 sf or more of retail on a single development site or 200,000 sf or more of regional-serving retail across multiple sites? This type of development may have the potential to draw a substantial amount of sales from existing businesses within the study area, resulting in indirect business displacement due to market saturation.*

The Proposed Action and associated RWCDS would introduce a net increase of approximately 98,566 gsf of retail within the Project Area, and therefore, would not exceed the CEQR threshold of 200,000 sf of retail on a single development site or 200,000 sf of regional-serving retail across multiple sites. As such, an assessment of indirect business displacement due to market saturation (i.e., competition) is not warranted based on *CEQR Technical Manual* guidance.

- *Adverse Effects on Specific Industries: Is a proposed project expected to affect conditions within a specific industry? This could affect socioeconomic conditions if a substantial number of workers or residents depend on the goods or services provided by the affected businesses, or if the project would result in the loss or substantial diminishment of a particularly important product or service within the City.*

As discussed above, the Proposed Action and associated RWCDS are not expected to result in significant adverse impacts due to direct business displacement, and the potential for any indirect business displacement would be limited and not specific to any industry or any category of business. The Proposed Action is site-specific to the Project Area, and does not include any citywide regulatory changes that would adversely affect the economic or operational conditions of certain types of businesses or processes. Therefore, the Proposed Action would not result in significant adverse impacts on specific industries, and no further analysis is warranted.

Based on the initial screening assessment presented above, the Proposed Action requires an analysis of indirect business displacement due to increased rents, which is provided below.

Analysis Format

Following *CEQR Technical Manual* guidance, the socioeconomic analysis of indirect business displacement due to increased rents begins with a preliminary assessment. The purpose of the preliminary assessment is to learn enough about the potential effects of the Proposed Action to either rule out the possibility of significant adverse impacts, or determine that a more detailed analysis is required to determine the extent of the impacts. A detailed analysis, when required, is framed in the context of existing conditions and evaluates the changes to those conditions in the future with the Proposed Action as compared with the changes that would be expected in the No-Action condition. In conjunction with the land use analysis, specific development projects that are expected to occur in the surrounding area in the future without the Proposed Action are identified, as well as the possible changes in socioeconomic conditions that would result, such as potential population increases in population, changes in the income characteristics of the

study area, new residential developments, possible changes in rents or sale prices of residential units, new commercial or industrial uses, or changes in employment or retail sales. Those conditions are then compared with the future with the Proposed Action to determine the potential for significant adverse impacts.

A preliminary assessment was sufficient to conclude that the Proposed Action and associated RWCDS would not result in any significant adverse socioeconomic impacts due to indirect business displacement.

Study Area Definition

A socioeconomic study area is the area within which the Proposed Action could directly or indirectly affect population, housing, and economic activities. A study area typically encompasses a primary study area (consistent with the Project Area as shown in **Figure D-1**), and adjacent areas within approximately 400 feet, a quarter-mile, or a half-mile, depending on project size and area characteristics. Typically, the socioeconomic study area boundaries are to the same as those of the land use study area. A land use study area of 400 feet was analyzed for the Proposed Action in **Attachment C, "Land Use, Zoning, & Public Policy."** As such, the secondary study area for socioeconomic conditions approximates a 400-foot perimeter around the Project Area, in accordance with *CEQR Technical Manual* guidance (see **Figure D-1**).

Data Sources

The assessment of indirect business displacement considers business and employment trends in the socioeconomic study area. For the indirect business displacement analyses, employment data for the study area[1], borough of Brooklyn, and New York City as a whole were obtained from the U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) employment data for 2019. The employment data gathered identifies the industry sectors that dominate or characterize the study area, borough and City. Commercial market data for the Williamsburg/Bushwick submarket and the borough of Brooklyn were obtained from Newmark Knight Frank (NKF)'s Research Division, supplemented by real estate market reports and newspaper articles, as referenced below. The analyses also utilized New York City Department of City Planning (DCP)'s Primary Land Use Tax Lot Output (PLUTO™) data files, supplemented by field visits to the study area conducted by Philip Habib & Associates (PHA).

IV. PRELIMINARY ASSESSMENT OF INDIRECT BUSINESS DISPLACEMENT

The objective of the indirect business and institutional displacement preliminary assessment is to determine whether the Proposed Action could potentially introduce trends that would make it more difficult for nearby existing businesses that provide products or services essential to the local economy or that are targeted to be preserved in their current locations under adopted public plans to remain in the area. A proposed action could introduce such a trend by causing a marked increase in rents and property values in the area (such as by stimulating the demand for more lucrative land uses and thus redevelopment or by increasing the demand for new commercial or retail services with which the existing businesses cannot compete). Additionally, it could directly displace businesses or residents who serve as suppliers or the customer base for nearby businesses, affecting their viability or altering the desirability of their existing location. Finally, it could create enough new retail space to draw substantial sales from existing businesses (i.e., a market saturation impact).

[1] The 400-foot study area includes eight census blocks (including census tract 447 blocks 1008, 1009, 2000, and 2001 and census tract 253 blocks 1003, 1004, 1005, and 1017) that most closely define an area within roughly 400 feet of the Project Area.

In most cases, the issue for indirect displacement of businesses is that an action would markedly increase property values and rents throughout the study area, making it difficult for some categories of businesses to remain in the area. Pursuant to *CEQR Technical Manual* guidance, the preliminary assessment of indirect business displacement examines the following circumstances described in Section 332.3 of Chapter 5 of the *CEQR Technical Manual*:

- *Would the Proposed Action introduce a trend that increases commercial property values, making it difficult for businesses essential to the local economy—or a business that is the subject of regulations or publicly adopted plans to preserve, enhance, or otherwise protect it—to remain in the study area?*

Profile of Existing Employment in the Study Area

As of 2019, there were an estimated 788 employees within the 400-foot socioeconomic study area (refer to **Table D-1**). These employees represented less than 0.1 percent of Brooklyn's total employment and nearly 0.02 percent of employment in New York City. As detailed in **Table D-1**, employment in the study area is largely industrial and within construction, manufacturing, wholesale trade and transportation and warehousing sectors, which combined account for roughly 55 percent of employment in the study area.

In the socioeconomic study area, accommodation and food service employs the largest number of workers, accounting for nearly 25 percent of study area employees, as compared to approximately six percent of employees in Brooklyn and approximately eight percent of workers in New York City (see **Table D-1**). The vast majority of the accommodation and food service employees in the study area are in the food services and drinking places sub-sector, rather than the accommodation sub-sector. Most new commercial development within the study area has included entertainment venues (nightclubs, bars/lounges, theaters) as well as artisan food and drink establishments. The manufacturing sector employs the second largest number of workers in the 400-foot study area, accounting for nearly 24 percent of study area employees, which is higher than Brooklyn (approximately two percent) and New York City (approximately one percent) as shown in **Table D-1**. The third largest sector of employment in the socioeconomic study area is wholesale trade, accounting for approximately 18 percent of study area employees, as compared to approximately 2.8 percent of employees in Brooklyn and approximately 3.1 percent of workers in New York City (see **Table D-1**).

Industrial firms (construction, manufacturing, wholesale trade and transportation and warehousing sectors) are distributed throughout the study area and are often located within mixed-use buildings that accommodate commercial office, retail and/or industrial uses. Most industrial firms lease space within warehouse or loft buildings that accommodate multiple tenants, but a few such as Oriental Lumber, Inc., G C M Steel Products Inc. (manufacturing/wholesale) and Putnam Rolling Ladder Co. (manufacturing) own their respective property. Based on field surveys and secondary research, the 400-foot study area includes approximately eight wholesale trade firms, five manufacturing firms, seven construction firms, and one transportation/warehouse firm. Manufacturing firms within the study area include a commercial bakery, metal fabricator, and wood, textile or miscellaneous products manufactures. The wholesale establishments in the study area consist largely of import-export distributors for a range of products including food, nondurable goods, textiles, and paper. Construction firms include various building contractors.

TABLE D-1
Estimated Employees in the 400-Foot Study Area as compared to Brooklyn and New York City

	Study Area		Brooklyn		New York City	
	#	%	#	%	#	%
Agriculture, Forestry, Fishing & Hunting	0	0.0%	194	0.0%	438	0.0%
Mining, Quarrying, & Oil/Gas Extraction	0	0.0%	16	0.0%	87	0.0%
Utilities	0	0.0%	4,277	0.5%	17,230	0.4%
Construction	95	12.1%	34,123	3.9%	155,963	3.4%
Manufacturing	188	23.9%	19,663	2.2%	65,539	1.4%
Wholesale Trade	141	17.9%	24,226	2.8%	141,931	3.1%
Retail Trade	36	4.6%	77,022	8.8%	344,137	7.5%
Transportation & Warehousing	10	1.3%	76,679	8.8%	189,545	4.1%
Information	0	0.0%	12,594	1.4%	258,346	5.6%
Finance & Insurance	0	0.0%	16,604	1.9%	343,615	7.5%
Real Estate & Rental/Leasing	9	1.1%	20,500	2.3%	139,674	3.0%
Professional, Scientific, & Technical Services	13	1.6%	26,105	3.0%	416,686	9.1%
Management of Companies & Enterprises	2	0.3%	2,386	0.3%	78,048	1.7%
Admin. & Support, Waste Management & Remediation	35	4.4%	37,374	4.3%	273,949	6.0%
Educational Services	0	0.0%	101,829	11.6%	419,194	9.1%
Health Care & Social Assistance	34	4.3%	274,460	31.4%	866,620	18.8%
Arts, Entertainment, & Recreation	0	0.0%	10,188	1.2%	97,890	2.1%
Accommodation & Food Services	195	24.7%	53,712	6.1%	360,057	7.8%
Other Services (excl. Public Admin.)	30	3.8%	29,704	3.4%	178,786	3.9%
Public Admin.	0	0.0%	52,672	6.0%	255,452	5.5%
Total	***788***	***100.0%***	***874,328***	***100.0%***	***4,603,187***	***100.0%***

Notes:
The 400-foot study area includes eight census blocks (including census tract 447 blocks 1008, 1009, 2000, and 2001 and census tract 253 blocks 1003, 1004, 1005, and 1017) that most closely define an area within roughly 400 feet of the Project Area.
Source: Employment data obtained from the U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics.

Employment Trends in Brooklyn and the Study Area

Brooklyn is undergoing office growth. Within the last decade, there has been a shift in the geography of employment in the City and a trend of job growth in the outer boroughs in live/work areas. Small and mid-sized companies and startups have flooded Brooklyn's office market.[2] Many businesses are seeking space outside of Manhattan in areas close to public transportation and near growing residential neighborhoods, such as Downtown Brooklyn, DUMBO, Williamsburg/Bushwick, and Long Island City, which have more affordable rents than the established Manhattan office markets. Brooklyn is emerging as a tech hub attractive to startups, innovation and creative firms due to its shorter commutes, cheaper rents, shared workspaces, and bohemian-style offices. The success of the commercial and residential markets has contributed to the other's growth. Many of Brooklyn's commercial tenants are also looking to have a direct connection to and interact with the community.

The last two years have been unique. The COVID-19 pandemic, which began in March 2020, has resulted in significant losses in New York City employment due to changing patterns of work and travel. However, Brooklyn fared better than Manhattan during the height of Covid pandemic. In 2020, Brooklyn's share of the city's private-sector jobs increased the most of any borough during the pandemic.[3]

[2] https://commercialobserver.com/2019/11/smaller-floor-plates-and-flexibility-is-key-to-brooklyn-office-market-panelists/
[3] Nicole Hong, *Is Brooklyn Leading New York City Out of the Pandemic?* New York Times, *September 1, 2021*

The Brooklyn office market has expanded rapidly in the first decades of the 21st century. Between the third quarter of 2008 and the third quarter of 2020, the total square footage of office space in the borough increased by approximately 83 percent, from approximately 20.4 million sf to approximately 37.3 million sf.[4] According to the Center for an Urban Future's *Brooklyn's Growing Innovation Economy* report, "Brooklyn is one of just a handful of regions across the country to capture a significant share of the growth occurring in the innovation economy- a set of industries fueled by technology, creativity, and invention that is driving much of the nation's high-wage job gains."[5] During the past 10 years, innovation industries have added thousands of well-paying jobs and further diversified the borough's economy, as well as given Brooklyn a competitive edge in a part of the economy that is expected to expand substantially in the years ahead. As detailed in *The Wall Street Journal* in October 2019, "corporate tenants are renting more Brooklyn office space than they have in four years, reflecting a groundswell of technology, apparel, and media companies expanding and relocating to the borough."[6] According to Newmark's Brooklyn Office Market quarter 1 2022 report, approximately 1.5 million sf of office is under construction with an additional 735,000 sf in the planning stages and a total inventory of 37.8 million sf.[7]

Most businesses in Brooklyn are relatively small with 84 percent of firms employing fewer than 10 workers and 71 percent with less than five workers. However, the number of businesses in Brooklyn has increased by 32 percent since 2009, exceeding growth rates experienced in the other four boroughs and outpacing the citywide rate by nearly 50 percent. Except for manufacturing, which experienced a slight decrease, the number of firms increased in each business sector in Brooklyn. The tech sector has become one of the borough's most rapidly growing industries, increasing its employment by 57 percent since 2009, which has escalated office space demand.

According to the New York State Comptroller's *Economic Snapshot of Brooklyn* report from June 2018 and *New York City Employment Trends* from April 2019, private sector job growth has been strong in the borough of Brooklyn since the recession ended in 2009 and has exceeded rates experienced in the greater City. Brooklyn accounted for 26 percent of all private sector jobs created in New York City between 2009 and 2019, and had the highest rate of private sector job growth of all five boroughs with 46 percent increase.

Real Estate Market Trends in Brooklyn and the Study Area

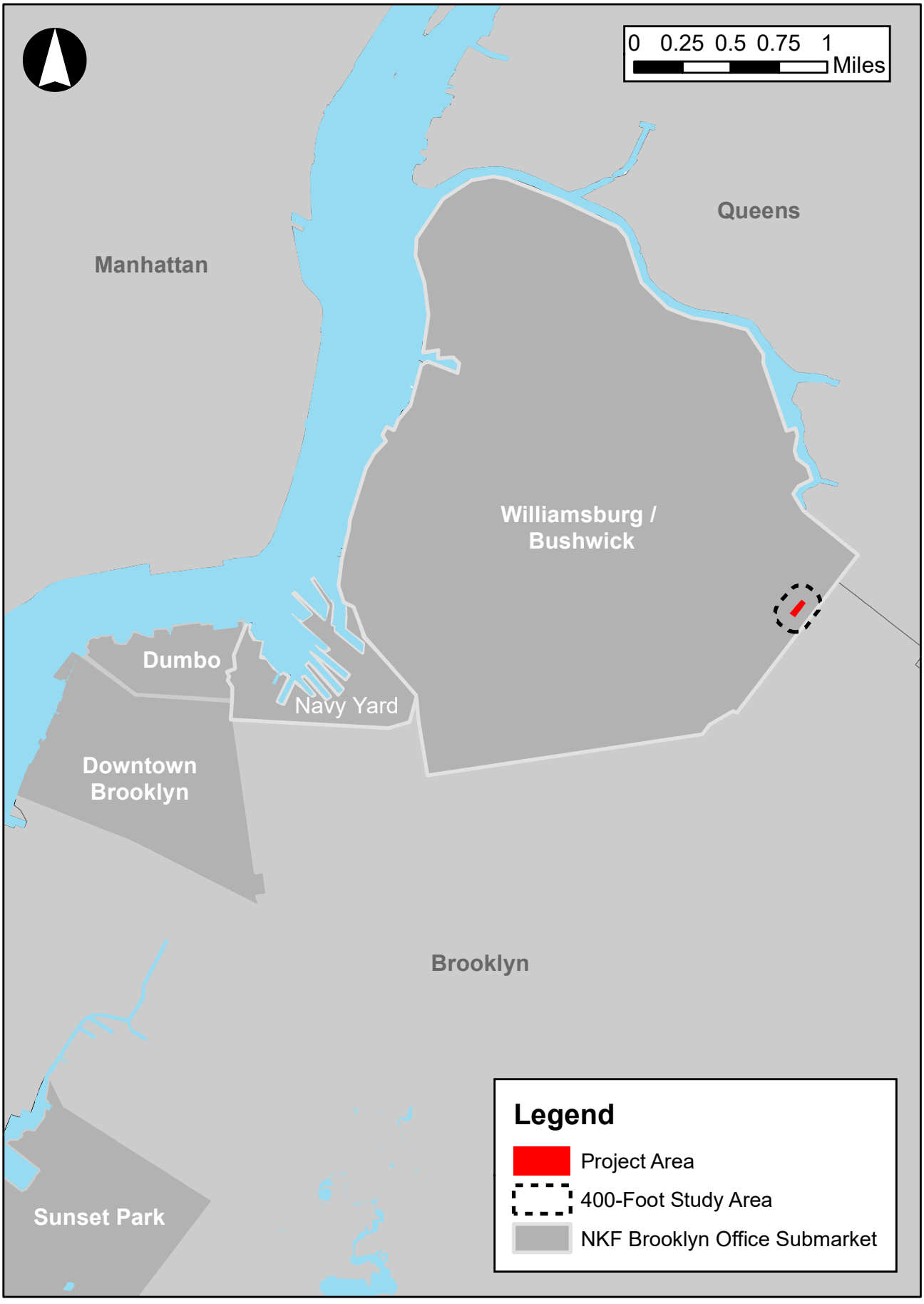
As detailed in **Attachment C, "Land Use, Zoning, & Public Policy,"** the 400-foot study area is predominately comprised of industrial/manufacturing buildings (approximately 69.8 percent of built gsf). Residential uses account for nearly 10.3 percent of the building area in the 400-foot study area, and commercial uses comprise almost 8.4 percent of building area. As shown in **Figure C-2** in **Attachment C**, the study area is mapped with primarily M zoning districts, including light manufacturing M1-1 and M1-2 districts, as well as a mid-density residential R6 along the southern edge of the study area. Additionally, as detailed in **Attachment C**, a 140-room hotel is expected to be completed in the study area in the 2026 No-Action condition at 25 Stewart Avenue.

There are five recognized office submarkets in Brooklyn, each of which contains different types of office spaces and largely unique urban environments, attracting an array of businesses from a variety of sectors (DUMBO, Brooklyn Navy Yard, Sunset Park, Williamsburg/Bushwick, and Downtown Brooklyn). The Project Area and the majority of the 400-foot study area are located along the southern edge of the Williamsburg/Bushwick submarket, as shown in **Figure D-2**.

[4] "Brooklyn Office Market." NKF Research (3Q 2008 & 3Q 2020).
[5] *Brooklyn's Growing Innovation Economy*, Center for an Urban Future, June 2019 report
[6] "Brooklyn Office Market." NKF Research (3Q 2019); "Brooklyn Office Report." Colliers International (3Q 2019); Morris, Keiko. "Hot Brooklyn Office Market Starting to Cool." *The Wall Street Journal* (October 16, 2019).
[7] Brooklyn Office Market, Newmark March 1Q 2022

Figure D-2

NKF Brooklyn Office Submarkets



Newmark Knight Frank (NKF) has been calculating the office market statistics in the Williamsburg/Bushwick submarket since 2016. **Table D-2** presents the office market trends in the submarket as compared to the borough of Brooklyn. As detailed therein, in 2016, office space in the Williamsburg/Bushwick submarket comprised approximately five percent of total office space of Brooklyn, whereas, in 2020, office space in Williamsburg/Bushwick increased to approximately seven percent of total office space in the borough. As detailed in **Table D-2**, approximately 950,737 sf of office space was developed in Williamsburg/Bushwick from 2016 to 2020, an increase of approximately 56.4 percent in the submarket as compared to an increase of approximately 18.8 percent in Brooklyn during the same time. This is partially attributed to several office building projects in the Williamsburg/Bushwick submarket that are located outside of the socioeconomic study area, including 25 Kent, 200 Kent Avenue, and Domino Sugar, among others. 25 Kent, which was completed in the third quarter of 2019, is Williamsburg's first ground-up commercial office development in 50 years, containing approximately 500,000 sf of industrial, office, and retail space; in 2020, Amazon Music signed a lease for 40,000 sf in 25 Kent.

TABLE D-2
Office Market Trends in Williamsburg/Bushwick and Brooklyn (2016 to 2020)

	2016, Q1	**2020, Q1**	***Change (2016 – 2020)***
Williamsburg/Bushwick[2]			
Total Inventory[1]	1,686,890 sf	2,637,627 sf	*+ 950,737 sf*
Availability Rate	23.8%	32.7%	*+ 8.9%*
Vacancy Rate	20.8%	27.1%	*+ 6.3%*
Average Asking Rent per SF	$50.05	$69.94	*+ $19.89*
Total Brooklyn			
Total Inventory[1]	30,958,802 sf	36,774,879 sf	*+ 5,816,077 sf*
Availability Rate	14.7%	17.9%	*+ 3.2%*
Vacancy Rate	11.7%	11.5%	*+ 0.2%*
Average Asking Rent per SF	$40.87	$52.18	*+ $11.31*

Sources: *Brooklyn Office Market Reports* by NKF Research (2016 and 2020).
Notes: [1] Rentable Building Area (RBA).
[2] Refer to **Figure D-2**.

As shown in **Table D-2**, average asking rents in the Williamsburg/Bushwick submarket continue to be higher than those of Brooklyn as a whole. In 2016, average asking rents for office space in Williamsburg/Bushwick were $50.05 per sf, as compared to $40.87 per sf in Brooklyn. Between 2016 and 2020, average asking rents in Williamsburg/Bushwick increased by $19.89 per sf, as compared to an increase of $11.31 per sf borough-wide during the same time. Moreover, as of the first quarter of 2020, average asking rents for prime office buildings (including repositioned and Class A buildings) were $70.13 per sf in the Williamsburg/Bushwick office submarket – the highest office rents in Brooklyn. According to Newmark's Brooklyn Office Market report from the first quarter of 2022, average asking rent in Brooklyn have remained stable over the last year and the average asking rent is nearly $54 per square foot. Although Brooklyn's availability rate has increased availability in the Williamsburg/Bushwick submarket has declined, and the Williamsburg/Bushwick submarket has accounted for nearly 30 percent of all leasing activity in the borough. The average asking rent in the Williamsburg/Bushwick submarket continues to some of the highest in the borough and roughly $10 higher than the overall borough at nearly $63 per square foot, as of the first quarter of 2022.[8]

[8] Newmark 1Q22- New York City Office Market Overview

Table D-4 provides a listing of recent asking rents for commercial and industrial properties within the 400-foot study area. As shown in **Table D-3**, there is a significant range in asking rents from $27 to upwards of $80 per square foot. Most properties are listed with rents in the mid-$40s and mid-$50s. Retail ground floor storefronts and entertainment venues have some of the highest rents. The upward trend in asking rents is likely due to increased foot traffic as a result of an eclectic range of new or converted commercial uses offering flexible spaces, food /beverage establishments, music and entertainment venues, and artist studios.

NKF Research's *Office Market Reports* note that availability rates in Brooklyn, and in particular in the Williamsburg/Bushwick submarket, have recently risen as a result of new supply being added to a small inventory. As shown in **Table D-2**, the availability rate in Williamsburg/Bushwick remains much higher than Brooklyn, rising to 32.7 percent in 2020 as compared to 17.9 percent borough-wide. The vacancy rate in the Williamsburg/Bushwick submarket is also higher than that of the borough, rising from 20.8 percent in 2016 to 27.1 percent in 2020, as compared to 11.7 percent in 2016 and 11.5 percent in 2020 in Brooklyn as a whole (see **Table D-2**).

Table D-3
Current Asking Rents in the Study Area

Address	Building Type	Square Footage Available	Asking Rent
380 Troutman Street	Flex Space/Retail/Industrial	2,500 sf	$49.00/sf
374 Troutman Street	Flex Space/Industrial	8,500 sf	$28.00/sf
384 Troutman Street	2nd Floor Office	1,200 sf	$30.00/sf
29 Wyckoff Avenue	Retail-storefront	12,163 sf	$75.00/sf
421 Troutman Street	Entertainment Venue	10,000 sf	$80.00/sf
1329 Willoughby Street	Retail-storefront	1,821 sf	$50.00/sf
1329 Willoughby Street	Office/Retail	797 sf	$49/sf
1329 Willoughby Street	2nd Floor Office/Retail	2,070 sf	$42.00/sf
372 Troutman Street	Warehouse	2,500 sf	$27/sf
379 Jefferson Street	Retail-storefront	2,500 sf	$40/sf
1188 Flushing Avenue	Retail-storefront	2,500 – 20,000 sf	$40-$65/sf
1124 Flushing Avenue	1st Floor Office/Retail	2,500 – 20,000 sf	$55-$65/sf

Source: loopnet.com and cityfeet.com, searches conducted in November 2021.

However, an increase in demand from the media, technology, and creative industries has led to particularly low inventory of available modern/functionally-competitive/renovated or new commercial space in the Williamsburg/Bushwick neighborhood. Commonly cited reasons given for this demand include the desire of tenants to occupy non-traditional converted loft-spaces and the attraction of operating near the communities in which their workforces reside. Office spaces that are accessible, and offer efficient space and amenities are highly competitive. In particular, significantly renovated office buildings located adjacent to transit-accessible areas have generally leased rapidly. Small and mid-sized companies, which make up most of Brooklyn's business growth, as well as startups are driving the market and are seeking to locate in areas in close proximity to, or otherwise accessible by, their workforces, near public transportation, and growing residential markets. The success of the Williamsburg/Bushwick residential markets is contributing to the growth of the commercial market in the area and the associated demand for additional office space. Given the study area's accessibility and proximity to the L train and several bus routes, formerly underutilized industrial buildings and warehouses are also being converted to offices, studios, entertainment spaces, retail, and other commercial uses. In the early 2000's, Williamsburg/Bushwick attracted artists that moved into large warehouses that offered flexible spaces at affordable rents, much of which were former industrial spaces that could be easily subdivided and partitioned to create small, individual affordable studio spaces. Simultaneously, the Williamsburg/Bushwick area has experienced significant growth and change in terms of the residential population. According to U.S. Decennial Census data, from 2000 to 2010, the residential population within a mile of the Project Area increased by approximately 6.8 percent from 123,607 to 132,027, and continued to grow by 3.3 percent from 2010 to 2020 from 132,027 to 136,370.

More significantly, the population of legal working age (i.e., population age 16 and over) in the same area increase by approximately 18.4 percent from 2000 to 2010 and by 12.9 percent from 2010 to 2020 (33.7 percent from 2000 to 2020). Additionally, the total number of housing units within the one-mile radius increased significantly between 2000 and 2020 from 41,152 units to 54,652 units, respectively (approximately 32.8 percent increase).[9]

Due to the increased local foot traffic from new residential developments and increased residential population in the area, the increasing demand for commercial uses led to a number of underutilized industrial buildings and warehouses to be converted to flexible, retail, office, and/or artist studios. Such former industrial spaces and factories within the secondary study area that have been converted to flexible co-working, turn-key offices include b[x] at 362 Jefferson Street, and NY Studio Factory and My Hub Studios, both located at 2 St. Nicholas Avenue. b[x], NY Studio Factory, and My Hub Studios enable companies and individuals to rent fully furnished office and studio space, suites, and meeting spaces that are fully equipped with high speed internet. These creative office spaces also offer a range of amenities and services and largely cater to growing startups in a co-working environment, providing maximum flexibility with minimal maintenance. Since 2008, b[x] has provided affordable workspaces for makers, artists, and technologists by repurposing underutilized warehouses and former factories, and has revamped existing buildings at 44 Stewart Avenue, 362 Jefferson Street, and 203 Harrison Place. Additional recent or ongoing conversions within the secondary study area include 45 Irving Avenue, which is occupied by an e-sports gaming venue, restaurant, and coffee parlor; 1329 Willoughby Avenue, which is occupied by an artisan bakery and art gallery space; 381 Troutman Street, a microbrewery; 383 Troutman Street, a theater and bar entertainment venue; and 2 Wyckoff Avenue, a performance nightclub (House of Yes). Each of these conversions occurred no earlier than 2015.

Other former warehouse and industrial buildings located just outside the secondary study area that have been retrofitted as creative studios and workspaces include Madwell (243 Boerum Street), a full-service advertising and market agency; Carto (201 Moore Street), a web-mapping software company; Elsewhere (599 Johnson Avenue), a multi-room music venue, nightclub, and arts space, and Remezcla (203 Moore Street), a media company. The former Schlitz Brewery at 95 Evergreen Avenue has been transformed into a five-story office building that houses the City's Human Resources Administration (HRA). In addition, the Jefferson, located at 455 Jefferson Street, is currently being renovated and will provide up to 125,000 sf of large floorplate office space targeting TAMi firms. It should be noted that Netflix recently acquired the properties at nearby 333 Johnson Avenue (2019) and 375 Johnson Avenue (2020), which will include approximately 160,000 sf of new office space across the two sites, in addition to new studio and film production space, by the 2026 build year.[10] Each of these existing or planned office uses falls within or caters to the "TAMI" sector.

Table D-4 illustrates the amount of commercial space that has been developed in the 400-foot study area in the past decade. As detailed therein, retail space in the area increased 312.2 percent between 2010 and 2020, from approximately 12,948 sf of total building area in 2010 to approximately 53,377 sf in 2020. Much of this new retail includes entertainment venues (nightclubs, bars/lounges, theaters) as well as artisan food and drink establishments. During the same time, office space in the area increased 306.9 percent, from approximately 9,250 sf in 2010 to approximately 37,634 sf in 2020. These numbers highlight the massive changes in land use trends that have occurred in the socioeconomic study area during the past decade, with the development of over 40,400 sf of retail space and over 28,300 sf of office space.

[9] U.S. Decennial Census (2000, 2010, 2020) for Kings County Census Tracts 287, 289. 389, 391, 393, 395, 417, 419, 421, 423, 425, 427, 429, 431, 433, 435, 441, 443, 445, 447, 449, 453, 481, 485, 489, & 493; and Queens County Census Tracts 535, 539, 545, 547, 549, 589, 591, & 595.

[10] https://therealdeal.com/2020/11/03/netflix-landlord-in-bushwick-snaps-up-property-across-street/

TABLE D-4
Commercial Land Use Trends in the 400-Foot Study Area (2010 to 2020)

Commercial Land Use	2010	2015	2020	*Change (2010 – 2020)*
Retail	12,948 sf	41,921 sf	53,377 sf	*+ 312.2%*
Office	9,250 sf	28,834 sf	37,634 sf	*+ 306.9%*

Sources: DCP PLUTO Data (2010, 2015, 2020).

The Future Without the Proposed Action (No-Action Condition)

The trend of commercial development and conversions in the 400-foot study area illustrated in **Table D-4** is anticipated to continue in the absence of the Proposed Action. Consistent with existing market conditions, leasing activity in the Williamsburg/Bushwick submarket is expected remain strong with high demand given the area's proximity to the Williamsburg/Bushwick residential markets and transit accessibility of the area. Rents in the Williamsburg/Bushwick submarket are also anticipated to remain some of the highest in the larger borough. Industrial businesses in the study area are expected to continue to experience rent pressure in the future without the Proposed Action.

As detailed in **Attachment C, "Land Use, Zoning, & Public Policy,"** a 140-room hotel is slated for development at 25 Stewart Avenue in the 2026 future without the Proposed Action. Moreover, as detailed in **Attachment A, "Project Description,"** the conversion of the industrial warehouse buildings on Lots 18, 24, and 29 to commercial retail spaces is expected in the Project Area under No-Action conditions. These conversions will result in approximately 52,382 gsf of retail space in the Project Area in the future without the Proposed Action. Overall, these Project Area and study area developments will continue the trend of commercial development and conversions in the study area in the future absent the Proposed Action.

The Future With the Proposed Action (With-Action Condition)

As detailed in **Attachment A, "Project Description,"** the Proposed Action and associated RWCDS would introduce a net increase of approximately 234,154 gsf of commercial office space, 98,566 gsf of retail space, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses in the Project Area. The Proposed Action would be limited to the Project Area, and would not result in any changes to zoning in the remainder of the 400-foot study area. The Proposed Action would be limited to a portion of a single block and would retain the area's high performance manufacturing zoning, while increasing the permitted density for commercial and manufacturing uses and reducing area's stringent parking requirements, which are generally inappropriate within transit zones. The Proposed Action would create additional capacity for growth and investment in an appropriate location. The Project Area is near a growing residential area in close proximity to public transportation, and the Proposed Action is expected to introduce a mix of uses including commercial (retail and office), community facility, and light industrial.

In recent years, the population of North Brooklyn and the demand for workspace has increased substantially. Between 2010 and 2016, job growth in North Brooklyn increased by as much as 42 percent. However, despite the growing investment momentum and demand for commercial space, there has been limited new construction in the area.[11] As a result of the increase in demand, the growth of the new economy in North Brooklyn is constrained given little to no new building construction has occurred within the secondary study area. Most investment has been limited to renovations and conversions, much of which is for commercial uses such as artisan food/beverage establishments, entertainment venues, and other flexible

[11] *North Brooklyn Industry & Innovation Plan* (2018), New York City Department of City Planning.

office/retail spaces,. In North Brooklyn, due to underlying density and parking zoning constraints, M1-1 and M1-2 districts, which are envisioned to employ many local workers, are often being used for warehousing and freight distribution where average employment is often less than one job per 2,500 sf. Frequently, as is the case for the Project Area, the narrow streets of these districts are not appropriate for the large trucks associated with heavy industrial uses. In addition, the small footprint buildings are unsuited for the high-cube mechanized warehouses of today. While warehousing and freight distribution facilities can serve as appropriate uses in certain sections of North Brooklyn, transit accessible areas, such as the Project Area, are better served by high-density commercial office and retail uses. The proposed M1-5 zoning district would retain the area's industrial zoning and allow for the development of commercial uses at higher densities, which would create opportunities for growing tech businesses.

Specifically, the proposed zoning map amendment would facilitate the development of new office and retail space in the Project Area. Introducing additional commercial office space on Flushing Avenue would address a borough-wide need for more commercial office space, particularly for technology, advertising, media, and information ("TAMI") firms. The Project Area and surrounding study area is a mixed-use area that is highly accessible by public transportation and close to growing residential neighborhoods. The surrounding area, which supports a diverse mix of uses, has been rapidly changing in recent years, and has become increasingly attractive to TAMI firms and other firms with a focus on creativity and innovation. The demand for office space to accommodate TAMI firms is further highlighted in the *North Brooklyn Industry and Innovation Plan*, prepared and published by NYCDCP in 2018. According to the report, between 2012 and fall 2017 there were over one million square feet of office and retail space announced, underway, or completed within the report's study area, in which the Project Area is located. However, these consisted almost entirely of conversions. As is described in the report, rezonings, which would allow for greater density with lower parking requirements, would likely result in more, new commercial office and retail construction due to current demand. Further, the Project Area is located in what the *North Brooklyn Industry and Innovation Plan* considers the "Growth District." As is mentioned in the report, non-industrial jobs in the Growth District grew by 53 percent (approximately 990 jobs) between 2010 and 2016, and the Growth District is seeing "dramatic growth of TAMI business" which, as mentioned above, are the target businesses to occupy the Proposed Project's proposed office uses. Additionally, as described above, availability rates in the borough and Williamsburg/Bushwick submarket have risen as a result of new supply being added to a small inventory over a short period of time but leasing activity is high, and that the higher availability rates in the submarket are likely due to the growing shift in demand for Class A, state-of-the-art office spaces that better accommodate TAMI businesses over more traditional office spaces.[12] The Proposed Action would result in new Class A office space containing large floorplates that could accommodate a wide variety of tenants, including TAMI firms, generating new employment opportunities in the Project Area and satisfying the increasing demand for growing tech businesses. The proposed M1-5 zoning would also help preserve essential light industrial uses within the Project Area. As such, the Applicant has collaborated with Evergreen, a local organization that organizes and supports manufacturing, creative production and industrial service businesses in North Brooklyn. The proposed retail uses that would be facilitated by the Proposed Action would serve to improve the pedestrian environment along this portion of Flushing Avenue and Jefferson Street, as well the accompanying project-generated pedestrian areas, with active ground floor uses, thus activating the streetscape surrounding and within the Project Area. Further, the proposed commercial office and light industrial development would align with the goals of the *New York Works* policy, which is a series of 25 initiatives to spur 100,000 jobs over the coming decade. Specifically, the plan calls for the need to bring jobs closer to where New Yorkers live to reduce commuting times and minimize the strain on the transit network. Additionally, with the onset of the COVID-19 pandemic, the Proposed Action and resultant RWCDS would further support the growing need to promote livable and walkable mixed-use neighborhoods with workspaces within close proximity to residential communities.

[12] *Brooklyn Office Market Reports* by NKF Research (2016 and 2020).

The Proposed Action would not introduce any new uses to the study area that would substantially alter existing economic patterns, nor would the Proposed Action add to the concentration of a particular sector of the local economy enough to alter or accelerate an ongoing trend to change existing economic patterns. The proposed mix of commercial, industrial, and community facility uses in the Project Area is expected to be consistent with the existing and emerging mix of uses in the study area. Although the proposed office space would be substantial, office uses are currently located in the study area, which has experienced an increase of over 300 percent of office space square footage in the past decade. The socioeconomic study area is increasingly becoming more diverse in terms of the types of businesses and development occurring in the area. While the Proposed Action would contribute to an existing trend of increasing commercial development in the study area, any upward rent pressure experienced by industrial businesses in the area would be present in the future without the Proposed Action.

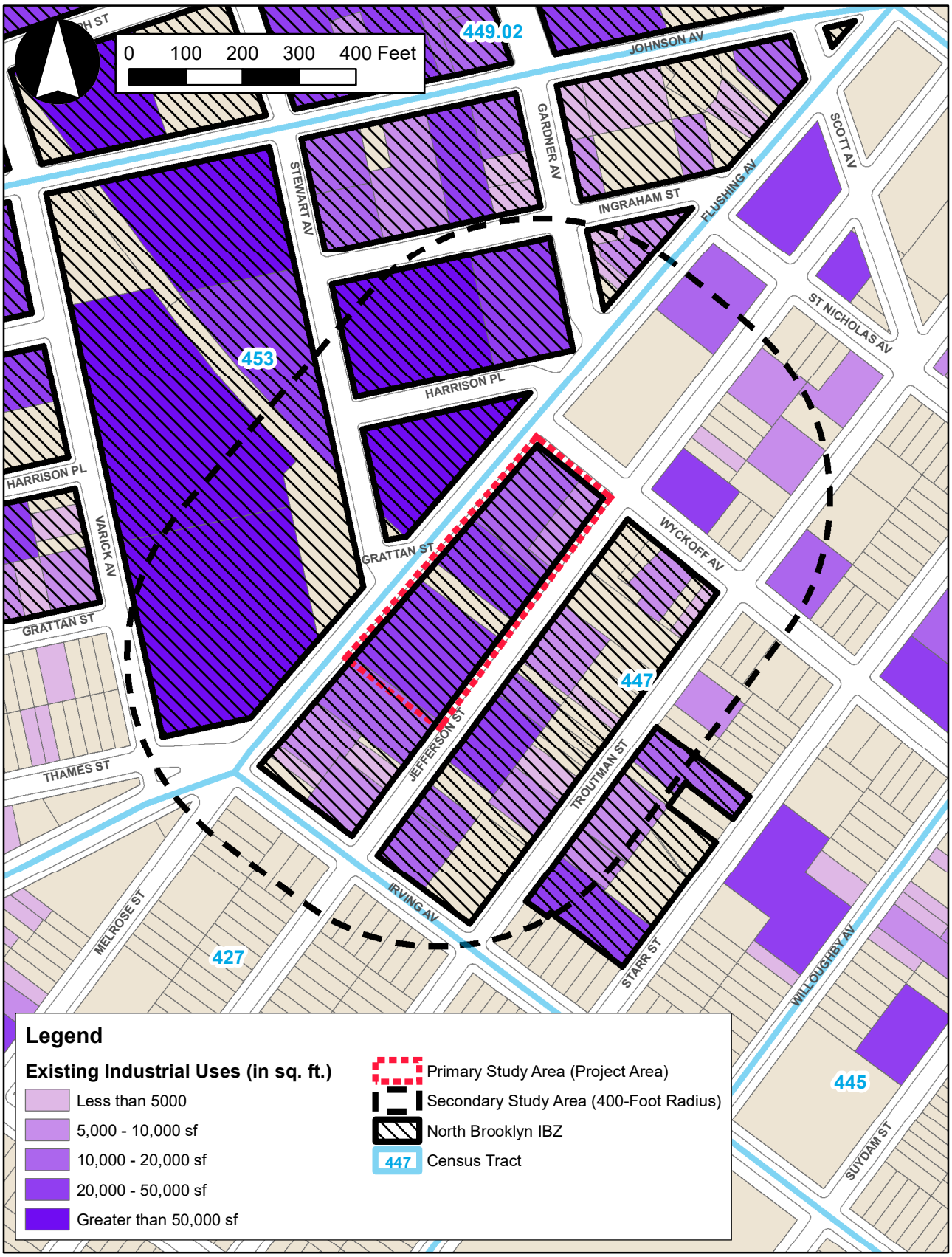
Businesses most vulnerable to indirect displacement due to increased rent are typically those businesses whose uses are less compatible with the economic trend that is creating upward rent pressures in the study area, i.e., those businesses that tend not to benefit directly (in terms of increased business activity) from the market forces generating the increases in rent. For example, if a neighborhood is becoming a more desirable place to live, uses that are less compatible with residential conditions (such as manufacturing) would be less likely to see increases in their business as a result of increased residential population than a neighborhood service use, such as a restaurant, which could benefit from the increased customer base. Those businesses that would not benefit from the increased residential population would be less likely to be able to afford increases in rent due to increases in property values.

Industrial businesses could be considered potentially vulnerable to indirect displacement, as a property owner could decide to convert an existing industrial property to retail or other commercial uses. However, of the approximately 796,000 sf of existing industrial uses within the secondary study area, approximately 693,000 sf (or 87 percent) fall within the boundaries of the North Brooklyn IBZ (see **Figure D-3**), and therefore would be further protected from any potential conversions or indirect displacement. As described in **Attachment C, "Land Use, Zoning, and Public Policy,"** the City's IBZs are non-zoning designations that demonstrate a commitment to land use and public policies that encourage the retention and growth of industrial businesses, including financial incentives, designation of local ombudsmen, and a resolution not to support residential rezonings within their bounds. IBZs are defined geographical areas that were established to protect existing manufacturing districts and encourage industrial growth citywide. While some of the industrial businesses outside the IBZ could be displaced due to upward rent pressure in the future With-Action condition, upward rent pressure is already present in the study area and is expected to continue into the future without the Proposed Action. As described above, manufacturers and other industrial uses are currently experiencing real estate pressures of increasing rents and land values, and are often forced to complete with commercial uses for space, which can typically afford higher rents. A number of industrial properties in the area are either vacant and being warehoused for future development, or are soon to close due to planned redevelopment. While the Proposed Action would contribute to an existing trend of increasing commercial development in the study area, any upward rent pressure experienced by industrial businesses in the area would be present in the future without the Proposed Action. Moreover, the Proposed Action would introduce a net increase of approximately 40,732 gsf of light industrial space in the Project Area, helping to alleviate any upward rent pressure experienced by these uses in the future with the Proposed Action.

Therefore, the Proposed Action would not alter existing economic patterns by introducing a new economic activity to the study area.

- *Would the Proposed Action directly displace uses of any type that directly support businesses in the area or bring people to the area that form a customer base for local businesses?*

Existing Industrial Uses and the North Brooklyn IBZ



Source: DCP (PLUTO 21v4)

As discussed above, two existing businesses, an industrial warehouse on Lot 40 and a recently converted retail building on Lot 29 in the Project Area, would be displaced in the future with the Proposed Action. However, these businesses does not offer critical support services to local businesses or that draw a substantial customer base to the study area.

- *Would the Proposed Action directly or indirectly displace residents, workers, or visitors who form the customer base for local businesses?*

As discussed above, the Proposed Action would not directly or indirectly displace residents, workers, or visitors who form a substantial portion of the customer base of existing businesses in the study area, but rather, would increase the number of workers and visitors relative to existing numbers who visit the Project Area. Through the introduction of new commercial, light industrial, and community facility (medical office) spaces in the Project Area, the Proposed Action would generate new workers and visitors that would increase the customer base of existing businesses in the study area.

Attachment E
Open Space

1160 FLUSHING AVENUE EAS
Attachment E: Open Space

I. INTRODUCTION

This chapter assesses the potential impacts of the Proposed Action on open space resources. Open space is defined in the 2021 *City Environmental Quality Review* (CEQR) *Technical Manual* as publicly accessible, publicly or privately owned land that is available for leisure, play, or sport or serves to protect or enhance the natural environment. *CEQR Technical Manual* guidance indicates that an open space analysis should be conducted if an action would result in a direct effect, such as the physical loss or alteration of public open space, or an indirect effect, such as when a substantial new population could place added demand on an area's open spaces.

As outlined in **Attachment A, "Project Description,"** the Applicant, 1160 Flushing Ave LLC, proposes to redevelop a site on Block 3167, Lots 18 and 24 ("Projected Development Site 1"). Projected Development Site 1 would be redeveloped with a new 14-story, mixed-use building containing approximately 75,586 gsf (36,730 zsf) of retail uses, approximately 40,732 gsf (37,846 zsf) of light industrial uses, approximately 121,786 gsf (114,983 zsf) of commercial office uses, and approximately 59,973 gsf (56,975 zsf) of community facility (medical office) uses. In addition, it is assumed that two new commercial developments would occur on both non-Applicant-owned Lots 29 and 40 ("Projected Development Site 2" and "Projected Development Site 3," respectively). It is anticipated that Projected Development Site 2 would be redeveloped with a six-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space; and Projected Development Site 3 would be redeveloped with a five-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space. The Proposed Project will introduce approximately 0.11 acres of publically accessible area and approximately 0.33 acres of outdoor office amenity space.

II. PRINCIPAL CONCLUSIONS

According to the *CEQR Technical Manual,* a proposed action may result in a significant impact on open space resources if (a) there would be direct displacement or alteration of existing open space within the study area that would have a significant adverse effect on existing users; or (b) it would reduce the open space ratio and consequently result in the overburdening of existing facilities or further exacerbating a deficiency in open space.

Direct Effects

The Proposed Action would not result in the physical loss of existing public open space resources. The Proposed Action would also not result in any significant adverse operational air quality, construction, noise, or shadow impacts affecting open space resources

Indirect Effects

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if it would add enough population, either residential or non-residential, to noticeably diminish the capacity of open space in the area to serve the future population. Typically, an assessment of indirect effects is

conducted when a project would introduce more than 200 residents and 500 workers to an area. As the Proposed Action is expected to introduce approximately 1,305 workers under the RWCDS, compared to the No-Action condition, a detailed open space analysis for a non-residential (0.25-mile) study area was conducted, pursuant to *CEQR Technical Manual* guidance. The *CEQR Technical Manual* indicates that a significant adverse open space impact may occur if a proposed action would reduce the open space ratio by more than five percent in areas that are currently below the City's median Community District open space ratio of 1.5 acres per 1,000 residents. In areas that are extremely lacking in open space, a reduction of as little as one percent may be considered significant, depending on the area of the City. Conversely, in areas that are within a Walk to a Park Service Area, a greater percentage of change (more than five percent) may be tolerated. These reductions may result in the overburdening of existing facilities or further exacerbating a deficiency in open space. An open space impact assessment also considers qualitative factors.

In the future with the Proposed Action, the passive open space ratio within the non-residential (0.25-mile) study area would decrease by more than five percent from the No-Action condition (a 9.81 percent reduction) but would remain above the City's planning guideline of 0.15 acres per 1,000 non-residents, at 0.342 acres per 1,000 non-residents. Additionally, the residential population in the 0.25-mile open space study area would not experience any reductions in the total, active, or passive open space ratios between No-Action and With-Action conditions. In addition, the Project Area is located within a Walk to a Park Service Area and, therefore, is not located within a walk gap area (i.e., an area of the City that is not within a walking distance to a park). As such, workers in the 0.25-mile study area would continue to have access to passive open space resources, and there would be no significant adverse impact on open space in the defined study area as a result of the Proposed Action. Furthermore, although the Proposed Project would increase the demand for passive open space for the daytime population in the study area, that demand could be partially absorbed by the 0.11-acre publicly accessible area that would be provided on Projected Development Site 1 in the future with the Proposed Action, as well as the approximately 0.33 acres of outdoor office amenity space located on the Proposed Project's second- and fourth-floor terraces. Therefore, the Proposed Action would not result in any significant adverse indirect impacts to study area open space resources, and further analysis is not warranted.

III. METHODOLOGY

Direct Effects

According to the *CEQR Technical Manual*, a proposed project would directly affect open space conditions if it causes the loss of public open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. As no open space resources would be physically altered or displaced as a result of the Proposed Action, this chapter uses information from Chapter 5, "Shadows," Chapter 11, "Air Quality," Chapter 13, "Noise," and Chapter 16, "Construction," to determine whether the Proposed Action have the potential to directly affect any open spaces in close proximity to the Project Area.

Indirect Effects

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if it would add enough population, either residential or non-residential, to noticeably diminish the capacity of open space in the area to serve the future population. Typically, an assessment of indirect effects is conducted when a project would introduce more than 200 residents or 500 workers to an area.

Per *CEQR Technical Manual* guidance, the open space analysis and impact assessment is based on the anticipated incremental development from the Proposed Action. As discussed in Attachment A, "Project Description," the Proposed Action would introduce approximately 1,305 additional workers to the Project Area compared to the No-Action condition. As such, an open space assessment for the non-residential population generated by the Proposed Action is warranted. As the Proposed Action would not introduce any new residents, the indirect open space impact analysis focuses solely on potential impacts within the non-residential study area (described further below).

Study Area

In accordance with the guidance established in the 2021 *CEQR Technical Manual*, open space study areas are based on the distances that respective users—non-residents and residents—are likely to walk to an open space. As stated above, as no residential uses would result from the Proposed Action, the assessment of indirect effects primarily focuses on the non-residential (worker) population of open space users. According to the *CEQR Technical Manual*, workers are assumed to walk approximately 10 minutes, or a quarter-mile from their place of work to an open space. In accordance with this guidance, the adequacy of open space resources was assessed for the quarter-mile (worker) study area. Pursuant to CEQR guidance, this study area was adjusted to include all census tracts with at least 50 percent of their area within the quarter-mile boundary. In this way, the study area allows for analysis of both the open spaces in the area as well as population data. As shown on Figure E-1, the quarter-mile open space study area is defined as Census Tracts 447, 427, and 453. The open space study area is generally bounded by Cypress and Johnson avenues to the north, Wilson Avenue to the south, Willoughby Avenue to the east, and Bogart Street to the west. Additionally, while Census Tract 429 (which contains Maria Hernandez Park) does not have at least 50 percent of its land area located within the quarter-mile radius of the Project Area, and thus not included in the non-residential open space study area (pursuant to CEQR guidance), based on correspondence between the environmental consultants, Philip Habib & Associates (PHA), and the New York City Department of City Planning (DCP) and Department of Parks and Recreation (NYC Parks) on November 2 and November 6, 2020, it was determined appropriate for Maria Hernandez Park to be included in the quantitative open space analysis as a majority of this open space is located within the quarter-mile radius of the Project Area (see Figure E-1).

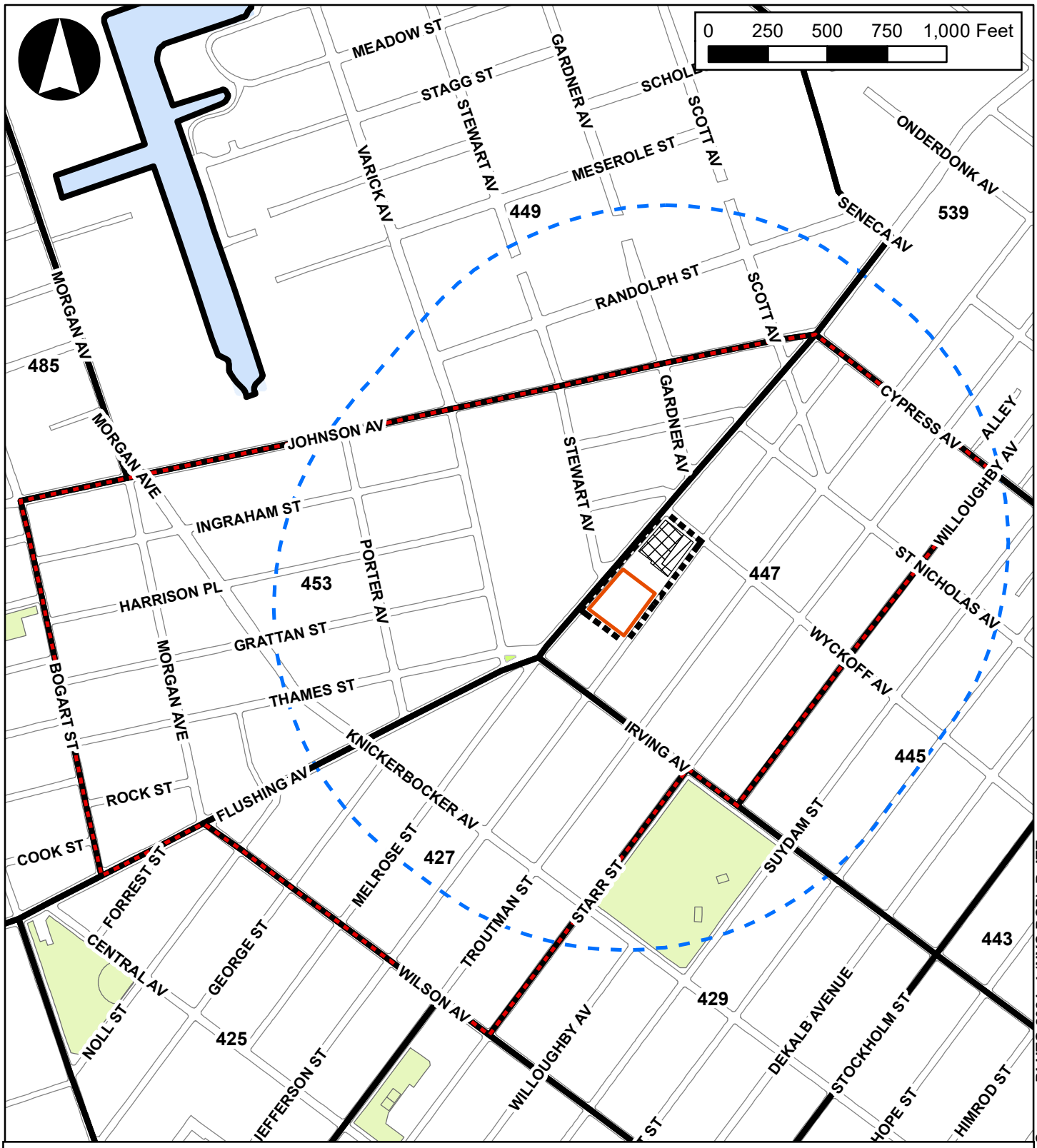
As the Proposed Action would not introduce any new residents to the Project Area, and thus would not exceed the CEQR threshold analysis of 50 residents (within an underserved open space area), a residential open space analysis is not warranted. However, as the Project Area is located in an area with an existing residential population, the residential population of the non-residential study area will also be calculated in accordance with CEQR guidance.

Analysis Framework

The *CEQR Technical Manual* methodology suggests conducting an initial quantitative assessment to determine whether more detailed analyses are appropriate. As the Proposed Action is expected to introduce more than 500 workers to the study area, a detailed open space assessment of the non-residential (0.25-mile) study area is warranted and is provided below.

With an inventory of available open space resources and potential users, the adequacy of open space in the study area can be assessed both quantitatively and qualitatively. The quantitative approach computes the ratio of open space acreage to the population in the study area and compares these ratios with certain guidelines. The qualitative assessment examines other factors that may affect conclusions about adequacy, including proximity to additional resources beyond the study area, the availability of private recreational facilities, and the demographic characteristics of the study area's population. Specifically, the analysis in this chapter includes:

Figure E-1
Open Space Study Area



Legend

- Open Space Study Area
- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 1/4-Mile Radius
- 447 2010 Census Tracts
- Open Space

- Open space study area population. To determine the number of workers in the study area, worker data provided by the US Census Bureau's OnTheMap application, which is based on Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (beginning of Quarter Employment, 2nd Quarter of 2002-2019), have been compiled for census tracts comprising the open space study area. Because the study area has a residential population that may also use open spaces, in accordance with *CEQR Technical Manual* guidance, the number of residents in the study area has also been calculated, based on 2015-2019 ACS data.
- An inventory of all publicly accessible passive and active recreational facilities in the quarter-mile open space study area. As noted above, based on correspondence between PHA, DCP, and NYC Parks on November 2 and November 6, 2020, it was determined appropriate for Maria Hernandez Park (which is located in Census Tract 429) to be included in the quantitative open space analysis as a majority of this open space is located within the quarter-mile radius of the Project Area (see Figure E-1). As such, the inventory of publicly accessible passive and active recreational facilities will include Maria Hernandez Park.
- An assessment of the quantitative ratio of open space in the study area by computing the ratio of open space acreage to the population in the study area and comparing this open space ratio with certain guidelines. According to the *CEQR Technical Manual*, a ratio of 0.15 acres of passive open space per 1,000 non-residents represents a reasonable amount of open space. The needs of residential populations are also considered in the study area because it is assumed that residents will use the same passive open spaces. Therefore, residential population within the 0.25-mile study area is also considered for the analysis that balances the amount of open space necessary to meet the guideline of 0.50 acres of passive open space and 2.00 acres of active open space per 1,000 residents (2.50 acres per 1,000 residents, total).
- An evaluation of qualitative factors affecting open space use.
- A determination of the adequacy of open space in the quarter-mile open space study area in the existing condition, the No-Action condition, and the With-Action condition.
- An assessment of expected changes in future levels of open space supply and demand in the 2027 analysis year, based on other planned development projects within the open space study area. To estimate the non-residential population expected in the study area in the future without the Proposed Action, employment ratio assumptions were used as follows: one employee per 1,000 sf for light industrial, one employee per 250 sf of office space, one employee per 333 sf of community facility space, and one employee per 300 sf of retail. Residential population expected in the study area in the No-Action condition was estimated based on a ratio of 2.69 residents per unit (2020 Census average household size for Brooklyn CD 4). Any new open space or recreational facilities that are anticipated to be operational by the analysis year are also accounted for. Open space ratios are calculated for future No-Action conditions and compared with existing ratios to determine changes in future levels of open space adequacy.

Impact Assessment

Impacts are based in part on how a project would change the open space ratios in the study area as well as other qualitative considerations. According to the *CEQR Technical Manual*, a decrease in an open space ratio of five percent or more compared to the No-Action condition is generally considered to be a significant adverse impact. If a study area exhibits a low open space ratio, indicating a shortfall of open space, smaller decreases in that ratio as a result of the action may constitute significant adverse impacts. Conversely, in areas that are within a Walk to a Park Service Area (i.e., areas of the City that are within a walking distance of a park), a greater percentage of change (more than five percent) may be tolerated.

In addition to the quantitative factors cited above, the *CEQR Technical Manual* also recommends consideration of qualitative factors in assessing the potential for open space impacts. These include the

availability of nearby destination resources, the beneficial effects of new open space resources provided by a project, and the comparison of projected open space ratios with established City guidelines. It is recognized that the open space ratios of the City guidelines described above are not feasible for many areas of the City, and they are not considered impact thresholds on their own. Rather, these are benchmarks that indicate how well an area is served by open space. Determinations as to what constitutes a significant adverse open space impact are not based solely on the results of the quantitative assessment. Qualitative considerations such as the distribution of open space, whether an area is within a Walk to a Park Service Area, the distance to regional parks, the connectivity of open space, and any additional open space provided by the Proposed Project, should be considered in a determination of significance.

IV. EXISTING CONDITIONS

Study Area Population

To determine the population served by existing open space resources, Census data was compiled for the census tracts comprising the non-residential (0.25-mile) study area. As mentioned above and shown in Figure E-2, the non-residential (0.25-mile) open space study area is comprised of three census tracts (427, 447, and 453).

Non-Residential Population

As shown in Table E-1, based on worker data compiled by the US Census Bureau, the existing worker population for the open space study area is estimated at approximately 8,798 workers. As also shown in Table E-1, 2015-2019 ACS 5-Year Estimates indicate that the non-residential study area has a residential population of approximately 10,019 residents. Within the non-residential study area, the total population (residential plus non-residential) is estimated at 18,817.

TABLE E-1
Study Area Non-Residential and Residential Populations

Census Tract	Non-Residential (Worker) Population	Residential Population	Total Population
427	410	4,896	5,306
447	6,102	2,545	8,647
453	2,286	2,578	4,864
1/4-Mile Study Area Total	**8,798**	**10,019**	**18,817**

Source: U.S. Census Bureau, ACS 2012-2016 Five-Year Estimates, Special Tabulation: Census Transportation Planning; U.S. Census Bureau, ACS 2015-2019 5-Year Estimates.

The residential population of the 0.25-mile study area was also broken down by age group. As shown in Table E-2, people between the ages of 20 and 64 make up the majority (approximately 76.2 percent) of the residential population in the 0.25-mile study area. Children and teenagers (0 to 19 years old) account for approximately 19.2 percent of the non-residential study area population, and persons 65 years and over account for approximately 4.6 percent of the non-residential study area population. As also presented in Table E-2, the 0.25-mile study area includes a lower population of children, teenagers and seniors and, concurrently, a higher population of adults aged 20 to 64, compared to Brooklyn and New York City as a whole. The residential population in the non-residential study area exhibits a lower median age than that of Brooklyn as a whole and New York City as a whole. Given the range of age groups present in the residential study area population, the study area has a need for various kinds of active and passive recreation facilities, including open space features that can be used by young children and adults.

TABLE E-2
Existing Non-Residential Open Space (1/4-mile) Study Area Residential Population Characteristics

Census Tract	Total Residential Population	Age Distribution (2015-2019 ACS 5-Year Estimates)												Median Age
		Under 5		5 to 9		10 to 14		15 to 19		20 to 64		65+		
		#	%	#	%	#	%	#	%	#	%	#	%	
427	4,896	250	5.1%	356	7.3%	300	6.1%	231	4.7%	3,487	71.2%	272	5.6%	28.5
447	2,545	194	7.6%	119	4.7%	41	1.6%	182	7.2%	1,934	76.0%	75	2.9%	32.2
453	2,578	96	3.7%	6	0.2%	62	2.4%	93	3.6%	2,209	85.7%	112	4.3%	34.3
1/4 mile study area total	**10,019**	**540**	**5.4%**	**481**	**4.8%**	**403**	**4.0%**	**506**	**5.1%**	**7,630**	**76.2%**	**459**	**4.6%**	**31.1**
Total for Brooklyn	*2,589,974*	*190,959*	*7.4%*	*159,422*	*6.2%*	*155,921*	*6.0%*	*138,939*	*5.4%*	*1,592,439*	*61.5%*	*352,294*	*13.6%*	*35.2*
Total for NYC	*8,419,316*	*544,971*	*6.5%*	*468,577*	*5.6%*	*469,890*	*5.6%*	*450,091*	*5.3%*	*5,263,520*	*62.5%*	*1,222,267*	*14.5%*	*36.7*

Total User Population

Within the study area, the total population (non-residents plus residents) is estimated at 18,817 (refer to Table E-1). Although this analysis conservatively assumes that the employees and residents are separate populations, it is possible that some of the employees live near their workplace or work from home. As a result, there is likely to be some double-counting of the daily user population in which non-residential and residential populations overlap, resulting in a more conservative analysis.

Inventory of Publicly Accessible Open Space

According to the *CEQR Technical Manual*, open space may be public or private and may be used for active or passive recreational purposes. Pursuant to the *CEQR Technical Manual*, publicly accessible open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for impacts using both a quantitative and a qualitative analysis, whereas private open space is not accessible to the general public on a regular basis and is considered only qualitatively. Field surveys and secondary sources were used to determine the number, availability, and condition of publicly accessible open space resources in the study area.

An open space is determined to be active or passive by the uses that the design of the space allows. Active open space is the part of a facility used for active play such as sports or exercise and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, lawns, and paved areas for active recreation.

Passive open space (which is the focus of non-residential open space impact assessment) is used for sitting, strolling, and relaxation, and typically contains benches, walkways, and picnicking areas. However, some passive spaces can be used for both passive and active recreation; such as a lawn or riverfront walkway, which can also be used for ball playing, jogging, or rollerblading.

All of the publicly accessible open space and recreational resources within the defined study area are identified in Figure E-2 and listed in Table E-3.

As shown in Table E-3, the study area contains one publically accessible open space resource, Maria Hernandez Park.[1] Maria Hernandez Park is 6.87-acre park is located within the 0.25-mile radius and only two blocks south of the Project Area (Map No. 1). It is likely to be utilized by a portion of the population who live and work in the defined study area. Maria Hernandez Park is operated by NYC Parks and features plantings, plant beds, benches, basketball courts, dog-friendly areas, eateries, fitness equipment, playgrounds, spray showers, and handball courts.

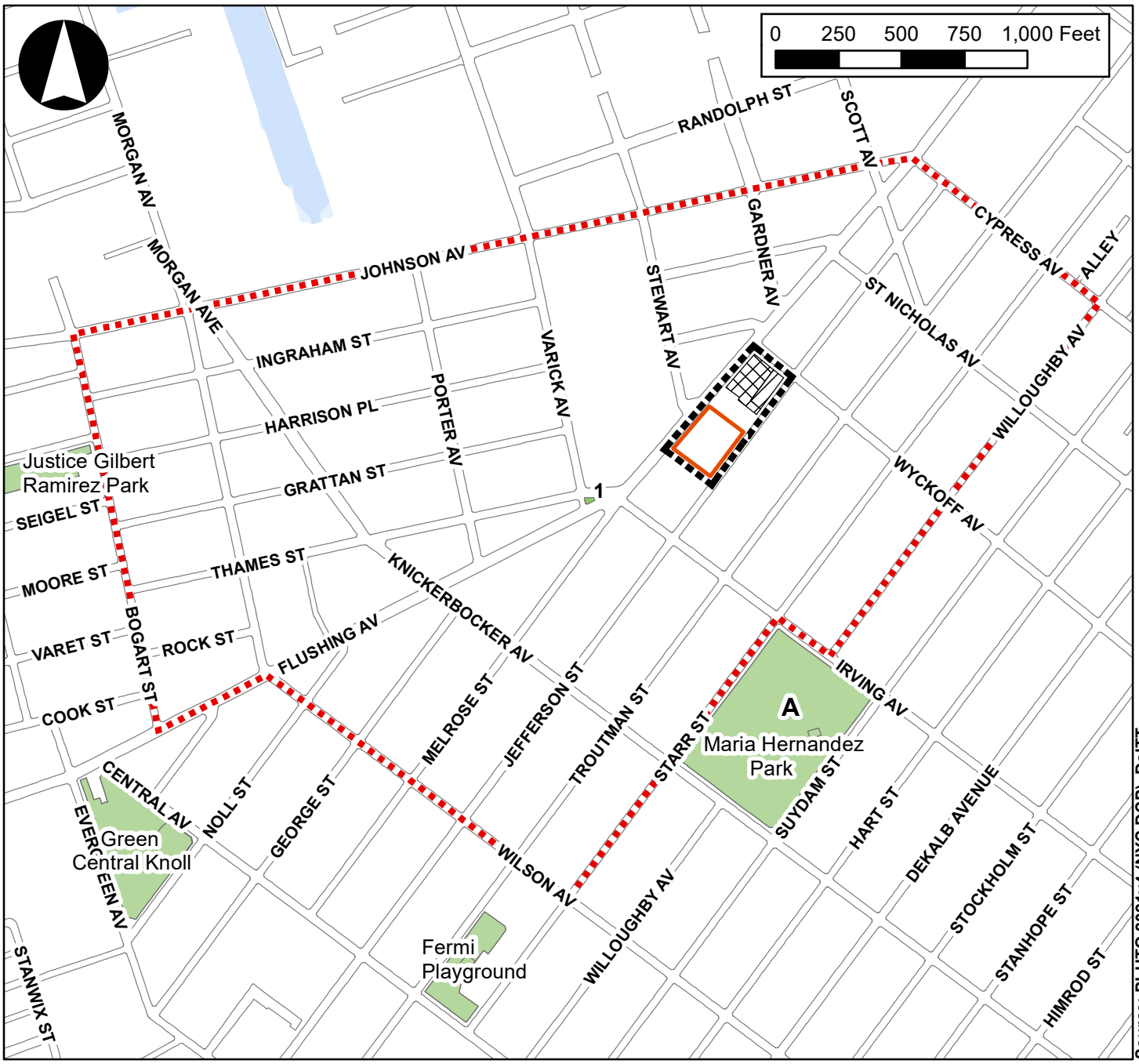
[1] As detailed above in Section III, while Census Tract 429 (which contains Maria Hernandez Park) does not have at least 50 percent of its land area located within a 0.25-mile radius of the Project Area, and thus not included in the non-residential open space study area (pursuant to CEQR guidance), based on correspondence between PHA, DCP, and NYC Parks on November 2 and November 6, 2020, it was determined appropriate for Maria Hernandez Park to be included in the quantitative open space analysis as a majority of the open space is located within the 0.25 radius of the Project Area.

TABLE E-3
Open Space Resources within the ¼-Mile Open Space Study Area

Map No.	Name	Address/Location	Owner/Agency	Amenities	User Groups	Hours of Operation	Total Acres	Active		Passive		Condition & Utilization
								#	%	#	%	
Open Space Resources Included in Quantitative Analysis 1/4-Mile Study Area												
1	Maria Hernandez Park	Irving Avenue, Knickerbocker Avenue, between Starr Street and Suydam Street	NYC Parks	Plantings, plant beds, benches, basketball courts, dog-friendly areas, eateries, fitness equipment, playgrounds, spray shower, and handball courts	Children, Teenagers, Adults, Senior Citizens	6AM to 10PM	6.87	3.44	50%	3.44	50%	Good condition/High utilization
1/4-Mile Study Area Total							**6.87**	**3.44**	**50.0%**	**3.44**	**50.0%**	
Open Space Resources Not Included in Quantitative Analysis 1/4-Mile Study Area												
A	Greenstreet	Varick Avenue, Flushing Avenue, and Thames Street	NYC Parks	Trees	Adults, Senior Citizens	24/7	0.18	0.00	0%	0.18	100%	
1/4-Mile Study Area Non Quantitative Total							**0.18**	**0.00**	**0%**	**0.18**	**100%**	

Source: New York City Open Accessible Space Information System (OASIS), NYC Parks, 2020 Primary Land Us Tax Lot Output (PLUTO) data, site visits conducted in October 2020.
Notes:
[1] Refer to Figure E-2.
* NYC Parks = New York City Department of Parks and Recreation;

Figure E-2
Open Space Resources



Legend

- Open Space Study Area
- Project Area
- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- 1 — Open Space Resources Included in Quantitative Analysis (refer to Table E-4)
- A — Open Space Resources Included in Qualitative Analysis (refer to Table E-4)
- Open Space Resources Located Outside of Study Area Boundary

Assessment of Open Space Adequacy

As described above, the analysis of the study area focuses on passive open spaces that may be used by non-residents in the area. To assess the adequacy of open space resources in the study area, the ratio of non-residents to acres of passive open space is compared to the City's planning guideline of 0.15 acres of passive space per 1,000 non-residents.

Quantitative Assessment

The study area includes a total of 6.87 acres of open space, of which approximately 3.44 acres contain passive uses and 3.44 acres contain active uses.[2] A total of 8,798 people work within the defined study area boundary, and 10,019 residents live within this same study area; the combined non-residential (workers) and residential population is 18,817.

Based on *CEQR Technical Manual* methodology, the non-residential study area has a passive open space ratio of 0.39 acres per 1,000 non-residents, which is above the City's guidance of 0.15 acres (see Table E-4). As such, non-residents in the quarter-mile study area are well-served by passive open space resources under existing conditions (refer to Table E-4).

TABLE E-4
Adequacy of Open Space Resources: Existing Conditions

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Optimal Planning Goal		
	Population	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-residents	8,798	6.87	3.44	3.44	N/A	0.390	N/A	N/A	0.15	N/A
Residents	10,019				0.686	0.343	0.343	2.50	0.50	2.00

Notes:
* Based on target open space ratios established by creating a weighted average of the amount of open space necessary to meet the City guidance of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 non-residents.

Qualitative Assessment

As shown in Table E-3 the study area's open space resource is in good condition and features heavy utilization levels. The study area includes one greenstreet, which is not suitable for use by the non-residential population in the study area. Moreover, as noted above, the quantitative analysis is conservative in scope as it assumes that daytime users (workers) and residents are separate populations, whereas it is possible that some of the workers live near their workplace or work from home, resulting in some double-counting of the daily user population in the study area.

V. THE FUTURE WITHOUT THE PROPOSED ACTION (NO-ACTION CONDITION)

Study Area Population

In the future without the Proposed Action, it is anticipated that while no new construction would be planned for the Applicant-owned Projected Development Site 1, the currently vacant, approximately 30,388 sf

[2] Passive, active, and total open space acreage may be slightly off due to rounding errors.

former industrial building on Lots 18 and 24 would be converted and reoccupied with commercial retail uses in the No-Action condition. As discussed in Attachment A "Project Description," the Projected Development Site 1 would be occupied by approximately 31,907 gsf of commercial retail uses. This development would add approximately 106 workers to the study area.

In addition, a number of projects are expected to be completed in the vicinity of the Project Area by 2027 (refer to Attachment C, "Land Use, Zoning, and Public Policy"), of which three would fall within the defined open space study area. These three known development projects would add an estimated 143 workers and 38 residents to the study area. Altogether, when combined with the 106 workers introduced under the No-Action condition on the Project Area, the total combined study area population is expected to increase to 19,104 in the No-Action condition (9,047 workers and 10,057 residents), as shown in Table E-5.

TABLE E-5
No-Action Open Space Study Area Population[1]

	Existing Population	Incremental No-Action Population at Project Area	Additional Population in Study Area resulting from Known Development Projects [1]	2027 No-Action Population
Non-residents	8,798	106	143	9,047
Residents	10,019	0	38	10,057

Notes:
[1] Refer to Table C-3 in Attachment C, "Land Use, Zoning, and Public Policy."

Open Space Resources

There are no new publicly-accessible open spaces expected to be added to the study area under the No-Action condition.

Assessment of Open Space Adequacy

As noted above, it is anticipated that new development in the study area will result in an increase in the population but there is no expected increase in the amount of public passive open space acreage in the future without the Proposed Action. As a result of these anticipated No-Action changes, the ratio of passive open space per 1,000 non-residents would decrease to 0.38 (from 0.39 under existing conditions) and would continue to be above the City's planning guideline ratio of 0.15 acres (see Table E-6).

TABLE E-6
Adequacy of Open Space Resources: No-Action Condition

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Optimal Planning Goal		
	Population	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-residents	9,047	6.87	3.44	3.44	N/A	0.380	N/A	N/A	0.15	N/A
Residents	10,057				0.683	0.342	0.342	2.50	0.50	2.00

Notes:
*Based on target open space ratios established by creating a weighted average of the amount of open space necessary to meet the City guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 non-residents.

VI. THE FUTURE WITH THE PROPOSED ACTION (WITH-ACTION CONDITION)

In the 2027 future with the Proposed Action, the Proposed Action is expected to result in the total development of approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses across the three projected development sites. The proposed developments would introduce approximately 1,488 total workers to the study area, representing 1,305 additional workers compared to No-Action conditions.

Direct Effects

No publicly accessible open space is currently located on the Project Area. Therefore, the Proposed Action would not cause the physical loss of publicly accessible open space. In addition, as discussed in Chapter 5, "Shadows," Chapter 10, "Air Quality," Chapter 12, "Noise," and Chapter 15, "Construction," the Proposed Action would not result in any significant adverse shadows, operational air quality, or noise impacts affecting existing open space resources. Furthermore, the Proposed Action would not change the use of a publicly accessible open space resource so that it no longer serves the same user population, nor would it limit public access to any open space resources.

Indirect Effects

As noted above, as a result of the Proposed Action, the Proposed Project would exceed the indirect non-residential open space analysis threshold, and as such, a detailed analysis of indirect effects is warranted and is provided below.

Study Area Population

In total, the Proposed Project would introduce an estimated 1,305 new workers over the No-Action condition. As indicated in Table E-7, this additional population is expected to increase the study area's non-residential population to 10,352 while the residential population is expected to remain at 10,057, as under No-Action conditions.

TABLE E-7
With-Action Open Space Study Area Population

	No-Action Population	Additional Population at Project Area	2027 With-Action Population
Non-residents	9,047	1,305	10,352
Residents	10,057	0	10,057

Open Space Resources

The Proposed Project would include approximately 0.11 acres of at grade publically accessible area fronting the retail and office entryways of Projected Development Site 1 (Lots 18 and 24). The at-grade publically accessible area would contain passive open space features, such as bench seating, tree plantings, and landscaped areas, and it is anticipated that study area residents and workers would utilize the publically accessible area. In addition, the Proposed Project would also include approximately 0.33 acres of passive open space on the proposed office building's second-story and fourth-story terraces featuring bench seating, tables, and landscaped areas, and are expected to be primarily utilized by projected-generated office and retail workers.

Assessment of Open Space Adequacy

QUANTITATIVE ASSESSMENT

As presented in Table E-8, in the future with the Proposed Action, the ratio of passive open space per 1,000 non-residents would decrease to 0.34 (from 0.38 under No-Action conditions) and, it would continue to be above the City's guideline ratio of 0.15 acres.

TABLE E-8
Adequacy of Open Space Resources: With-Action Condition

		Open Space Acreage			Open Space Ratios per 1,000 Persons			*CEQR Technical Manual* Open Space Optimal Planning Goal		
	Population	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
Non-residents	10,352	6.98	3.55	3.44	N/A	0.342	N/A	N/A	0.15	N/A
Residents	10,057				0.694	0.352	0.342	2.50	0.50	2.00

Notes:
*Based on target open space ratios established by creating a weighted average of the amount of open space necessary to meet the City guideline of 0.50 acres of passive open space per 1,000 residents and 0.15 acres of passive open space per 1,000 non-residents.

QUALITATIVE ASSESSMENT

In the future with the Proposed Action, the worker passive open space ratio would remain above the City's planning guideline and recommended weighted ratios of 0.15 acres. The study area's non-residents and residents would also be able to make use of the 4,815 sf (0.11-acres) publically accessible area on the site. The project-generated workers would also be able to utilize the two outdoor office amenity spaces described above. The outdoor amenity spaces include 8,405 gsf on the second floor terrace and 5,758 gsf on the fourth floor terrace, for a total of 14,163 gsf (0.33-acres).

Lastly, the quantitative analysis is conservative as it assumes that non-residents and residents are separate populations, whereas it is possible that some of the workers live near their workplace or work from home, resulting in some double-counting of the daily user population in the non-residential study area.

Determining Impact Significance

As outlined above, a significant adverse open space impact may occur if a proposed action would reduce the open space ratio by more than five percent in areas that are currently below the *CEQR Technical Manual's* open space planning goals for residential and non-residential populations. In areas that are extremely lacking in open space, a reduction of as little as one percent may be considered significant, depending on the area of the City. Conversely, in areas that are within a Walk to a Park Service Area, a greater percentage of change (more than five percent) may be tolerated. These reductions may result in the overburdening of existing facilities or further exacerbating a deficiency in open space. Table E-9 displays the percentage change from No-Action to With-Action conditions for the study area.

In the future with the Proposed Action, while the non-residential study area's passive open space ratio would decrease by more than five percent from No-Action conditions (9.81 percent), it would remain above the City's guideline ratio of 0.15 acres per 1,000 non-residents, at 0.342 acres per 1,000 non-residents (refer to Table E-9). The residential population in the 0.25-mile open space study area would experience an increase in the total and passive open space ratios (an increase of 1.6 and 3.2 percent, respectively) and would not experience any changes in the active open space ratios between No-Action and With-Action conditions. The study area's non-residents and residents would also be able to utilize the approximately 0.11-acre publically accessible area. In addition, as shown in Figure E-3, the Project Area is located within a Walk to a Park Service Area and, therefore, is not located within a walk gap area (i.e., an area of the City that is not within a walking distance to a park). As such, workers in the 0.25-mile study area would continue

Figure E-3
Walk to a Park Service Area



Legend

Project Area | Open Space Study Area | Walk to a Park Service Area

to have access to passive open space resources, and there would be no significant adverse impact on open space in the defined study area as a result of the Proposed Action.

TABLE E-9
Study Area Open Space Ratios Summary

Ratio	*CEQR Technical Manual* Open Space Optimal Planning Goal (acres per 1,000)	Open Space Ratios per 1,000			Percent Change (Future No-Action to Future With-Action)
		Existing	No-Action	With-Action	
Passive – Non-residents	0.15	0.390	0.380	0.342	-9.81 %
Residents					
Passive	0.50	0.343	0.342	0.352	3.20%
Active	2.00	0.343	0.342	0.342	0.00%
Total	2.50	0.686	0.683	0.694	1.60%

[1] Calculated weighted ratio of 0.183 for Existing, 0.180 for No-Action, and 0.174 for With-Action conditions.

Additionally, although the Proposed Project would increase the demand on passive open space for the daytime population in the study area, that demand could be partially absorbed by the 0.11-acre publicly accessible area that would be provided on Projected Development Site 1, as described above. Furthermore, the project-generated worker population at Projected Development Site 1 would also have accesses to the approximately 0.33 acres of outdoor office amenity space located on the Proposed Project's second- and fourth-floor terraces. Although there would continue to be a shortage of passive and active open spaces for study area residents, the Proposed Action would not result in any reductions to the passive, active, or total open space ratios related to the residential population in the non-residential study area and thus would not overburden existing open space resources or further exacerbate a deficiency in active open space. Additionally, the introduction of the at-grade open space at Projected Development Site 1 would be open to and utilized by the study area residential population. Therefore, while the non-residential population would continue to be well-served and the residential population would continue to be underserved by study area open space resources, the Proposed Action would not result in any significant adverse impacts on existing open space resources within the non-residential (0.25-mile) study area.

Attachment F
Shadows

1160 FLUSHING AVENUE EAS
Attachment F: Shadows

I. INTRODUCTION

According to the 2021 *CEQR Technical Manual*, an adverse shadows impact is considered to occur when an incremental shadow from a proposed project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight exposure, thereby significantly altering the public's use of the resource, or threatens the viability of vegetation or other resources. Pursuant to CEQR guidance, sunlight-sensitive resources of concern are those resources that depend on sunlight, or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. Sunlight-sensitive resources can include publicly accessible open spaces, architectural resources, natural resources, and Greenstreets. In general, shadows on city streets, sidewalks, buildings, or project-generated open spaces are not considered significant under CEQR. In addition, shadows occurring within an hour and a half of sunrise or sunset generally are not considered significant under CEQR.

According to the *CEQR Technical Manual*, a shadows assessment is required only if a proposed action would result in structures (or additions to existing structures) of 50 feet or more and/or be located adjacent to, or across the street from, a sunlight-sensitive resource. As described in **Attachment A, "Project Description,"** the Proposed Action would facilitate the development of a 298,077 gsf, 14-story (206-foot-tall) building at the Projected Development Site 1[1]; At Projected Development Site 2, the Proposed Action would facilitate the development of a 96,551 gsf, six-story (85-foot-tall) building; and at Projected Development Site 3, the Proposed Action would facilitate the development of a 38,797 gsf, five story (71-foot-tall) building. Therefore, a shadows analysis was prepared to determine the potential for the Proposed Action and associated RWCDS to result in significant adverse impacts on sunlight-sensitive resources.

II. PRINCIPAL CONCLUSIONS

The Proposed Action would not result in significant adverse shadows impacts. While the Proposed Action and associated RWCDS would cast incremental shadows on a portion of the greenstreet at the intersection of Flushing Avenue and Varick Avenue, the detailed shadows analysis determined that the duration and coverage of the incremental shadows on the greenstreet would not be significant or adverse. Project-generated incremental shadows would occur on one of the four analysis days during the early morning hours near the onset of the analysis day and would last for approximately 18 minutes on June 21. The greenstreet would continue to receive adequate sunlight during the morning, afternoon, and evening hours (at least the six- to eight-hour minimum specified in the *CEQR Technical Manual*), and as such, the Proposed Action and associated RWCDS would not have significant adverse effects on any vegetation or adversely affect the usability/enjoyment of the greenstreet. Therefore, the Proposed Action is not anticipated to result in any significant adverse impact.

[1] For reasonable worst-case analysis purposes, the EAS analyzes a 14-story commercial/community facility building that maximizes the permitted community facility FAR (6.5) for Projected Development Site 1. However, it should be noted that the Applicant only intends to build a 9-story building that maximizes the permitted commercial FAR (5.0) on the Applicant-owned site.

III. METHODOLOGY

According to the *CEQR Technical Manual*, the longest shadow a structure will cast in New York City, except for periods close to dawn or dusk, is 4.3 times its height. For projects resulting in structures less than 50 feet tall, a shadow assessment is generally not necessary, unless the site is adjacent to a park, historic resource, or important natural feature (if the feature that makes the structure significant depends on sunlight).

First, a preliminary screening assessment must be conducted to ascertain whether shadows resulting from a project could reach any sunlight-sensitive resource at any time of year. The *CEQR Technical Manual* defines sunlight-sensitive resources as those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. The following are considered to be sunlight-sensitive resources:

- *Public open space* (e.g., parks, playgrounds, plazas, schoolyards, greenways, and landscaped medians with seating). Planted areas within unused portions or roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources. The use of vegetation in an open space establishes its sensitivity to shadows. This sensitivity is assessed for both (1) warm-weather dependent features, like wading pools and sandboxes, or vegetation that could be affected by loss of sunlight during the growing season (i.e., March through October); and (2) features, such as benches, that could be affected by a loss of winter sunlight. Uses that rely on sunlight include: passive use, such as sitting or sunning; active use, such as playfields or paved courts; and such activities as gardening, or children's wading pools and sprinklers. Vegetation requiring direct sunlight includes the tree canopy, flowering plants, and plots (particularly plots for food production) in community gardens. The amount of sunlight typically considered to be the minimum that plantings and vegetation would need is six to eight hours of direct sunlight. However, certain plantings and vegetation can tolerate partial sun, with a reduced minimum requirement of four to six hours of direct sunlight. Examples of areas that can tolerate partial sun are established tree canopies, shrubs or perennials.

- *Features of historic architectural resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features are considered, as opposed to the entire architectural resource. Sunlight-sensitive features include the following: design elements that are part of a recognized architectural style that depends on the contrast between light and dark (e.g., deep recesses or voids, such as open galleries, arcades, recessed balconies, deep window reveals, and prominent rustication); elaborate, highly carved ornamentation; stained glass windows; exterior building materials and color that depend on direct sunlight for visual character (e.g., the polychromy [multicolored] features found on Victorian Gothic Revival or Art Deco facades); historic landscapes, such as scenic landmarks, including vegetation recognized as an historic feature of the landscape; and structural features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.

- *Natural resources where the introduction of shadows could alter the resource's condition or microclimate.* Such resources could include community gardens, surface water bodies, wetlands, or designated resources, such as coastal fish and wildlife habitats.

The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the project site representing the longest shadow that could be cast. If there are sunlight-sensitive resources within the radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project-generated shadows by accounting for a specific range of angles that can never receive shade in New York City due to the path of the sun in the northern hemisphere. If the second tier of

analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third tier of screening analysis further refines the area that could be reached by new shadows by looking at specific representative days of the year and determining the maximum extent of shadow over the course of each representative day.

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration of the incremental shadow resulting from the project. In accordance with the *CEQR Technical Manual*, shadows on sunlight-sensitive resources of concern were modeled for four representative days of the year. For the New York City area, the months of interest for an open space resource encompass the growing season (i.e., March through October) and one month between November and February representing a cold-weather month (usually December). Representative days for the growing season are generally the March 21 vernal equinox (or the September 21 autumnal equinox, which is approximately the same), the June 21 summer solstice, and a spring or summer day halfway between the summer solstice and equinoxes, such as May 6 or August 6 (which are approximately the same). For the cold-weather months, the December 21 winter solstice is included to demonstrate conditions when open space users rely most heavily on available sunlight warmth. As these months and days are representative of the full range of possible shadows, they are also used for assessing shadows on sunlight-sensitive historic and natural resources. The *CEQR Technical Manual* defines the temporal limits of a shadow analysis period to fall from an hour and a half after sunrise to an hour and a half before sunset.

The detailed analysis provides the data needed to assess the shadow impacts. The effects of the new shadows on the sunlight-sensitive resources are described, and their degree of significance is considered. The result of the analysis and assessment are documented with graphics, a table of incremental shadow durations, and narrative text. As described in the *CEQR Technical Manual*, an incremental shadow is generally not considered significant when its duration is no longer than ten minutes at any time of year and the resource continues to receive substantial direct sunlight. A significant shadow impact generally occurs when an incremental shadow of ten minutes or longer falls on a sunlight-sensitive resource and results in one of the following:

- *Vegetation:* a substantial reduction in sunlight duration available to sunlight-sensitive features of the resource to less than the time of its minimum sunlight needs (when there would be sufficient sunlight in the future without the project) or a reduction in direct sunlight exposure where the sensitive feature of the resource is already subject to substandard sunlight (i.e., less than the minimum sunlight needs).

- *Historic and cultural resources:* a substantial reduction in sunlight available for the enjoyment or appreciation of the sunlight-sensitive features of an historic or cultural resource.

- *Open space utilization:* a substantial reduction in the usability of open space as a result of increased shadow, including information regarding anticipated new users and the open space's utilization rates throughout the affected time periods.

- *For any sunlight-sensitive feature of a resource:* complete elimination of all direct sunlight on the sunlight-sensitive feature of the resource, when the complete elimination results in substantial effects on the survival, enjoyment, or, in the case of open space or natural resources, the use of the resource.

In general, a significant adverse shadows impact occurs when the incremental shadows added by a proposed building fall on a sunlight-sensitive resource and substantially reduce or completely eliminate direct sunlight exposure, thereby significantly altering the public's use of the resource or threatening the viability of vegetation or other natural resources.

IV. PRELIMINARY SCREENING

Tier 1 Screening Assessment

According to the *2021 CEQR Technical Manual*, the longest shadow that a structure will cast in New York City, except for periods close to dawn or dusk, is 4.3 times its height and occurs on December 21 (the winter solstice). As discussed above, the Proposed Action is expected to result in a 206-foot, 85-foot, and 71-foot-tall building on the Projected Development Site 1, Projected Development Site 2, and Projected Development Site 3, respectively. For conservative analysis purposes, it is assumed that a 40-foot bulkhead would be located above each of the RWCDS buildings. Therefore, the longest shadow study area would be located approximately 1,058 feet from Projected Development Site 1, 538 feet from Projected Development Site 2, and 478 feet from Projected Development Site 3 (refer to **Figure F-1**). Within this longest shadow study area, there are two sunlight sensitive resources: A greenstreet located at the intersection of Flushing Avenue and Varick Avenue, and Maria Hernandez Park (refer to **Figure F-1**). Therefore, further screening is warranted in order to determine whether these resources would be affected by project-generated shadows.

Tier 2 Screening Assessment

Due to the path of the sun across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City, this area lies between -108 and +108 degrees from true north. The purpose of the Tier 2 screening is to determine whether the sunlight-sensitive resources identified in the Tier 1 screening are located within portions of the longest shadow study area that can receive shade from the proposed building.

As presented in **Figure F-1**, the greenstreet at the intersection of Flushing Avenue and Varick Avenue is located within the longest shadow study area (Tier 1). Based on the Tier 2 Screening Assessment, it cannot be ruled out that the Proposed Action would cast shadows on these locations. However, Maria Hernandez Park is located within the Tier 2 area, meaning that incremental shadows from the Proposed Action would not be cast on the sunlight-sensitive resource and further analysis is not warranted for this resource.

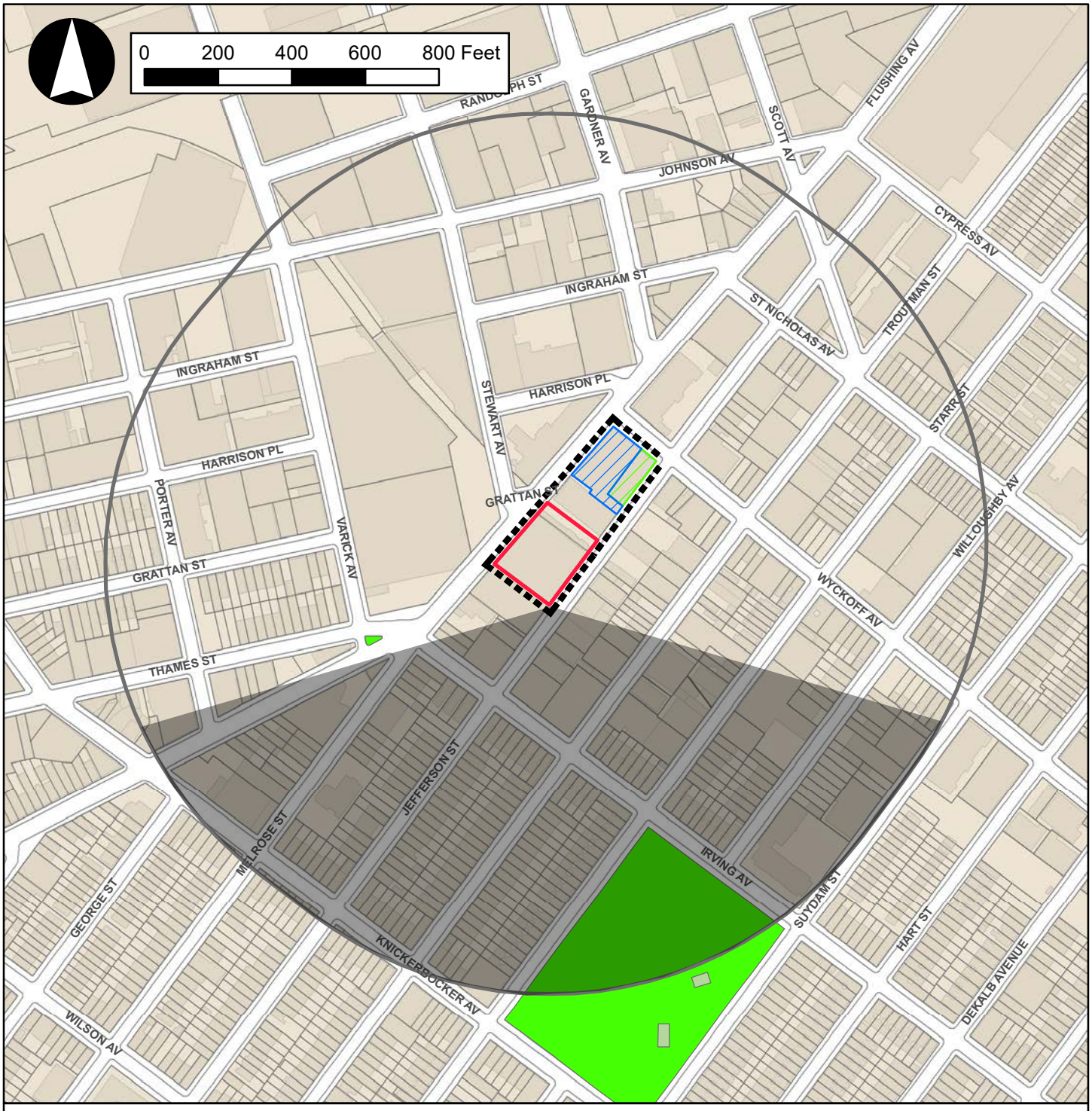
Tier 3 Screening Assessment

According to the *CEQR Technical Manual*, a Tier 3 screening assessment should be performed to determine if, in the absence of intervening buildings, shadows resulting from a proposed project can reach a sunlight-sensitive resource, thereby warranting a detailed shadows analysis. The Tier 3 screening assessment is used to determine if shadows resulting from a proposed project can reach a sunlight-sensitive resource at any time between 1.5 hours after sunrise and 1.5 hours before sunset on representative analysis dates.

As project-generated shadows could reach nearby sunlight-sensitive resources, a Tier 3 assessment was performed using three dimensional (3D) computer mapping software. The 3D model was used to calculate and display project-generated shadows on individual representative analysis dates. The model contained 3D representations of the elements in the base map used in the preceding assessments and a 3D model of the RWCDS. At this stage of the assessment, surrounding buildings and structures within the study area were not included in the model so that it may be determined whether project-generated shadows would reach any sunlight-sensitive resources.

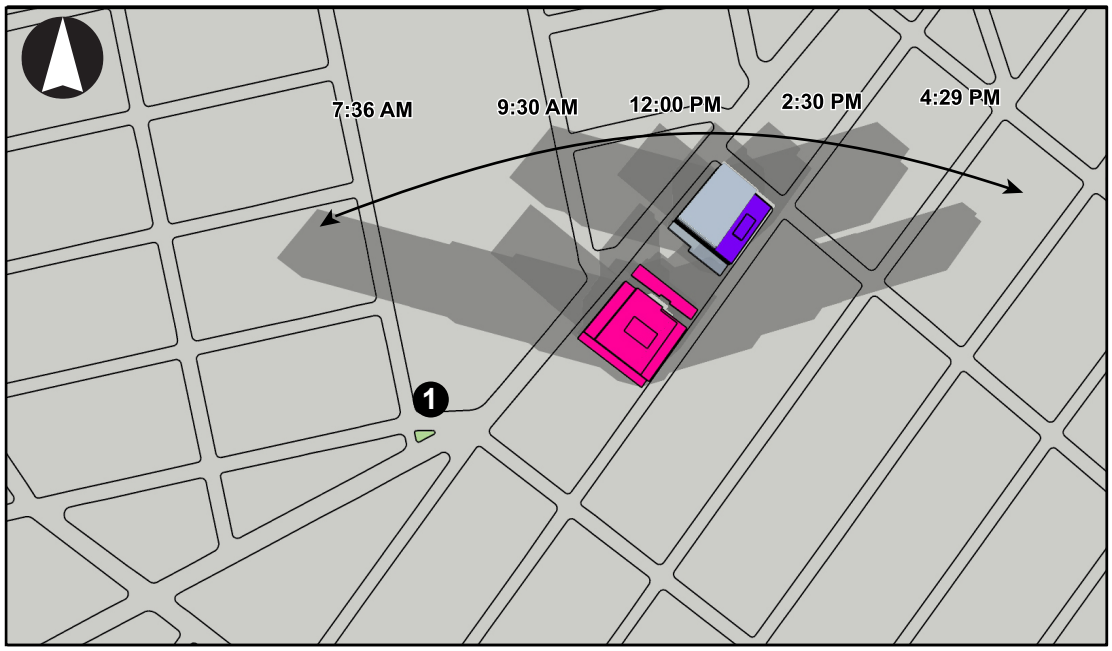
Figures F-2a and **F-2b** illustrate the range of project-generated shadows that could occur in the absence of existing buildings on the four representative analysis days. The Tier 3 analysis shows that the greenstreet at the intersection of Flushing Avenue and Varick Avenue would receive project-generated shadows.

Tier I & II Shadow Assessment

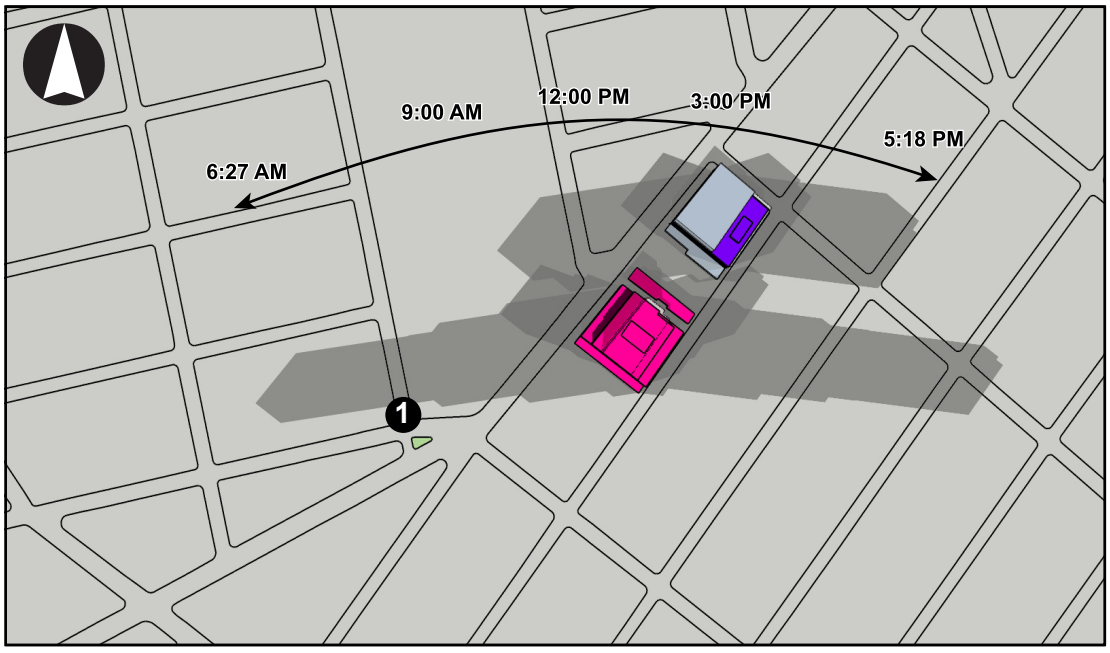


Legend

- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- Sunlight-Sensitive Resources
- Tier I: Longest Shadow Study Area (1,058 ft.)
- Tier II: Area that Cannot be Shaded



MARCH 21/SEPTEMBER 21



MAY 6/AUGUST 6

Projected Development Site 1

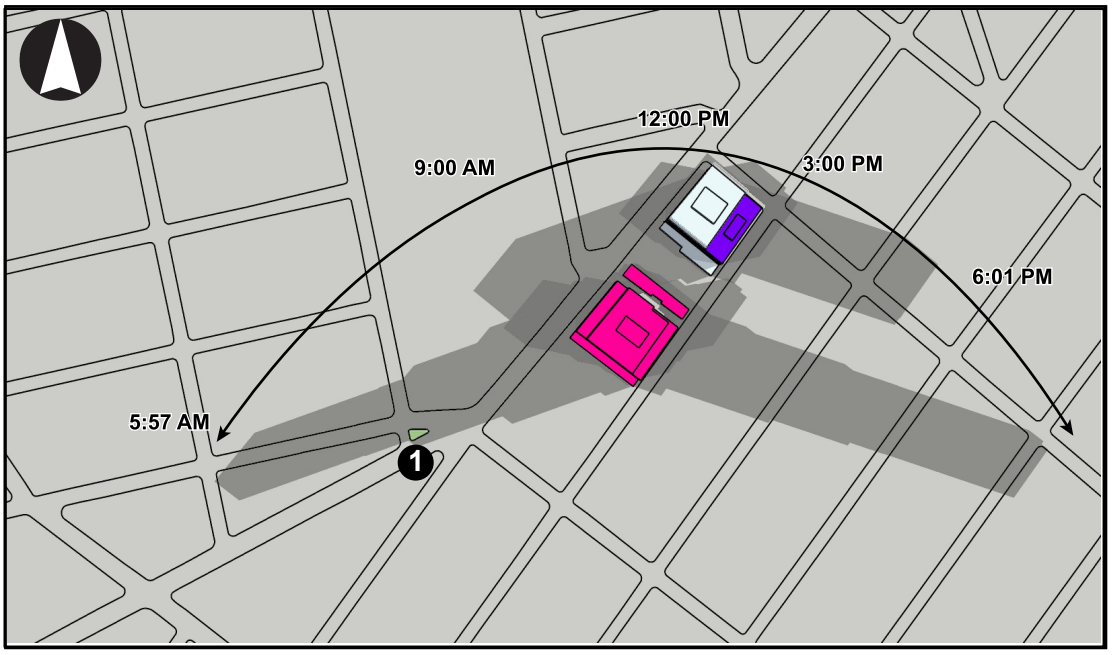
Projected Development Site 2

Projected Development Site 3

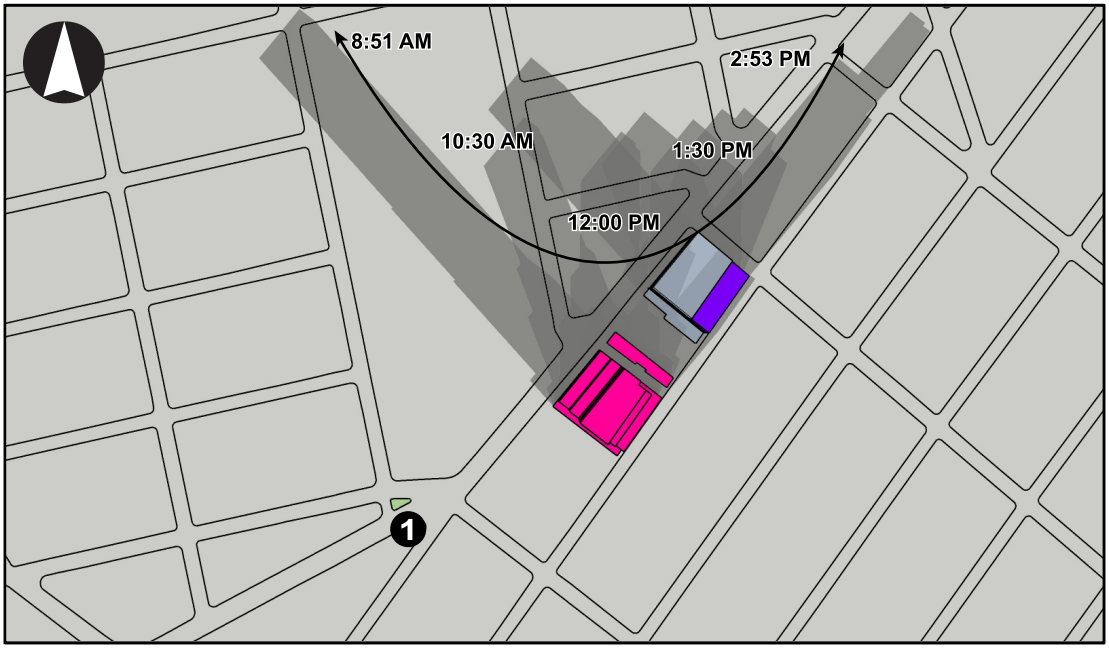
Project-Generated Shadow

1 Sunlight-Sensitive Resource

Note: Resources keyed to Table F-1



JUNE 21



DECEMBER 21

Projected Development Site 1

Projected Development Site 2

Projected Development Site 3

Project-Generated Shadow

1 Sunlight-Sensitive Resource

Note: Resources keyed to Table F-1

Therefore, a detailed shadow analysis is required to determine the extent and duration of project-generated incremental shadows on this sunlight-sensitive resource.

V. DETAILED ANALYSIS OF SHADOW IMPACTS

Resources of Concern

Greenstreet

As shown in **Figure F-2b**, the Proposed Action and associated RWCDS have the potential to result in new project-generated shadows on the greenstreet at the intersection of Flushing Avenue and Varick Avenue. The greenstreet is approximately 0.02 acres and contains a single tree.

Shadows Analysis

Per CEQR guidance, shadows analyses were performed for the one sunlight-sensitive resource identified above, the greenstreet at the intersection of Flushing Avenue and Varick Avenue, on four representative days of the year: March 21/September 21, the equinoxes; May 6, the midpoint between the summer solstice and the equinox (and equivalent to August 6); June 21, the summer solstice and the longest day of the year; and December 21, the winter solstice and shortest day of the year. These four representative days indicate the range of potential shadows over the course of the year. CEQR guidance define the temporal limits of a shadow analysis period to fall from an hour and a half after sunrise to an hour and a half before sunset. Table F-1 below summarizes the entry and exit times and total duration of project-generated incremental shadows on the greenstreet.

Table F-1: Duration of Incremental Shadows on Sunlight Sensitive Resources

	Analysis Day	**March 21/Sept. 21**	**May 6/August 6**	**June 21**	**December 21**
		7:36 AM – 4:29 PM	**6:27 AM – 5:18 PM**	**5:57 AM – 6:01 PM**	**8:51 AM – 2:53 PM**
Greenstreet	Shadow Enter-Exit Time	-	-	5:57 AM – 6:15 AM	-
	Incremental Shadow Duration	-	-	*18 minutes*	-

Note: All times are Eastern Standard Time; Daylight Savings Time was not accounted for per *2021 CEQR Technical Manual* guidance.
Table indicates the entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource.

As shown in Table F-1, the RWCDS would cast incremental shadows on the greenstreet on the June 21 analysis days. It should be noted that, per the 2021 *CEQR Technical Manual*, all times reported herein are Eastern Standard Time and do not reflect adjustments for daylight savings time that is in effect from mid-March to early November. As such, the times reported in this attachment for March 21/September 21, May 6/August 6, and June 21 need to have one hour added to reflect the Eastern Daylight Savings Time.

Figure F-3 shows the extent of project-generated incremental shadows on the greenstreet. As shadows are in constant motion, these figures illustrate the extent of incremental shadows at particular moments in time, highlighted in red.

March 21/September 21

On March 21/September 21 the time period for shadows analysis begins at 7:36 AM and continues until 4:29 PM. March is considered the beginning of the growing season in New York City, and September 21,

Figure F-3
Greenstreet
Incremental Shadows on June 21



6:05 AM

Proposed Development

Sunlight-Sensitiive Resource

Incremental Shadow

which has the same shadow patterns as March 21, is also within the growing season. On the March 21/September 21 analysis day, incremental shadows from the RWCDS would not be cast on the greenstreet.

May 6/August 6

On May 6/August 6, the midpoint between the equinoxes and the solstices, the time period for shadows analysis begins at 6:27 AM and continues until 5:18 PM. May 6 and August 6 are both within the growing season in New York City. On the midpoint between the equinoxes and the solstices, the RWCDS would not cast any incremental shadows on the greenstreet.

June 21

On June 21 the time period for shadows analysis begins at 5:57 AM and continues until 6:01 PM. On the summer solstice, which is the day of the year with the longest period of daylight, the sun is most directly overhead and generally shadows are shortest and move across the widest angular range from west to east. June 21 is within the growing season in New York City. On the June 21 analysis day, the RWCDS would cast incremental shadows on the greenstreet from 5:57 AM to 6:15 AM, for a duration of 18 minutes. As shown in **Figure F-3**, incremental shadows would be cast over a large portion of the greenstreet at 6:05 AM. As shown in Table F-1, incremental shadows would then exit the open space by 6:15 AM.

December 21

On the winter solstice, December 21, the day of the year with the shortest period of daylight, the sun is low in the sky and shadows are at their longest but move rapidly. December 21 is not within the growing season in New York City. However, on this analysis day, no incremental shadows from the RWCDS would reach the greenstreet.

Assessment

A shadows impact occurs when incremental shadows from a proposed building fall on a sunlight sensitive resource or feature and reduces direct sunlight exposure. Determining whether or not this impact is significant depends on the extent and duration of the incremental shadows and the specific context in which the impact occurs.

For open spaces, the uses and features of the space indicate its sensitivity to shadows. Shadows occurring during the cold-weather months of interest generally do not affect the growing season of outdoor vegetation; however, their effects on other uses and activities should be assessed. Therefore, this sensitivity is assessed for both (1) warm-weather-dependent features, like wading pools and sandboxes, or vegetation that could be affected by a loss of sunlight during the growing season (i.e., March through October); and (2) features, such as benches, that could be affected by a loss of winter sunlight. Uses that rely on sunlight include: passive uses, such as sitting or sunning; active uses, such as playfields or paved courts; and such activities as gardening, or children's wading pools and sprinklers. Vegetation requiring direct sunlight includes the tree canopy, flowering plants, and plots, particularly plots for food production in community gardens. The amount of sunlight typically considered to be the minimum that plantings and vegetation would need is six to eight hours of direct sunlight. However, certain plantings and vegetation can tolerate partial sun, with a reduced minimum requirement of four to six hours of direct sunlight. Examples of areas that can tolerate partial sun are established tree canopies, shrubs, or perennials. Consequently, the assessment of an open

space's sensitivity to increased shadow focuses on identifying the existing conditions of its facilities, plantings, and uses, and the sunlight requirements for each.

Greenstreet

The shadows analysis determined that the duration and coverage of incremental shadows on the greenstreet would not be significant. As shown in **Figure F-3**, the incremental shadows would be limited in extent and duration, and move northward and eastward through the sunlight-sensitive resource. Project-generated incremental shadows would occur during one of the four analysis days during the early morning hours and would last for approximately 18 minutes on June 21. The greenstreet would not receive project-generated incremental shadows after 6:15 AM on June 21. Additionally, the vegetation within the greenstreet would continue to receive adequate sunlight during the morning, afternoon, and evening hours (at least the six- to eight-hour minimum specified in the *CEQR Technical Manual*), and as such, the Proposed Action would not have significant adverse effects on any vegetation or affect the usability of the greenstreet. Therefore, incremental shadows that would result from the Proposed Action are not anticipated to result in any significant adverse impact.

Attachment G
Urban Design and Visual Resources

1160 FLUSHING AVENUE REZONING EAS
Attachment G: Urban Design & Visual Resources

I. INTRODUCTION

This attachment considers the potential effects of the Proposed Action and subsequent development on urban design and visual resources. According to the 2021 *CEQR Technical Manual*, urban design is defined as the totality of components that may affect a pedestrian's experience of public space. These components include streets, buildings, visual resources, open spaces, natural resources, and wind. An urban design assessment considers whether and how a project may change the experience of a pedestrian in a given area. *CEQR Technical Manual* guidance recommends the preparation of a preliminary assessment of urban design and visual resources, followed by a detailed analysis, as warranted, based on the conclusions of the preliminary assessment. The Proposed Action would facilitate the development of three new mixed commercial and community facility buildings at three projected development sites in the Bushwick neighborhood of Brooklyn Community District (CD) 4.

As described in **Attachment A, "Project Description,"** under the Reasonable Worst-Case Development Scenario (RWCDS), the Proposed Action would facilitate the development of a 298,077 gsf, 14-story (206-foot-tall) building at the Projected Development Site 1[1]; At Projected Development Site 2, the Proposed Action would facilitate the development of a 96,551 gsf, six-story (85-foot-tall) building; and at Projected Development Site 3, the Proposed Action would facilitate the development of a 38,797 gsf, five story (71-foot-tall) building. These developments are expected to be completed in 2027. In absence of the Proposed Action it is assumed that while no new construction would be planned for the Applicant-owned Projected Development Site 1, the currently vacant, approximately 30,388 sf former industrial building on Lots 18 and 24 would be converted and reoccupied with commercial retail uses in the No-Action condition. As a result, the Projected Development Site 1 would be occupied by approximately 31,907 gsf (30,388 zsf) of commercial retail uses on a 37,928-sf lot (0.80 FAR). No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Action. The effect of the Proposed Action represents the incremental effect on conditions resulting from the net change in development within the Project Area between No-Action and With-Action Conditions.

II. PRINCIPAL CONCLUSIONS

As described below, the Proposed Action would not result in significant adverse impacts to urban design or visual resources within the Project Area, or in the 400-foot study area. The Proposed Action would facilitate new development at the applicant-owned projected development site and two other projected development sites, which would contain commercial retail, commercial office, community facility, and light industrial uses. The RWCDS would replace several industrial/warehouse buildings, and a newly renovated commercial building with a 14-story (208-foot-tall excluding mechanical bulkhead) building at Projected Development Site 1, a six-story (85-foot-tall excluding mechanical bulkhead) building at Projected Development Site 2, and a five-story (71-foot-tall excluding mechanical bulkhead) building at Projected Development Site 3.

[1] For reasonable worst-case analysis purposes, the EAS analyzes a 14-story commercial/community facility building that maximizes the permitted community facility FAR (6.5) for Projected Development Site 1. However, it should be noted that the Applicant only intends to build a 9-story building that maximizes the permitted commercial FAR (5.0) on the Applicant-owned site.

Development to be facilitated by approval of the Proposed Action would be constructed within an existing block, and would not entail any changes to topography, street patterns, street hierarchy, block shapes, or natural features. The RWCDS buildings would be built in accordance with bulk requirements allowed by the proposed M1-5 zoning district. Though the three With-Action buildings would be taller than any immediately surrounding development, they would be consistent with surrounding neighborhood context in terms of use and building orientation, forming consistent streetwalls with buildings in the vicinity. Additionally, the RWCDS is expected to complement the context of existing buildings in the surrounding area, which includes a variety of building typologies.

In addition, development resulting from the Proposed Action would not negatively alter views in the study area from adjacent publicly-accessible locations and would not obstruct any view corridors of significant visual resources. As such, the Proposed Action would not result in significant adverse impacts to urban design and visual resources and further analysis is not warranted.

III. METHODOLOGY

Pursuant to the *CEQR Technical Manual*, an assessment of urban design is appropriate when a proposed action(s) may have effects on one or more of the elements that contribute to the pedestrian experience of public space. The assessment focuses on the components of a proposed action(s) that may have the potential to alter the arrangement, appearance, and functionality of the built environment.

As described in the *CEQR Technical Manual*, a preliminary urban design analysis is appropriate when there is potential for a pedestrian to observe from the street level a physical alteration beyond that allowed by existing zoning. A preliminary analysis provides a "snapshot" of the project, comparing existing and future conditions with and without the Proposed Action. The following analysis examines each of the elements that play an important role in the pedestrian experience, including street hierarchy and streetscape (including the arrangement and orientation of streets); building scale, form and arrangement; and natural features, open space, and topography.

An area's visual resources are its unique or important public view corridors, vistas, or natural or built features. For CEQR analysis purposes, this includes only views from public and publicly accessible locations and does not include views from private residences or places of business. An assessment of visual resources is provided below.

Per criteria of Section 230 of the *CEQR Technical Manual*, a wind condition analysis is not warranted for the Proposed Action. The Project Area is not located in a high wind location (such as along west and northwest-facing waterfronts), and the RWCDS would not result in the construction of multiple tall buildings that would have the potential to alter wind conditions.

Study Area

According to the *CEQR Technical Manual*, the study area for urban design is the area where the project may influence land use patterns and the built environment and is generally consistent with the land use analysis study area. For visual resources, the view corridors within the study area from which such resources are publicly viewable should be identified. The land use study area may serve as the initial basis for analysis. However, in many cases where significant visual resources exist, it may be appropriate to look beyond the

land use study area to encompass views outside of this area, as is often the case with waterfront sites or sites within or near historic districts.

Consistent with the analysis of land use, zoning, and public policy, the study area for urban design analysis has been identified as the area within a 400-foot radius of the Proposed Rezoning Area. As shown in **Figure G-1**, the study area extends to include Brooklyn lots within an approximate 400-feet boundary of the Project Area[2], and is generally bound by portions of Stewart and Varick Avenues to the west, Irving Avenue to the south, Troutman Street to the east, and Ingraham Street and St. Nicholas Avenue to the north. As stated in the *CEQR Technical Manual*, for visual resources, the view corridors within the study area from which such resources are publicly viewable should be identified. While the land use study area may serve as the initial basis for analysis, in many cases where significant visual resources exist, it may be appropriate to look beyond the land use study area to encompass views outside of the area, as is often the case with waterfront sites or sites within or near historic districts. The primary view sheds of these visual resources that would be affected by construction of the Projected Development Sites were the focus of the visual resources analysis.

The following analysis is based on field visits, photographs, aerial views, and other graphic images of the Project Area and surrounding study area. Building height information is also provided for the Project Area and, where applicable, the study area.

IV. PRELIMINARY ASSESSMENT

Existing Conditions

Urban Design

Project Area

The Project Area encompasses Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40. Block 3167 is bordered by Flushing Avenue to the west, Wyckoff Avenue to the north, Jefferson Street to the east, and Irving Avenue to the south. Lots 18 and 24 are owned and controlled by the Applicant and comprise Projected Development Site 1. Projected Development Site 1 (Lots 18 and 24) encompasses a total of approximately 37,928 sf of lot area and is occupied by a 30,388 sf single one-story vacant industrial (warehouse) building (0.80 FAR). Lot 24 also contains a small portion of vacant, underdeveloped land on the northernmost portion of the lot, totaling approximately 3,750 sf. Projected Development Site 2 (Lot 29) is a 18,530 sf lot occupied by a single-story building that, according to New York City Department of Buildings (DOB) records, is currently undergoing a conversion from industrial (warehouse) uses to commercial retail uses (DOB job no. 340525300), which will result in a building containing approximately 20,475 gsf of commercial retail space (1.05 FAR). Projected Development Site 3 (Lot 40) is a 7,450 sf lot occupied by a single-story warehouse building containing approximately 7,613 gsf of industrial uses. (0.97 FAR).

The remainder of the Project Area includes a portion of Lot 12 and Lot 26. Lot 12 is a 19,265 sf lot currently occupied by a one-story lumber yard building and contains approximately 19,874 gsf of industrial uses (0.98 FAR). An approximately four-foot-wide, 725-sf portion (less than four percent) of Lot 12 is located within the Project Area. Lot 26 is a 15,200 sf currently occupied by a three-story warehouse building

[2] Secondary study area includes tax lots which have 50 percent or more of their area within a 400-feet radius of the Project Area. Where appropriate, the boundaries of the secondary study area have been expanded to include entire blocks.

Urban Design Study Area



containing approximately 45,780 gsf of industrial uses (2.87 FAR). The entire Project Area is zoned M1-1 which permits a maximum commercial/industrial FAR of 1.0.

Street Pattern and Streetscape

The Project Area has approximately 493 feet of frontage along Flushing Avenue to the west, approximately 146 feet of frontage along Wyckoff Avenue to the north, and approximately 490 feet of frontage along Jefferson Street. Flushing Avenue is a 70-foot narrow two-way street that carries local traffic northeast and southwest through the study area. Flushing Avenue is also a designated local truck route. Flushing Avenue includes one travel lane in each direction and parallel parking lane on either side of the street. Flushing Avenue contains several curb cuts leading to loading docks, street trees, and standard signage. Wyckoff Avenue is a 70-foot narrow two-way street that carries local traffic northwest and southeast through the study area. Wyckoff Avenue includes on travel lane in each direction and a parallel parking lane on the north side of the street (in the northwest bound lane). The streetscape on Wyckoff Avenue includes on curb cut leading into Projected Development Site 2, several street signs, and an entrance to the Jefferson Street (L) Station (refer **Figure G-2**). Jefferson Street is a 60-foot narrow one-way street that carries local traffic northeast through the study area. Jefferson Street includes parallel parking lanes on both sides of the street. The streetscape on Jefferson Street includes street signage, fire hydrants, street lamps, and street trees. One curb cut is located leading into Lots 24 and 26.

Buildings

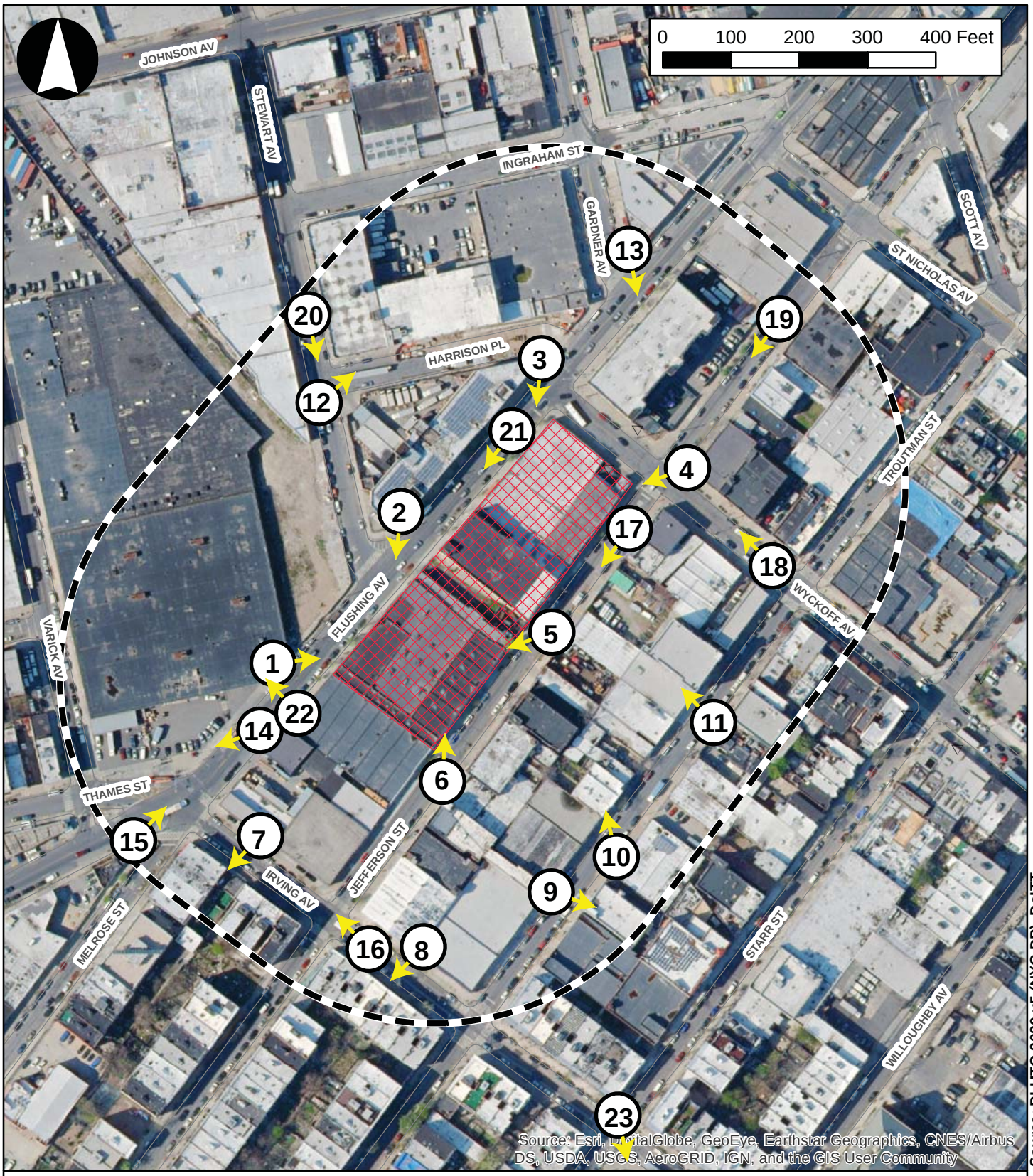
As shown in **Figure G-3a** and **G-3b**, the Project Area is occupied by several one- to three-story commercial/industrial buildings ranging in height between 15 and 43 feet. These buildings are built to the lot line and cover nearly the entire lot, with the exception of Lots 24 and 26. Each of these buildings reach their maximum height without any setback from the streetwall.

As described above, on Projected Development Site 1 (Lots 18 and 24) is a one-story, 25-foot-tall warehouse building that is built to the lot line and covers all of Lot 18 and a small portion of Lot 24. This undeveloped portion of Lot 24 is vacant and unimproved. On Projected Development Site 2 (Lot 29), is a one-story 15-foot tall building undergoing a conversion to commercial retail uses that will result in 20,475 gsf of floor area (refer to **Figure G-3a**). The building on Lot 29 is built to the property line and includes a brick façade. On Projected Development Site 3 (Lot 40), is a one-story 25-foot-tall building that covers nearly the entire lot. A small northern portion of the lot contains an easement for the staircase to the Jefferson Street (L) Station (refer to **Figure G-3a**). On Lot 26, is a three-story 43-foot-tall warehouse building.

Natural Features and Open Space

There are no notable natural features within the Project Area and the topography of the area is generally flat. Elevation above sea level varies between 19 and 29 feet (NAVD88) with elevation decreasing slightly moving north towards Newtown Creek. There are no publicly accessible open space resources within the Project Area. Existing buildings cover the majority of the Project Area with the exception of a portion of Lots 24 and 26.

Figure G-2
Study Area Conditions - Photo Key



Source: PLUTO 2020 v5 (NYC DP), DoITT

Legend

Primary Study Area (Project Area)

Secondary Study Area (400-ft Radius)

11 Photo Location



1. Facing northeast towards the Project Area from Flushing Avenue.



2. Facing southeast towards the Project Area from the intersection of Flushing Avenue and Stewart Avenue.



3. Facing southeast towards the Project Area from the intersection of Wyckoff Avenue and Flushing Avenue.



4. Facing southwest from the intersection of Wyckoff Avenue and Jefferson Street.

*Photos taken 11/19/2020



5. Facing southwest from the midblock of Jefferson Street between Wyckoff and Irving Avenues towards the Project Area.



6. Facing northwest from the midblock of Jefferson Street between Wyckoff and Irving Avenues towards the Project Area.



7. Facing south towards the building at the intersection of Irving Avenue and Melrose Street.



8. Facing south from Irving Avenue between Troutman Street and Jefferson Street.

*Photos taken 11/19/2020

Study Area

Street Pattern and Streetscape

The street plan in the study area is characterized by an uninterrupted grid pattern. As shown in **Figure G-1**, Flushing Avenue runs northeast-southwest through the study area, creating irregular blocks northwest of Flushing Avenue.

In addition to the streets discussed above, the study area includes Irving Avenue, Troutman Street, Stewart Avenue, Harrison Place, and Gardner Avenue. Irving Avenue is the southernmost street in the study area and is a 70-foot narrow one-way street that carries local traffic southeast through the study area. Parallel parking lanes are located on either side of the street as well as a shared bike lane. Gardner Avenue is the northernmost street in the study area and is an 80-foot wide street that connects Flushing Avenue to Randolph Street three blocks to the north. Gardner Avenue is a two-way street that runs north to south with a travel lane in each direction. A parallel parking lane can be found on either side of the street. Harrison Place is a 60-foot narrow street that connects Stewart Avenue to Flushing Avenue. Harrison Place is a one-way street carrying local traffic northeast towards Flushing Avenue. Harrison Place contains one travel lane and a parallel parking lane on either side of the street. Stewart Avenue is the westernmost street in the study area and is a 60-foot narrow street that connects Flushing Avenue and Randolph Street. Stewart Avenue is a two-way street with parallel parking lanes on either side of the street. Finally, Troutman Street is the easternmost street in the study area. Troutman Street is a 60-foot narrow one way street that carries traffic southwest through the study area. Troutman Avenue contains a parallel parking lane on either side of the street and a bike lane.

As shown in **Figures G-4a** through **G-4d**, the streetscape varies throughout the study area. The area northwest of Flushing Avenue is more industrial and is a less pedestrian friendly streetscape. Streetscape elements in this area is limited to street signs, utility poles, and street lights. Southeast of Flushing Avenue, the streetscape includes street trees, Citi Bike stations, mailboxes, fire hydrants, street signs, utility poles, and street lights.

Buildings

As shown in **Figures G-4a** through **G-4d,** the study area includes a variety of building types including industrial, mixed-used residential and commercial, residential, and commercial buildings. The most densely built building within the study area has an FAR of 3.27, and is located at 22 Irving Street, a four-story multi-family walkup residential building at the corner of Jefferson Street and Irving Avenue. The tallest building in the study area is a 53-foot, four story building located north of the Project Area at 1226 Flushing Avenue. As discussed in **Attachment C, "Land Use, Zoning, & Public Policy,"** land uses in the study area are primarily industrial, which constitute nearly 70% of all built floor area in the study area. Buildings in the study area are generally high lot coverage buildings that are built to the property line. Areas not covered by buildings in the study area are used as parking and loading areas. As shown in **Figures G-5** and **G-6**, the tallest and most dense buildings in the study area are clustered around the intersection of Irving Avenue and Jefferson Street.

Natural Features and Open Space

There are no notable natural features within the study area. The topography of the study area is generally flat. Elevation in the study area varies between 16 and 39 feet (NAVD88), with elevation sloping downward moving northwest towards Newtown Creek. The only open space in the study area is a Greenstreet located at the intersection of Varick Avenue and Flushing Avenue.



9. Facing east on Troutman Street between Wyckoff Avenue and Irving Avenue.



10. Facing west on Troutman Street on the midblock between Wyckoff Avenue and Irving Avenue.



11. Facing west on Troutman Street just south of Wyckoff Avenue.



12. Looking northeast from the intersection of Stewart Avenue and Harrison Avenue.

*Photos taken 11/19/2020



13. Facing south from the intersection of Gardner Avenue and Flushing Avenue.



14. Facing southwest from Flushing Avenue towards Thames Street.



15. Facing north from Thames Street along Flushing Avenue.



16. Facing northwest from the intersection of Irving Avenue and Jefferson Street.

*Photos taken 11/19/2020



17. Facing southwest from Wyckoff Avenue down Jefferson Street.



18. Facing northwest from the intersection of Wyckoff Avenue and Troutman Street.



19. Facing southwest on Jefferson Street on the midblock between St. Nicholas Avenue and Wyckoff Avenue.



20. Facing southeast at the intersection of Stewart Avenue and Harrison Place.

*Photos taken 11/19/2020



21. Facing southwest from the intersection of Flushing Avenue and Wyckoff Avenue.



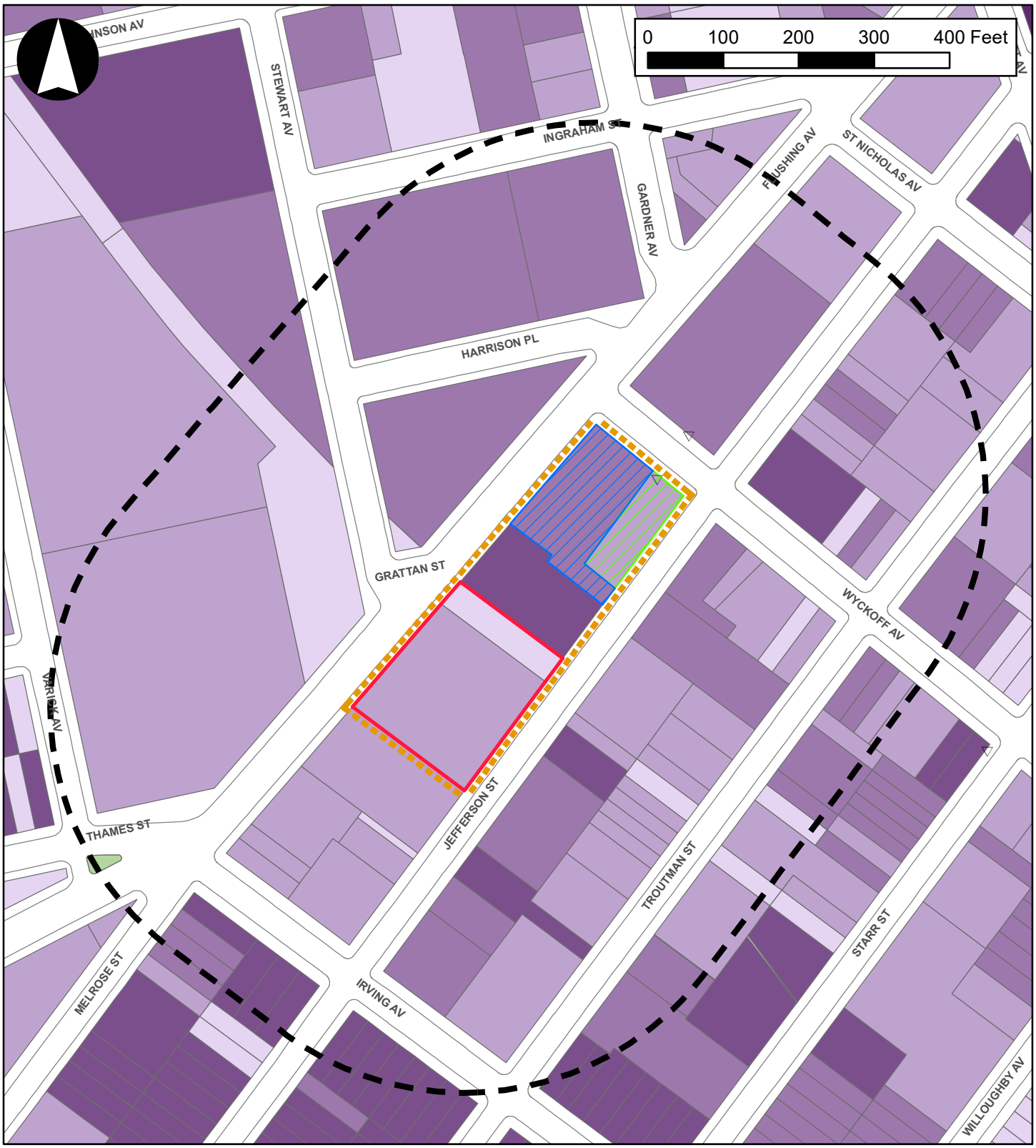
22. Facing west along Flushing Avenue, just north of Irving Avenue.

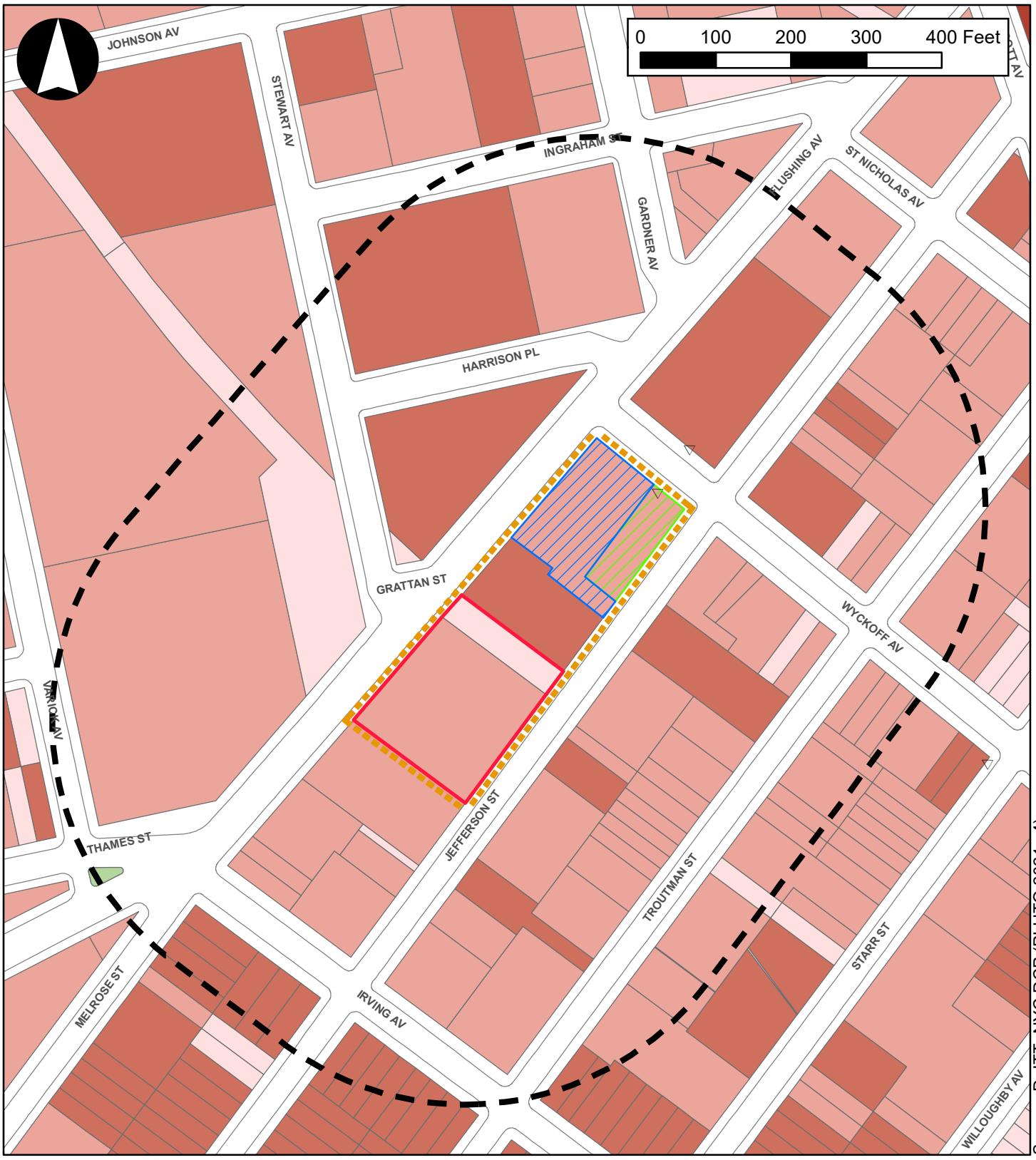


23. Facing southeast towards Maria Hernandez Park from the intersection of Irving Avenue and Starr Street

*Photos taken 11/19/2020

Figure G-4
Built FAR





Source: DoITT; NYC DCP (PLUTO 2021 v4)

Legend

- Proposed Development Site
- Projected Development Site 1
- Projected Development Site 2
- Project Area
- 400-ft Radius

Number of Stories

- 0 Stories
- 1 - 2 Stories
- 3 - 4 Stories
- 5 - 6 Stories
- Greater than 6 Stories

Visual Resources

Project Area

There are no visual resources or historic resources located within, or visible from, the Project Area.

Study Area

There are no visual resources or historic resources located within, or visible from, the study area.

Future Without the Proposed Action (No-Action)

Urban Design

Project Area

It is anticipated that in the future without the Proposed Action, there would be no changes to the Project Area and all existing buildings would remain.

Study Area

Street Pattern and Streetscape

In the No-Action condition, street patterns in the study area would not change. The existing uninterrupted grid pattern and street directions would remain the same. There are no known streetscape improvement plans in the study area.

Buildings

As discussed in **Attachment C, "Land Use, Zoning, and Public Policy,"** there is one No-Action development within the study area that is expected to be completed by 2027. An 11-story hotel (130 feet), located at 25 Stewart Avenue is expected to be constructed and would be 80,014 zsf and include 140 keys.

Natural Features and Open Space

In the No-Action condition, there would be no changes to natural features or open space within the study area.

Visual Resources

In the No-Action condition, no new visual resources would be introduced to the Project Area or study area and views of existing visual resources from both areas would not be altered. Therefore, in the future without the Proposed Action, view corridors and visual resources would remain similar to existing conditions.

Future With the Proposed Action (With-Action)

This section describes the effects of the Proposed Action and resultant RWCDS on the urban design and visual resource conditions in the Project Area and study area by 2027 and evaluates the potential for the Proposed Action to result in significant adverse impacts.

In the future with the Proposed Action, the proposed zoning map amendment would be implemented in the Project Area, which would be mapped with a M1-5 zoning district. Under With-Action conditions, the maximum allowable FAR would increase from 2.4 to 6.5.

Urban Design

Project Area

The Proposed Action would change the development potential of sites within the Project Area, and the proposed rezoning of the existing M1-1 district to M1-5 would allow industrial, commercial, and community facility uses to be developed at a greater density and bulk than what would be allowed under existing zoning.

Street Pattern and Streetscape

Development facilitated by the Proposed Action would be built on an existing block, and would not entail any changes to topography, street pattern, block shapes, or natural features. Development facilitated by the Proposed Action would introduce street trees to sidewalks in the Project Area in accordance with the Zoning Resolution. In addition a pedestrian alley would be incorporated on Projected Development Site 1, creating a small retail corridor within the site.

Buildings

Approval of the Propose Actions would result in four new buildings in the Project Area. On Projected Development Site 1, the Proposed Action is expected to result in the construction of two buildings totaling 298,077 gsf containing 75,586 gsf of retail uses, approximately 40,732 gsf of light industrial uses, approximately 121,786 gsf of commercial office uses, and approximately 59,973 gsf of community facility (medical office) uses. The RWCDS at Projected Development Site 1 would be a single-story (18-foot-tall) building and a 14-story (208 feet not including a mechanical bulkhead). The larger building at Projected Development Site 1 would reach five-stories (82 feet) in height before setting back from the streetwall. After a 28-foot setback from both Flushing Avenue and Jefferson Street the building would rise an additional four-stories (56 feet). The building would then setback again 24 feet from Flushing Avenue and Jefferson Street and rise another five-stories (70 feet) and reaching its maximum height. The location of the single-story building would create a small pedestrian alley at Projected Development Site 1. The development on Projected Development Site 1 would be built to the property line. Based on the Zoning Resolution, this development would be required to include three loading bays, accompanied by a new curb cut, along Flushing Avenue.

On Projected Development Site 2, the Proposed Action would facilitate the development of a six-story (85 foot-tall), 5.0 FAR building containing 79,821 gsf of office space and 16,730 gsf of retail space. The building would be built to the property line and would reach its maximum height without any setback from the streetwall.

On Projected Development Site 3, the Proposed Action would facilitate the development of a five-story (70-foot-tall), 5.0 FAR building containing 32,547 gsf of office space and 6,250 gsf of retail space. This

building would be built to the property line and would reach its maximum height without any setback from the streetwall. **Figures G-7a** through **G-7e** show the pedestrian views of the With-Action scenario.

Natural Resources and Open Space

No notable changes to the natural features or topography of the Proposed Rezoning Area would occur in the future with the Proposed Action. As described in **Attachment A, "Project Description,"** a pedestrian alley would be incorporated between the proposed one-story and 14-story buildings on Projected Development Site 1, creating a small retail corridor within the site.

Study Area

As the Proposed Action are limited to three projected development sites, they would not result in any substantial changes in the urban design character of the study area. New development facilitated by the Proposed Action would be similar in scale to other No-Action developments near the Project Area.

Street Pattern and Streetscape

The Proposed Action would not result in changes to street patterns in the study area. New development constructed as a result of the Proposed Action would be constructed on an existing block, and the existing uninterrupted grid pattern and street directions would remain the same.

Buildings

Development as a result of the Proposed Action would result in four new buildings built to the lot lines within the Project Area, similar to other developments in the study area. Though the M1-5 district permits a higher maximum base height and FAR, the proposed rezoning and subsequent increase in allowable FAR would be appropriate for a transit accessible area. The RWCDS would be consistent with the study area buildings' land use, including active ground floor uses, building placement and orientation along the property line.

Natural Features and Open Space

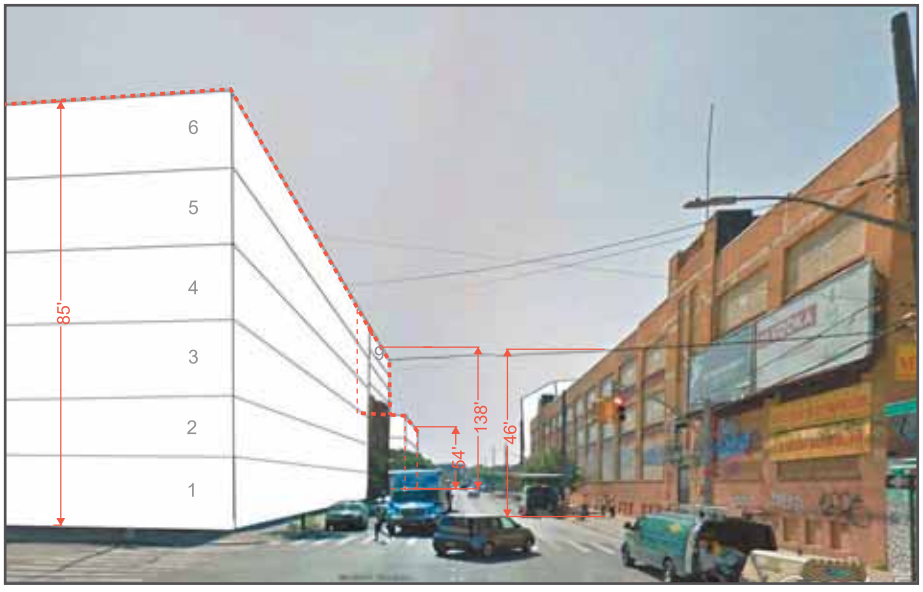
In the With-Action condition, there would be no changes to natural features or open space within the study area.

Visual Resources

As described above, there are no visual resources within, or visible from, the Project Area or within the study area. As such, the Proposed Action would not result in significant adverse impacts on visual resources.



EXISTING / WITH-ACTION



WITH-ACTION

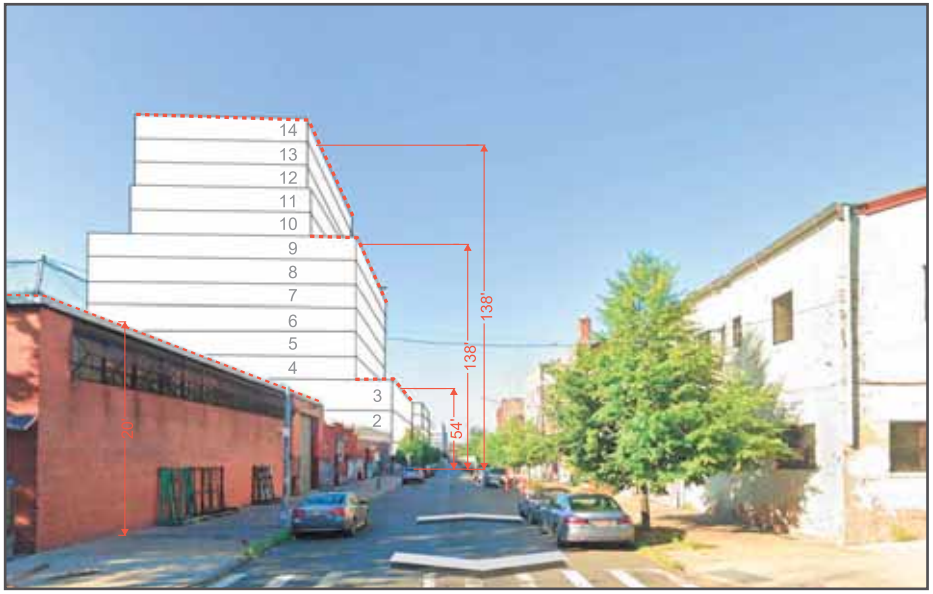
1160 Flushing Avenue Rezoning EAS

Figure G-7a

View facing southwest from Wyckoff Avenue down Flushing Avenue



EXISTING



WITH-ACTION

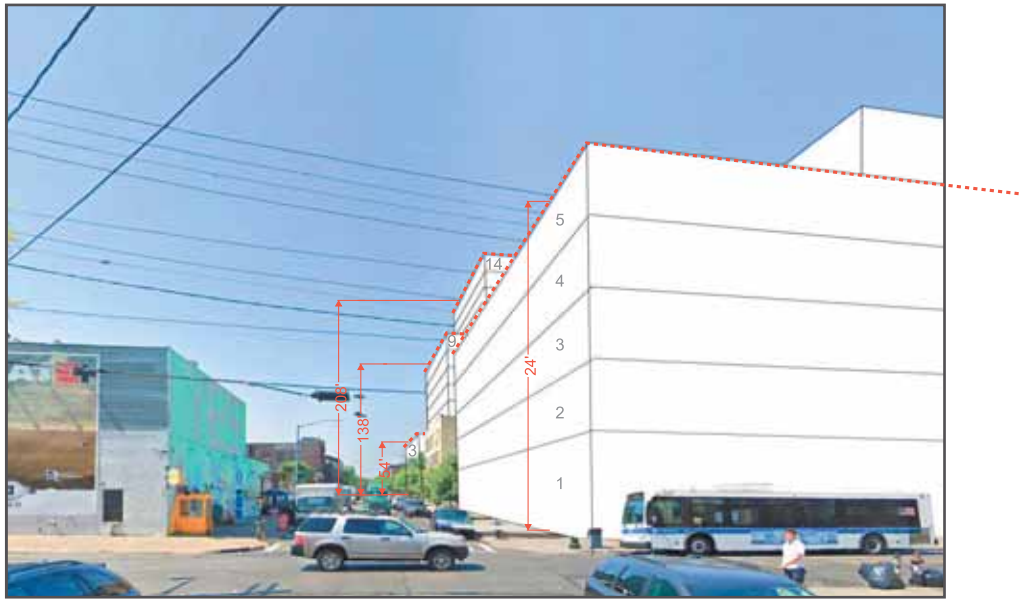
1160 Flushing Avenue Rezoning EAS

Figure G-7b

View facing north on Jefferson Street from Irving Avenue



EXISTING



WITH-ACTION

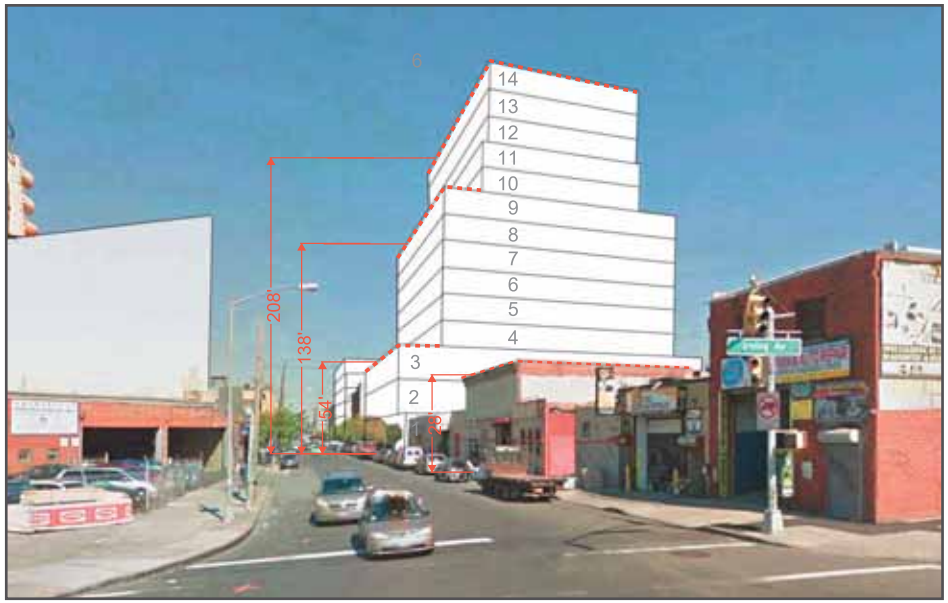
1160 Flushing Avenue Rezoning EAS

Figure G-7c

View facing south on Jefferson Street from Wyckoff Avenue



EXISTING



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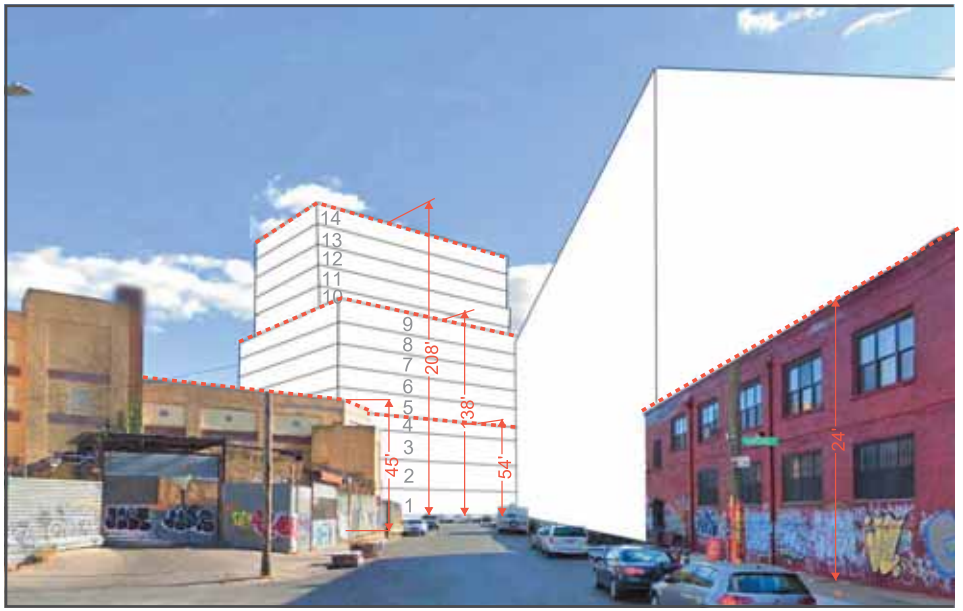


WITH-ACTION

Assessment

Project Area

The Proposed Action would facilitate the development of new light manufacturing, community facility, commercial office, and/or local retail space across three projected development sites. Projected Development Site 1, which is a known development site and is controlled by the Applicant, would include a single-story retail building and a 14-story (208-feet-tall) mixed-use building containing commercial office and retail uses, as well as light industrial uses; Projected Development Sites 2 and 3 would rise to 6 stories (85-feet-tall) and five stories (70-feet-tall), respectively, and would each contain commercial office and retail uses. The height and bulk of the projected developments would be substantially taller than the existing buildings within the Project Area, which currently range between one- and three-stories (between 15 and 43 feet-in-height). The increased scale, both in terms of bulk and height, would be a notable change from the pedestrian's perspective to the appearance and character of the Project Area compared to No-Action conditions.

Figures G-7a through **G-7e** provide pedestrian views of the projected development sites under No-Action and With-Action conditions from various views within the vicinity of the Project Area. Although the Proposed Action would result in buildings larger in height and bulk than those found in the immediate surrounding neighborhood, from a pedestrian's perspective at the street level, the future buildings would not obstruct important urban design characteristics or view corridors. Instead of several vacant, inactive industrial and warehousing buildings, the pedestrian experience of the area would include new buildings with active ground floor uses. At Projected Development Site 1, as described above, the proposed ground floor local retail space within the pedestrian alley that bifurcates the site would further increase pedestrian activity within and in the vicinity of the Project Area. Additionally, all development facilitated by the Proposed Action would be built in accordance with bulk requirements permitted by the proposed M1-5 zoning district. Also, the With-Action developments would be consistent with the street pattern and streetscape found immediatealy adjacent to the primary study area. Streetscape improvements and ground floor retail space on the public corridors, and the creation of new corridors along the pedestrian alley, would enhance the pedestrian realm, making the surrounding area more active and inviting. Further, while the With-Action developments would be prominent within the Project Area, the increased density at the Project Area would be appropriate considering the site's proximity located near public transit, including the Jefferson Street Station (L line), the B57 bus line, and two nearby CitiBike stations.

Compared to the future without the Proposed Action, in the future with the Proposed Action the visual appearance and thus the pedestrian experience of the Project Area would change considerably; however, this change would not meet the *CEQR Technical Manual* threshold for a significant adverse urban design and visual resource impact in that it would not alter the arrangement, appearance, or functionality of the Project Area such that the alteration would negatively affect a pedestrian's experience of the area.

Study Area

Overall, the Proposed Action would facilitate the redevelopment of the Project Area with new light manufacturing, local retail, commercial office, and community facility uses that would activate the streetscape by increasing pedestrian traffic in the area. The surrounding area supports a variety of building types, scales, and heights. While differing in bulk and form from many of the buildings found throughout the study area, the projected developments would be consistent with the planned 11-story hotel (130-feet-tall) at 25 Stewart Avenue, directly east of the Project Area. In addition, development as a result of the Proposed Action would not block any significant visual resources from pedestrian vantage points. As such,

these changes are not anticipated to be significantly adverse as no view of important visual resources would be obstructed. The Proposed Action is site specific, and would not alter building use, bulk, or arrangement in the study area. The Proposed Action would also not result in changes to the study area streets, blocks, topography, open spaces, or natural features, and the projected developments would be consistent with the street pattern and streetscape found throughout the study area. In addition, streetscape improvements and ground floor retail along the public corridors would enhance the pedestrian realm, making the surrounding area more active and inviting. Therefore, the Proposed Action would not have any significant adverse impacts on urban design or visual resources in the surrounding study area.

Attachment H
Water and Sewer Infrastructure

1160 FLUSHING AVENUE REZONING EAS
Attachment H: Water and Sewer Infrastructure

I. INTRODUCTION

This chapter assesses the potential effects of the Proposed Action on the City's water supply, wastewater treatment, and stormwater management infrastructure.

As described in **Attachment A, "Project Description,"** the Proposed Actions and resultant RWCDS would facilitate the development of up to approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses across three projected development sites (one of which is owned and controlled by the Applicant) located within the Project Area (Brooklyn Block 3167, Lots 12 (p/o), 18, 24, 26, 29, and 40). It is expected that all three projected development sites would be constructed and fully operational by the end of 2027. Absent the discretionary approval, it is anticipated that the on-site conditions would remain unchanged from existing conditions, with exception to the Applicant-owned Projected Development Site 1 (Lots 18 and 24), which is currently vacant and expected to be converted and reoccupied with commercial uses under No-Action conditions.

II. PRINCIPAL CONCLUSIONS

Based on the methodology set forth in the 2021 *City Environmental Quality Review* (CEQR) *Technical Manual*, the analysis finds that the Proposed Action would not result in a significant adverse impact on the City's water supply, wastewater and stormwater conveyance and treatment infrastructure.

Water Supply

The Proposed Action would generate an incremental water demand of approximately 111,582 gallons per day (gpd) over No-Action conditions. The increased demand associated with the Proposed Action would represent approximately 0.01 percent of the over one billion gallons of water supplied daily to New York City by the New York City Department of Environmental Protection (DEP). As changes of this magnitude would not be large enough to have a significant adverse impact on the City's water system pursuant to *CEQR Technical Manual* guidelines, the incremental demand as a result of the Proposed Action would not adversely affect the City's water supply or system water pressure. Therefore, no significant adverse impacts on area water supply would result in the future with the Proposed Action.

Sanitary (Dry Weather) Flows

The Newtown Creek Water Pollution Control Plant (WPCP), which is designed to treat a dry weather flow of 310 million gallons per day (mgd), handled an average of 197 mgd of sewage flow between July 2019 and June 2020. Based on rates in the *CEQR Technical Manual*, the Proposed Action has the potential to result in an increase of up to approximately 0.08 mgd of sanitary sewage flow. This amount represents approximately 0.0004 percent of the average daily flow of 197 mgd at the Newtown Creek WPCP and would not result in an exceedance of the plant's permitted capacity of 310 mgd. Because the City's sewers are sized and designed based on the designated zoning of an area and related population density and surface coverage characteristics, the Proposed Action may result in development that is inconsistent with the design of the existing built sewer system. To be issued a permit to connect to the City sewer, a site-specific

hydraulic analysis may be required to determine whether the existing sewer system is capable of supporting higher density development and related increases in sanitary flows prior to development of the Proposed Project; sewer improvements and/or a new drainage plan may also be required of the Applicant at the time of the site connection proposal. Pursuant to CEQR methodology, as the projected increase in sanitary sewage would not cause the Newtown Creek WPCP to exceed its operational capacity or State Pollution Discharge Elimination System (SPDES)-permitted capacity, the Proposed Action would not result in significant adverse impacts to sanitary sewage conveyance and treatment. In addition, per the New York City Plumbing Code (Local Law 33 of 2007), while not accounted for in the quantitative analysis, low-flow fixtures would be required to be implemented and would help to reduce sanitary flows as a result of the Proposed Action.

The Applicant would be required to file a site connection proposal for approval from DEP to tie into the City's sewer system. In order to obtain a sewer connection permit from DEP, the Applicant would be required to demonstrate that the existing system could handle the increased flows due to the Proposed Project. Any analysis and improvements, if required, would be undertaken prior to construction of the Proposed Project and would be coordinated with DEP for review and approval.

Stormwater (Wet Weather) Flows

Compared to existing conditions, in the future with the Proposed Action, the combined wet weather flows from the Project Area would increase slightly (by up to 0.01 mg to up to 0.04 mg, depending on rainfall duration and intensity). The Project Area is located in an area that is well served by combined sewer infrastructure. In addition, as a New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001) is required for any development that would involve soil disturbance of one or more acres, a Stormwater Pollution Prevention Plan (SWPPP), consisting of both temporary erosion and sediment controls and post-construction stormwater best management practices (BMPs), may be required of the Applicant. Specific BMP methods would be determined with further refinement of the building design and in consultation with DEP as a part of the site connection approval process, but may include a combination of detention or infiltration techniques identified in the *NYC Green Infrastructure Plan* (e.g., green roofs, subsurface detention and infiltration, permeable pavement, etc.).

As the wastewater treatment capacity at the Newtown Creek WPCP and the sewer conveyance infrastructure near the Project Area would be sufficient to handle wastewater flows that would result from the Proposed Action, there would not be any significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure.

III. METHODOLOGY

According to the *CEQR Technical Manual*, a preliminary water supply infrastructure analysis is needed if a project would result in an exceptionally large demand for water (e.g., more than one mgd) or is located in an area that experiences low water pressure (e.g., areas at the end of the water supply distribution system). While the Proposed Action would not generate more than one million gpd of incremental water demand, and an analysis is not warranted, water demand estimates are provided in this chapter to inform the wastewater and stormwater conveyance and treatment analysis.

For wastewater and stormwater conveyance and treatment, the *CEQR Technical Manual* indicates that a preliminary assessment would be needed if a project is located in a combined sewer area and would exceed the following incremental development of residential units or commercial space above the predicted No-Action scenario: (a) 1,000 residential units or 250,000 sf of commercial space or more in Manhattan; or (b) 400 residential units or 150,000 sf of commercial space or more in the Bronx, Brooklyn, Staten Island, or

Queens. As the Proposed Action would result in a net increase of more than 150,000 sf of commercial space, a preliminary assessment of wastewater and stormwater infrastructure is provided.

To assess the Proposed Action's potential impacts on water and sewer infrastructure, this attachment:

- Describes the existing water and sewer infrastructure serving the Project Area and estimates water demand and sewage and stormwater generation under existing conditions and in the No-Action condition (for the 2027 Analysis Year). Existing and future water demands for the existing and future Development Site uses are based on information provided in the *CEQR Technical Manual*. Stormwater runoff and sanitary flows are calculated using the New York City Department of Environmental Protection (DEP) Flow Calculation Matrix.
- Describes relevant planned infrastructure improvements including the affected area, project components, and current schedules.
- Forecasts water demand and sewage and stormwater generated by the Proposed Action and RWCDS based on *CEQR Technical Manual* guidelines.
- Assesses the effects of the Proposed Action's and RWCDS's water demand and sewage and stormwater generation on the City's water and sewer infrastructure, pursuant to *CEQR Technical Manual* guidelines.

IV. EXISTING CONDITIONS

Water Supply

The New York City water supply system comprises a network of reservoirs, lakes, and aqueducts extending into the Catskill region and a pipe network that distributes water within the City. New York City obtains nearly all of its water from the Delaware, Catskill, and Croton watersheds, which are located within 125 miles of the City. Water from the watersheds is stored at 19 reservoirs and three control lakes, having a combined capacity of approximately 580 billion gallons. The water is then carried into the City by aqueducts. The water enters the City via City Tunnel No. 1, which runs through the Bronx, Manhattan, and Queens, and City Tunnel No. 2, which runs through the Bronx, Queens, and Brooklyn. The partially complete City Tunnel No. 3 serves the Bronx, Manhattan, and Queens, and, when fully complete, will terminate in Brooklyn. Staten Island obtains its water via the Richmond Tunnel, which is an extension of City Tunnel No. 2.

Once in the City, the three aqueducts distribute water into a network of water mains. Water mains up to 96 inches in diameter feed the smaller mains, which deliver water to their final destination. These are the same mains that provide water to fire hydrants. Nearly all of the water reaches its consumers by gravity alone, although some four percent (generally located at the outer limits of the system where in-line pressure is lowest, at high elevations, or at a pressure extremity, such as Far Rockaway) is pumped to its final destination. Pressure regulators throughout the City monitor and control the water pressure.

Water conservation measures taken by DEP in the 1990s have resulted in a steady reduction in the City's overall water demand over the last 20 years. As of 2014, the in-City water consumption totaled approximately 1,000 mgd.

The Project Area is served by a 20-inch water main located beneath Flushing Avenue, as well as a 8-inch water mains located beneath Wyckoff Avenue and Jefferson Street. As indicated in **Attachment A, "Project Description,"** the Project Area with a lot area of approximately 79,833 sf, is currently occupied by a number of buildings housing predominantly retail and light industrial uses. This includes five

interconnected buildings with a total of approximately 124,130 gsf of built floor area that are occupied by a vacant single-story industrial (warehouse) building on Lots 18 and 24, a one-story lumber yard building on Lot 12, a three-story warehouse building on Lot 26, a single-story recently converted retail building (formerly industrial warehouse) on Lot 29, and a single-story industrial (warehouse) building on Lot 40. As presented in **Table H-1,** the existing uses at the Project Area are estimated to generate approximately 17,171 gpd of daily sanitary sewage, with a total water demand of approximately 29,729 gpd. Existing sanitary flows generated at the projected development sites are conveyed to the Newtown Creek WPCP during dry weather events via the existing combined sewers serving the sites.

TABLE H-1
Existing Project Area Water Consumption and Wastewater Generation

Land Use	Rate[1]	Area (gsf)	Domestic Water/ Wastewater Generation (gpd)	A/C (gpd)
Retail	Domestic: 0.24 gpd/sf A/C: 0.17 gpd/sf	20,475	4,914	3,481
Light Industrial	N/A; see Note.	53,393	12,257	9,077
Total Daily Water Consumption			29,729	
Total Daily Wastewater Generation			17,171	

Notes:
[1] Based on average daily water use rates provided in Table 13-2 of the *CEQR Technical Manual*:
- Commercial Retail: 0.24 gpd/sf, plus 0.17 gpd/sf for A/C.
- Light Industrial: As no rate is provided in the *CEQR Technical Manual*, domestic generation rate is from DEP's *Draft Rules and Regulations Governing the Construction of Private Sewers and Drains*; assumes 10,000 gpd per acre.

Sewer System

According to the *CEQR Technical Manual*, wastewater is considered to include sanitary sewage, wastewater generated by industries, and stormwater. Water used for air conditioning generates a negligible amount of wastewater as it recirculates or evaporates in the cooling and heating process.

New York City's sewer system consists of a grid of sewers beneath the streets that send wastewater flows to fourteen different WPCPs. The City's WPCPs are regulated by the NYSDEC, which issues permits regulating the discharge of treated effluent. Combined, all fourteen WPCPs in New York City have a SPDES permitted total capacity of 1.8 billion gpd. The area served by each plant is called a "drainage area" or "catchment area." The majority of New York City's sewers are combined sewers, since they receive both sanitary wastewater and stormwater runoff. During wet weather, large volumes of rainfall runoff enter the combined system through storm drains and catch basins in streets and mix with sanitary sewage, then flow through regulators (relief valves), before being sent to the WPCPs through interceptor sewers. During such wet-weather events, excessive volumes of stormwater runoff (ten to 50 times the dry-weather flow) can enter the combined sewer system and, if transported to the WPCP, could exceed the treatment design capacity. Flow into the interceptor sewers are controlled by regulators along the length of the interceptor sewers. The purpose of the regulators is to divert sanitary flow from the existing combined sewers to the interceptor sewers during normal flow periods (dry weather) and limit the flow to the interceptor sewers to twice the dry weather flow during storm periods (wet weather). The existing tide gates placed on the combined sewer overflows (CSOs) downstream of the regulators are designed to keep tidal water from entering the existing combined sewers and the interceptor sewers. Tide gates can be part of the regulator structure or stand-alone chambers. The New York City sewer system currently (in 2015) treats approximately 1.3 billion gpd of municipal wastewater and a portion of combined sewer flow during wet weather events.

Sanitary sewers can be one to two feet in diameter on side streets and three or four feet in diameter under larger roadways. They connect to trunk sewers, which are generally five to seven feet in diameter. Combined sewers discharge to regulators and the interceptors carry wastewater to the WPCPs for treatment. The wastewater collection system at the Project Area consists of a two combined sewers (one 48x44-inch and one 12-inch) beneath Flushing Avenue, a 36-inch and 48x30-inch combined sewer beneath Wyckoff Avenue, and a 15-inch combined sewer beneath Jefferson Street. The existing combined sewer beneath Jefferson Street begins just north of the intersection of Jefferson Street and Irving Avenue and flows north to the chamber beneath the intersection of Jefferson Street and Wyckoff Avenue, where it connects with the west-flowing combined sewer beneath Wyckoff Avenue. From the chamber beneath the intersection of Wyckoff Avenue and Flushing Avenue, a 48x44-inch south-flowing combined sewer beneath Flushing Avenue then connects with a chamber just south of the intersection of Flushing and Stewart avenues, before ultimately continuing south along the combined sewer beneath Flushing Avenue. There is an additional 12-inch combined sewer beneath Flushing Avenue which begins just north of the intersection of Flushing and Irving avenues and flows north to the chamber beneath the intersection of Flushing and Wyckoff avenues, where it connects with the south-flowing 48x44-inch combined sewer beneath Flushing Avenue.

The Project Area is served by the Newtown Creek WPCP, which treats wastewater by physical and biological processes before it is discharged into the East River. The quality of the treated wastewater (effluent) is regulated by a SPDES permit issued by the NYSDEC, which establishes limits for effluent parameters (i.e., suspended solids, fecal coliform bacteria, and other pollutants). As the volume of flow to a WPCP affects the level of treatment a plant can provide, the maximum permitted capacity for the Newtown Creek WPCP is 310 mgd. As presented in **Table H-2**, the average daily flows to the Newtown Creek WPCP for the 12-month period ending in June 2020 was approximately 197 mgd, which is well below the maximum permitted capacity of 310 mgd.

TABLE H-2
Existing Newtown Creek WPCP Average Daily Sewer Flows

Year	Month	Average Daily Flows (mgd)
2019	July	213
	August	207
	September	198
	October	215
	November	193
	December	228
2020	January	190
	February	204
	March	191
	April	183
	May	164
	June	180
12-Month		197.17

Source: DEP "Monthly Operating Efficiency (2018)" tables.

Sanitary Flows (Dry Weather)

As presented in **Table 10-1** above, the Project Area under existing conditions is estimated to generate approximately 17,171 gpd of daily sanitary sewage, with a total water demand of approximately 29,729 gpd. Existing sanitary flows generated at the projected development sites are conveyed to the Newtown Creek WPCP during dry weather events via the existing combined sewers serving the sites.

Stormwater Flows (Wet Weather)

As outlined in **Attachment A, "Project Description,"** the Project Area totals approximately 79,833 sf. **Table H-3** describes the surfaces, surface areas, and the weighted runoff coefficient (the fraction of precipitation that becomes surface runoff) for each surface type present at the Project Area. Based on visual inspections of the Project Area, and as indicated in **Table H-3**, the majority of the Project Area (approximately 95 percent) is comprised of roof area surfaces, with an additional five percent comprising paved area; the Project does not include any permeable surfaces. Based on the existing Project Area surface areas, the weighted runoff coefficient of the Project Area is 0.99.

TABLE H-3
Existing Project Area Surface Areas and Runoff Coefficients

Surface Type	Roof	Pavement and Walks	Other	Grass and Softscape	Total
Area	95%	5%	0%	0%	100%
Surface Area (sf)	76,083	3,750	0	0	79,833
Runoff Coefficient[1]	1.00	0.85	0.85	0.20	0.99

Notes:
[1] Weighted runoff coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual.*

For this analysis, the runoff coefficients were used to calculate the amount of stormwater runoff during a range of storm events, with rainfall averaging from 0.00 to 2.50 inches over durations of 3.80 to 19.50 hours. **Table H-4** shows the existing stormwater runoff for the Project Area. As indicated in the table, the Project Area currently generates between 0.01 and 0.22 mg of wet weather flows for different rainfall intensities.

TABLE H-4
Existing Project Area Stormwater and Sanitary Sewage Flow Volumes

Rainfall Volume (in)	Rainfall Duration (hr)	Runoff Volume Direct Drainage	Runoff Volume to CSS	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)
0.00	3.80	0.00	0.00	0.01	0.01
0.40	3.80	0.00	0.03	0.01	0.04
1.20	11.30	0.00	0.08	0.02	0.10
2.50	19.50	0.00	0.18	0.04	0.22

Notes:
CSS = combined sewer system; MG = million gallons

V. THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

In the future without the Proposed Action (the No-Action condition), while no new construction would be planned for the Applicant-owned Projected Development Site 1, for conservative analysis purposes it is assumed the currently vacant, approximately 30,388 sf former industrial building on Lots 18 and 24 would be converted and reoccupied with commercial retail uses in the No-Action condition. As a result, Projected Development Site 1 would be occupied by approximately 31,907 gsf (30,388 zsf) of commercial retail uses on a 37,928-sf lot (0.80 FAR). No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Action.

Water Supply

The overall water supply system in New York City is not expected to change materially in the future without the Proposed Action. In the No-Action condition, the Project Area would continue to be served by a 20-inch water main located beneath Flushing Avenue and 8-inch water mains located beneath Wyckoff Avenue and Jefferson Street. Additionally, in 2011, DEP launched the Water for the Future program, a comprehensive long-term planning effort to repair leaks in sections of the Delaware Aqueduct by 2024. To support this program, a newly created Demand Management Unit within DEP was tasked with the development of a citywide strategy that will outline DEP's plan for the implementation of water demand management projects. DEP's 2013 *Water Demand Management Plan* identified five key strategies for managing water demand in New York City and detailed 21 specific initiatives to be implemented by 2024 in order to achieve targeted water demand reductions. It is anticipated that these initiatives will offset much of the increased demands citywide that may result from population growth and new development.

As presented in **Table H-5**, the No-Action condition is estimated to have a total daily water demand of 42,811 gpd, including 24,829 gpd of domestic demand and 17,982 gpd of air conditioning (A/C) demand.

TABLE 10-5
No-Action Project Area Water Consumption and Wastewater Generation

Land Use	Rate[1]	Area (gsf)	Domestic Water/ Wastewater Generation (gpd)	A/C (gpd)
Retail	Domestic: 0.24 gpd/sf A/C: 0.17 gpd/sf	52,382	12,572	8,905
Light Industrial	N/A; see Note	53,393	12,257	9,077
Total Water Consumption			42,811	
Total Wastewater Generation			24,829	

Notes:
[1] Based on average daily water use rates provided in Table 13-2 of the *CEQR Technical Manual*:
- Commercial Retail: 0.24 gpd/sf, plus 0.17 gpd/sf for A/C.
- Light Industrial: As no rate is provided in the *CEQR Technical Manual*, domestic generation rate is from DEP's *Draft Rules and Regulations Governing the Construction of Private Sewers and Drains*; assumes 10,000 gpd per acre.

Sewer System

Sanitary Flows (Dry Weather)

The Project Area would continue to be served by the Newtown Creek WPCP in the future without the Proposed Action, and, as presented in **Table H-5** and described above, is expected to generate approximately 24,829 gpd of daily sanitary sewage with a total water demand of 42,811 gpd.

Stormwater Flows (Wet Weather)

As presented in **Table H-6**, compared to existing conditions, the No-Action condition would not result in any changes to roof surfaces (approximately 95 percent) or paved area surfaces (approximately five percent) present at the Project Area. As there would be no changes in the Project Area's surface areas, the weighted runoff coefficient of the Project Area would remain at 0.99 in the future without the Proposed Action, as under existing conditions.

TABLE H-6
No-Action Project Area Surface Areas and Runoff Coefficients

Surface Type	Roof	Pavement and Walks	Other	Grass and Softscape	Total
Area	95%	5%	0%	0%	100%
Surface Area (sf)	76,083	3,750	0	0	79,833
Runoff Coefficient[1]	1.00	0.85	0.85	0.20	0.99

Notes:
[1] Weighted runoff coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual.*

As shown in **Table H-7**, in the No-Action condition, approximately 0.00 to 0.18 mg of stormwater and approximately 0.02 to 0.08 mg of sanitary sewage would be conveyed to the existing combined sewers, for a total of 0.02 to 0.26 mg of combined volumes to the combined sewer system. Compared to existing conditions, the total wet weather flows from the Development Site would increase by 0.01 to 0.04 mg, depending on rainfall duration and intensity.

TABLE H-7
No-Action Development Site Stormwater and Sanitary Sewage Flow Volumes

Rainfall Volume (in)	Rainfall Duration (hr)	Runoff Volume Direct Drainage	Runoff Volume to CSS	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)
0.00	3.80	0.00	0.00	0.02	0.02
0.40	3.80	0.00	0.03	0.02	0.05
1.20	11.30	0.00	0.09	0.05	0.14
2.50	19.50	0.00	0.18	0.08	0.26

Notes:
CSS = combined sewer system; MG = million gallons

VI. THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITION)

For conservative analysis purposes, in the future with the Proposed Action (the With-Action condition), the RWCDS anticipates that the Project Area would be redeveloped with several new mixed-use buildings at three separate projected development sites (of which, one would be Applicant-owned). Combined, the Proposed Action would result in the development of approximately 234,154 gsf of commercial office space, 98,566 gsf of commercial retail space, 59,973 gsf of community facility (medical office) space, and 40,732 gsf of light industrial space. The Proposed Actions would also result in the development of an approximately 5,000-sf public plaza on the Applicant-owned Projected Development Site 1 (Lots 18 and 24).

Water Supply

The Proposed Action would generate increased demand on the DEP water supply system, compared to No-Action conditions (see **Table H-8**). As indicated in the table, the Proposed Action would generate an incremental water demand of approximately 111,583 gpd. The incremental demand represents approximately 0.01 percent of the approximately one billion gallons of water supplied daily to New York City by DEP. These estimated demands include water for both domestic uses and air conditioning systems.

As discussed above, the Project Area is served by a 20-inch water main located beneath Flushing Avenue and 8-inch water mains located beneath Wyckoff Avenue and Jefferson Street. The existing water mains that are located along the Project Area's three street frontages are expected to adequately accommodate the incremental water demand generated by the Proposed Action. As such, given the relatively minor

incremental increase in water consumption (as compared to city-wide demand) and the Project Area's location in an area well-served by water infrastructure, the Proposed Action is not expected to adversely affect the City's water supply or system water pressure.

Sewer System

Sanitary Flows (Dry Weather)

As indicated in **Table H-8**, the estimated amount of sanitary sewage generated by the Proposed Action would be 72,929 gpd. This amount would represent approximately 0.0004 percent of the average daily flow of 197 mgd at the Newtown Creek WPCP and would not result in an exceedance of the plant's permitted capacity of 310 mgd. In addition, per the New York City Plumbing Code (Local Law 33 of 2007), low-flow fixtures would be required to be implemented, which would help to reduce sanitary flows from the projected developments.

TABLE H-8
Expected Water Demand at Project Area – No-Action vs. With-Action Conditions

	Use	Area (gsf)	Domestic Use (gpd)[1]	Air Conditioning (gpd)[1]
No-Action Condition	Retail	52,382	12,572	8,905
	Light Industrial	53,393	12,257	9,077
	Total No-Action Water Supply Demand			42,811
	Total No-Action Sewage Generation			24,829
With-Action Condition	Office	234,154	23,415	39,806
	Retail	98,566	23,656	16,756
	Light Industrial	86,512	19,860	14,707
	Community Facility (Medical Office)	59,973	5,997	10,195
	Total With-Action Water Supply Demand			154,394
	Total With-Action Sewage Generation			72,929
Increment	***Incremental Water Supply Demand***			111,583
	Incremental Sewage Generation			48,100

Notes:
[1] Based on average daily water use rates provided in Table 13-2 of the *CEQR Technical Manual* (unless otherwise indicated):
- Commercial Office: 0.1 gpd/sf, plus 0.17 gpd/sf for A/C.
- Commercial Retail: 0.24 gpd/sf, plus 0.17 gpd/sf for A/C.
- Light Industrial: As no rate is provided in the *CEQR Technical Manual*, domestic generation rate is from DEP's *Draft Rules and Regulations Governing the Construction of Private Sewers and Drains*; assumes 10,000 gpd per acre.
- Community Facility (Medical Office): Based on 2018 *Two Bridges LSRD FEIS*, which assumed commercial office rate (0.10 gpd/sf and 0.17 gpd/sf for A/C).

Connecting to the City's sewer system requires certification from DEP as part of the building permit process, which is not a discretionary approval. The Applicant would be required to file a site connection proposal for approval from DEP to tie into the sewer system. In this process, before a building permit can be issued, site connection proposals must be certified for sewer availability by DEP. The Applicant would be required to demonstrate that the existing sanitary system could handle the sanitary flows from the Proposed Action and resultant RWCDS. Because the City's sewers are sized and designed based on the designated zoning of an area and related population density and surface coverage characteristics, the Proposed Action may result in development that is inconsistent with the design of the existing built sewer system. To be issued a permit to connect to the City sewer, a site-specific hydraulic analysis may be required to determine whether the existing sewer system is capable of supporting higher density development and related increases in sanitary flows. Completion of sewer improvements and/or a new drainage plan may also be required at the time of the site connection proposal. In addition, in accordance with the New York City Plumbing Code (Local Law 33 of 2007), while not accounted for in the quantitative analysis, low-flow

fixtures would be required to be implemented and would help to reduce sanitary flows as a result of the Proposed Action.

As the Proposed Action is not expected to result in a significant increase in dry weather flows to the combined sewer system, no significant adverse impacts would result.

Stormwater Flows (Wet Weather)

As presented in **Table H-9**, below, based on the proposed site plan (refer to **Figure A-4** in **Attachment A, "Project Description"**), the Proposed Action would result in a slight decrease in the amount of roof area present at the Project Area (decreasing to approximately 94 percent of the Project Area), while slightly increasing the area comprised of pavement and walks (increasing to six percent of the Project Area). For conservative analysis purposes, potential green roof and softscape terrace spaces have been considered rooftop. Based on these anticipated changes in the Project Area's surface areas, the weighted runoff coefficient of the Project Area would remain at 0.99 in the future with the Proposed Action, as under existing and No-Action conditions.

Using these sanitary and stormwater flow calculations, the DEP Flow Volume Calculation Matrix was completed for the future With-Action condition and compared to the existing conditions presented in **Table H-4**, above. The calculations from the Flow Volume Calculation Matrix help to determine the change in wastewater flow volumes to the combined sewer system from existing conditions to With-Action conditions, based on four rainfall volume scenarios with varying durations. The drainage analysis assumes that all stormwater runoff from the Project Area would flow via the existing combined sewer infrastructure adjacent to the Project Area. The summary tables, taken from the DEP Flow Volume Calculation Matrix, are presented in **Table H-10**.

TABLE H-9
Project Area Runoff Coefficient – With-Action Condition

Surface Type	Roof[2]	Pavement and Walks	Other	Grass and Softscape	Total
Area	94%	6%	0%	0%	100%
Surface Area (sf)	74,833	5,000	0	0	79,833
Runoff Coefficient[1]	1.00	0.85	0.85	0.20	0.99

Notes:
[1] Weighted runoff coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the *CEQR Technical Manual.*
[2] Conservative estimate of the total roof areas on site, not accounting for potential green roof areas and softscape terraces of the Proposed Project.

As shown in **Table H-10**, in the future With-Action condition, approximately 0.00 to 0.18 mg of stormwater and approximately 0.02 to 0.08 mg of sanitary sewage would be conveyed to the existing combined sewers, for a total of 0.02 to 0.26 mg of combined volumes to the combined sewer system. Compared to existing conditions, the total wet weather flows from the Project Area would increase by 0.01 to 0.04 mg, depending on rainfall duration and intensity. The Flow Volume Matrix calculations presented in **Table H-10** do not reflect the use of sanitary and stormwater source control BMPs to reduce sanitary flow and stormwater runoff volumes to the combined sewer system.

The Project Area is located in an area that is well-served by combined sewer infrastructure. As previously noted, the wastewater collection system at the Project Area consists of two combined sewers (one 48x44-inch and one 12-inch) beneath Flushing Avenue, a 36-inch and 48x30-inch combined sewer beneath Wyckoff Avenue, and a 15-inch combined sewer beneath Jefferson Street. Given the size of the combined sewer facilities in the vicinity of the Project Area, it is anticipated that there is ample capacity in the adjacent sewer infrastructure to accommodate the additional combined flows generated by the Proposed Action.

TABLE H-10
Project Area Stormwater and Sanitary Sewage Flow Volumes – With-Action vs. Existing Conditions

Rainfall Volume (in)	Rainfall Duration (hr)	Runoff Volume Direct Drainage (MG)	Runoff Volume to CSS (MG)	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)	Incremental Volume to CSS over Existing Conditions (MG)[1]
0.00	3.80	0.00	0.00	0.02	0.02	+0.01
0.40	3.80	0.00	0.03	0.02	0.05	+0.01
1.20	11.30	0.00	0.09	0.05	0.14	+0.04
2.50	19.50	0.00	0.18	0.08	0.26	+0.04

Notes:
CSS = combined sewer system; MG = million gallons
[1]Refer to **Table H-4**.

Stormwater Best Management Practices

A broad range of BMPs could be implemented on the Project Area to facilitate stormwater source controls and limit the stormwater release rate to the required 0.25 cubic feet per second (cfs) or ten percent of the allowable flow per the drainage plan, whichever is greater.[1] The implementation of low-flow fixtures, as per the New York City Plumbing Code, Local Law 33 of 2007, and the U.S. Environmental Protection Agency's WaterSense Program, would help control sanitary flows. To further offset these increases, on-site stormwater control measures of BMPs could be implemented to retain or slowly release stormwater runoff with controlled discharge rates to the City's combined sewer system.

In addition, as a NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001) is required for any development that would involve soil disturbance of one or more acres, the Applicant may be required to prepare a SWPPP, consisting of both temporary erosion and sediment controls and post-construction stormwater BMPs. Post-construction stormwater management measures that would be integrated into the Proposed Project as part of the SWPP could include measures such as underground detention, infiltration practices, and vegetated areas. The following typical BMP measures could be used to help manage stormwater flows: the implementation of BMPs described in the *New York City Green Infrastructure Plan* and/or green technologies, such as blue and green roofs, subsurface detention and infiltration, porous pavement, enhanced tree pits, and rain cisterns, depending on site conditions. The design of detention tanks, green roofs, and/or other chosen stormwater control BMPs, could achieve an overall release rate of 0.25 cfs or ten percent of DEP's allowable flow rate (whichever is greater) from the projected development sites.

Therefore, with the incorporation of appropriate BMPs that would be required as part of the site connection approval process to be reviewed and approved by DEP, the overall volume of sanitary sewer discharge and stormwater runoff, as well as the peak stormwater runoff rate, would be substantially reduced. As the wastewater treatment capacity at the Newtown Creek WPCP and the sewer conveyance infrastructure near the Project Area would be sufficient to handle wastewater flows that would result from the Proposed Action, there would not be any significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure.

[1] Pursuant to Chapter 31 of Title 15 of the Rules of the City of New York.

Attachment I
Transportation

1160 FLUSHING AVENUE REZONING EAS
Attachment I: Transportation

A. INTRODUCTION

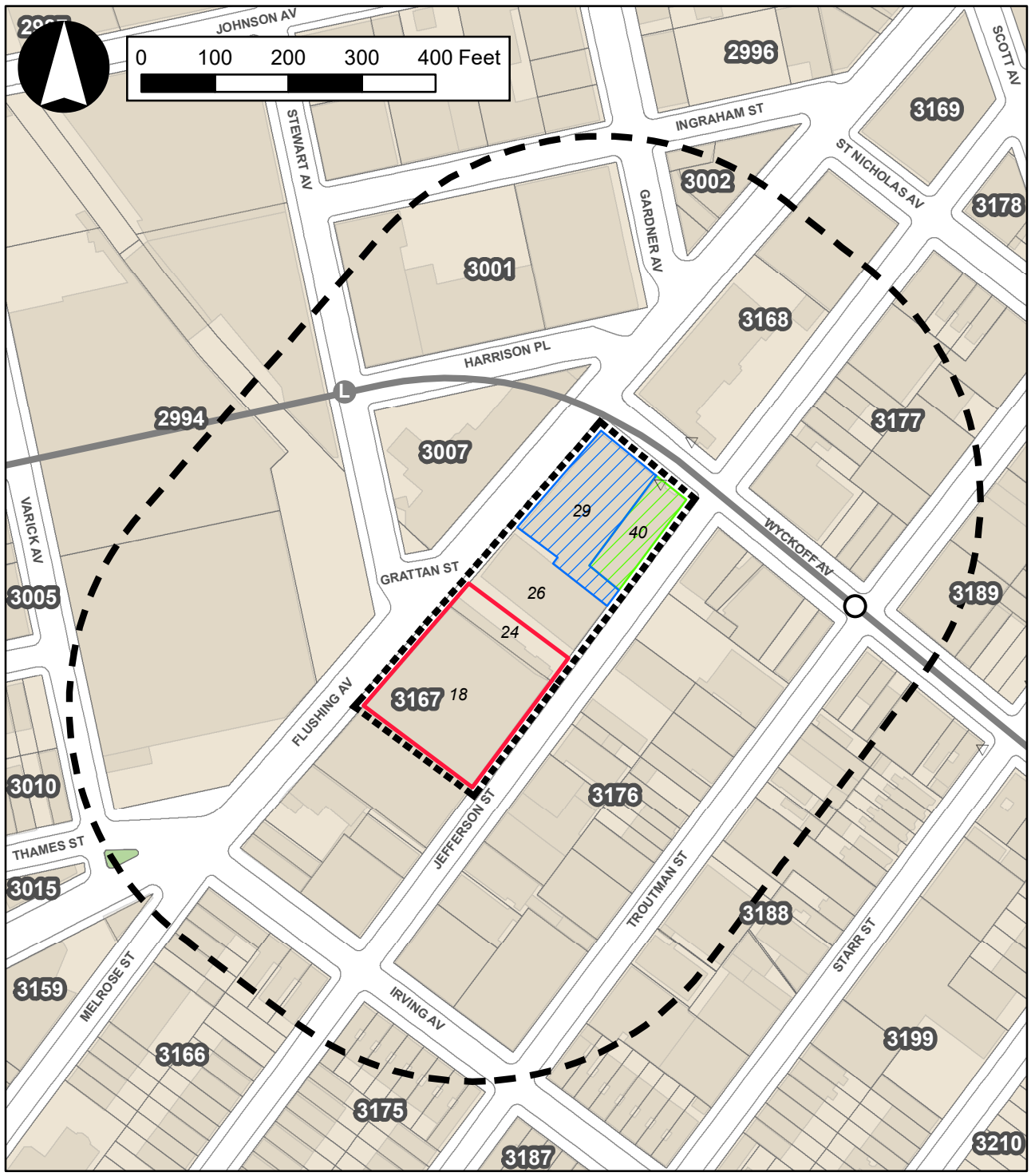
This chapter describes the transportation characteristics and potential impacts associated with the Proposed Action. The Proposed Action is a zoning map amendment to rezone an existing M1-1 district to M1-5 to facilitate the construction of a new, mixed-use development comprising approximately 238,104 gross square feet (gsf) in total (the "Proposed Project"). As shown in **Figure I-1**, the "Proposed Rezoning Area" or "Project Area" encompasses Block 3167, Lots 12 (p/o), 18, 24, 26, 29 and 40 in the Bushwick neighborhood of Brooklyn Community District (CD) 4. Block 3167 is bordered by Flushing Avenue to the west, Wyckoff Avenue to the north, Jefferson Street to the east, and Irving Avenue to the south. Lots 18 and 24 are owned and controlled by the Applicant and comprise "Projected Development Site 1."

In order to assess the potential effects of the Proposed Action, a RWCDS for both "future without the proposed action" (No-Action) and "future with the proposed action" (With-Action) conditions is analyzed for an analysis year of 2027 (refer to **Table I-1**). As per the RWCDS, the No-Action scenario assumes that the currently existing M1-1 zoning would remain and that the Proposed Project would not be constructed. While no new construction is assumed for Projected Development Site 1 (Lots 18 and 24), the currently vacant, approximately 31,907 sf building on these lots is assumed to be converted and re-occupied with commercial retail uses in the No-Action condition. It is also assumed that the existing 20,475 gsf of retail space on Projected Development Site 2 (Lot 29) would remain, and that the existing 7,613 gsf of light industrial space on Projected Development Site 3 (Lot 40) would remain.

As outlined in **Attachment A, "Project Description,"** for analysis purposes, the With-Action RWCDS for Projected Development Site 1 conservatively assumes the development of approximately 121,786 gsf of office uses, 75,586 gsf of local retail uses, 40,732 gsf of light industrial uses and 59,973 gsf of community facility uses. (The travel demand forecast conservatively assumes medical office uses for the community facility space.) In addition, it is assumed that two new commercial developments would occur on both non-Applicant-owned Lots 29 and 40 ("Projected Development Site 2" and "Projected Development Site 3," respectively) in the future with the Proposed Action. It is anticipated that Projected Development Site 2 would be redeveloped with a commercial office building with approximately 79,821 gsf of office space and 16,730 gsf of retail space, and that Projected Development Site 3 would be redeveloped with a commercial office building with approximately 32,547 gsf of office space and 6,250 gsf of retail space. As a result, the total With-Action development scenario for the three development sites would include approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses.

Table I-1 shows the total anticipated No-Action and With-Action land uses assumed under the RWCDS for each of the three projected development sites for the purposes of the transportation analyses, and the net incremental change that would result from the Proposed Action. As shown in **Table I-1**, under the Proposed Action's RWCDS there would be a net incremental increase of 234,154 gsf of office uses, 46,184 gsf of retail uses, 33,119 gsf of light industrial uses and 59,973 gsf of community facility (medical office) uses.

Project Site Location



Legend

- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- Project Area
- 400-ft Radius
- Open Space
- L-Line
- Jefferson Street Subway Station (L)
- Subway Station Entrance
- 3167 Block
- 18 Lot

Table I-1
2027 RWCDS No-Action and With-Action Land Uses

Projected Development Site	No-Action Condition	With-Action Condition	Net Increment
Office			
Projected Development Site 1 (Lots 18 and 24)	0 gsf	121,786 gsf	121,786 gsf
Projected Development Site 2 (Lots 29)	0 gsf	79,821 gsf	79,821 gsf
Projected Development Site 3 (Lot 40)	0 gsf	32,547 gsf	32,547 gsf
Total Office	***0 gsf***	***234,154 gsf***	***234,154 gsf***
Local Retail			
Projected Development Site 1 (Lots 18 and 24)	31,907 gsf	75,586 gsf	43,679 gsf
Projected Development Site 2 (Lots 29)	20,475 gsf	16,730 gsf	(3,745 gsf)
Projected Development Site 3 (Lot 40)	0 gsf	6,250 gsf	6,250 gsf
Total Local Retail	***52,382 gsf***	***98,566 gsf***	***46,184 gsf***
Light Industrial			
Projected Development Site 1 (Lots 18 and 24)	0 gsf	40,732 gsf	40,732 gsf
Projected Development Site 2 (Lots 29)	0 gsf	0 gsf	0 gsf
Projected Development Site 3 (Lot 40)	7,613 gsf	0 gsf	(7,613 gsf)
Total Light Industrial	***7,613 gsf***	***40,732 gsf***	***33,119 gsf***
Medical Office			
Projected Development Site 1 (Lots 18 and 24)	0 gsf	59,973 gsf	59,973 gsf
Projected Development Site 2 (Lots 29)	0 gsf	0 gsf	0 gsf
Projected Development Site 3 (Lot 40)	0 gsf	0 gsf	0 gsf
Total Medical Office	***0 gsf***	***59,973 gsf***	***59,973 gsf***
Total Development	***59,995 gsf***	***433,425 gsf***	***373,430 gsf***

This chapter summarizes the findings of the preliminary transportation screening assessments and identifies specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and therefore require quantitative analyses. Based on the preliminary travel demand forecast presented below and the following preliminary assessment, the anticipated level of new transportation demand generated by the Proposed Action is expected to result in significant adverse impacts to traffic conditions in the vicinity of the Project Area, and therefore, a detailed traffic analysis is warranted and will be included in the EIS. In addition, as the Level 2 screening thresholds were exceeded, detailed pedestrian, parking, and street user safety analyses will also be included in the EIS.

B. PRELIMINARY ANALYSIS METHODOLOGY

The *City Environmental Quality Review* (CEQR) *Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed in the following sections, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the numbers of person and vehicle trips

attributable to the proposed action. According to the *CEQR Technical Manual*, if the proposed action is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (a Level 2 analysis) are to be performed to estimate the incremental trips that would be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the proposed action would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a sidewalk, corner area or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, vehicular and pedestrian safety, and parking.

C. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Action during the weekday AM, midday and PM peak hours, and Saturday peak hour, for the RWCDS. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are described in the following sections along with a summary of the travel demand that would be generated by the RWCDS. A detailed travel demand forecast is then provided for the RWCDS.

Background

As shown in **Table I-1**, compared to the No-Action condition, the Proposed Action would result in a net incremental increase of approximately 234,154 gsf of office uses, 46,184 gsf of retail uses, 33,119 gsf of light industrial uses and 59,973 gsf of community facility (medical office) uses.

Transportation Planning Factors

The trip generation rates, temporal and directional distributions, modal splits, vehicle occupancies and truck trip factors used to forecast travel demand for local retail, office, light industrial, and medical office land uses are summarized in **Table I-4**. They were based on factors cited in the 2021 *City Environmental Quality Review* (CEQR) Technical Manual, American Association of State Highway and Transportation Officials (AASHTO) Reverse Journey to Work data, and factors developed for recent environmental reviews. Factors are shown for the weekday AM and PM peak hours (typical peak periods for commuter travel demand) and the weekday midday and Saturday peak hours (typical peak periods for retail demand).

Travel Demand Forecast

The net incremental change in person and vehicle trips expected to result from the Proposed Action by the 2027 analysis year was derived based on the net change in land uses shown in **Table I-1** and the transportation planning factors shown in **Table I-2**.

Tables I-3 and I-4 show estimates of the net incremental change in peak hour person trips and vehicle trips (versus the No-Action condition), respectively, that would occur in 2027 with implementation of the Proposed Action. These data are further summarized in **Table I-5**. As shown in **Table I-3**, under the RWCDS, the Proposed Action would generate a net increase of approximately 1,478 person trips (in + out combined) in the weekday AM peak hour, 1,762 in the weekday midday, 1,852 in the weekday PM, and 2,062 in the Saturday peak hour. As shown in **Table I-5**, peak hour vehicle trips (including auto, taxi and

truck trips) would increase by a net total of approximately 360, 226, 352 and 280 (in + out combined) in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Peak hour subway trips would increase by a net total of approximately 467, 363, 399 and 310 trips during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Bus trips would increase by a net total of approximately 120, 97, 113 and 81 in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Lastly, pedestrian trips would increase by 1,425, 1,726, 1,808 and 2,034, during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. These totals include walk-only trips and pedestrians en route to and from nearby off-street parking spaces, subway stations, and bus stops.

TRAFFIC

Based on *CEQR Technical Manual* guidelines, a quantified traffic analysis is typically required if a proposed action would result in 50 or more vehicle trip ends in a peak hour at one or more intersections. As shown in **Table I-5**, under the RWCDS, the net number of incremental vehicle trips—360, 226, 352 and 280 in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively—would exceed the 50-trip threshold in each peak hour, and a Level 2 screening analysis is therefore warranted for these periods to determine which intersections would require quantified analysis.

TRANSIT

According to the general thresholds used by the Metropolitan Transportation Authority and specified in the *CEQR Technical Manual*, detailed transit analyses are generally not required if a proposed action is projected to result in fewer than 200 peak hour rail or bus transit riders. If a proposed action would result in 50 or more bus passengers being assigned to a single bus line (in one direction), or if it would result in an increase of 200 or more passengers at a single subway station or on a single subway line, a detailed bus and/or subway analysis would be warranted. Transit analyses typically focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway and bus systems is usually highest.

As shown in **Table I-5**, the Proposed Action is expected to generate approximately 467 and 399 new subway trips in the weekday AM and PM peak hours. As these numbers of trips would exceed the 200-trip *CEQR Technical Manual* analysis threshold, a Level 2 screening analysis is warranted to determine which subway stations and routes would require quantified analysis. As also shown in **Table I-5,** the Proposed Action is expected to generate 120 and 113 new trips by bus in the weekday AM and PM peak hours, respectively. As these numbers of trips would exceed the 50-trip *CEQR Technical Manual* analysis threshold during the weekday PM peak hour, a Level 2 screening analysis is warranted to determine if quantified analysis are required.

PEDESTRIANS

According to *CEQR Technical Manual* guidelines, a quantified analysis of pedestrian conditions is typically required if a proposed action would result in 200 or more peak hour pedestrian trips at any pedestrian element (sidewalk, corner area or crosswalk). As shown in **Table I-5**, the Proposed Action and associated RWCDS would generate an incremental demand of approximately 1,425, 1,726, 1,808 and 2,034 total pedestrian trips (including walk-only trips and pedestrians en route to and from nearby off-street parking spaces, subway stations, and bus stops) in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. As the numbers of trips in all of these periods would exceed the 200-trip threshold, a Level 2 screening analysis is warranted to determine which if any pedestrian elements would require quantified analysis.

Table I-2
Transportation Planning Factors

Land Use:	Local Retail		Office		Light Industrial		Medical Office	
Size/Units:	46,184 gsf		234,154 gsf		33,119 gsf		59,973 gsf	
Trip Generation:	(1)		(1)		(4)		(1,5)	
Weekday	329		18		14.7		See Note (5)	
Saturday	358		3.9		2.2		37.0	
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)		(1)		(4)		(1)	
AM	4.8%		12.4%		13.2%		11.0%	
MD	8.0%		11.0%		11.0%		12.6%	
PM	10.9%		10.5%		14.2%		8.5%	
Saturday	11.7%		14.1%		10.7%		16.6%	
	(2)		(2)	(6)	(3)	(6)	(5)	
Modal Splits:	All Periods		AM/PM/Sat	MD	AM/PM/Sat	MD	All Periods	
Auto	11.0%		28.7%	2.0%	43.5%	2.0%	24.0%	
Taxi	0.0%		4.9%	1.0%	1.6%	1.0%	6.0%	
Subway	3.0%		32.1%	7.0%	24.5%	7.0%	59.0%	
Bus	2.0%		12.7%	7.0%	6.5%	7.0%	9.0%	
Walk/Other	84.0%		21.6%	83.0%	23.9%	83.0%	2.0%	
	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%	
	(1)		(1)		(4)		(1)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out
AM	53%	47%	89.0%	11.0%	88%	12%	62%	38%
MD	50%	50%	48.0%	52.0%	50%	50%	47%	53%
PM	50%	50%	17.0%	83.0%	12%	88%	35%	65%
Saturday	50%	50%	50.0%	50.0%	47%	53%	49%	51%
Vehicle Occupancy:	(2)		(3,6)		(3,6)		(5)	
Auto	1.20		1.13		1.13		1.50	
Taxi	1.20		1.26		1.14		1.50	
Truck Trip Generation:	(1)		(1)		(4)		(4)	
Weekday	0.35		0.32		0.67		0.29	
Saturday	0.04		0.01		0.67		0.29	
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Truck Temporal Distribution:	(1)		(1)		(4)		(4)	
AM	8.0%		10.0%		14.0%		3.0%	
MD	11.0%		11.0%		9.0%		11.0%	
PM	2.0%		2.0%		1.0%		1.0%	
Saturday	11.0%		11.0%		0.0%		0.0%	
Truck Directional Distribution:	In	Out	In	Out	In	Out	In	Out
All Periods	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Notes :

(1) *2021 City Environmental Quality Review (CEQR) Technical Manual.*

(2) Based on data provided by NYCDOT.

(3) Based on AASHTO CTPP reverse journey-to-work 5-Year (2012-2016) data for Brooklyn Census Tracts 427, 429, 445, 447, 453 and 539.

(4) Based on data from the 2016 *East New York Rezoning Proposal FEIS.*

(5) Based on NYCDOT medical office trip generation and mode choice data. Weekday daily trip estimate based on following equation:141.77 + 66.626 x gross SF (in thousands).

(6) Based on data from the 2016 *25 Kent Avenue EAS.*

Table I-3
RWCDS Travel Demand Forecast – Incremental Person Trips

Land Use:		Local Retail [a,b]		Office		Light Industrial		Medical Office		Total	
Size/Units:		46,184 gsf		234,154 gsf		33,119 gsf		59,973 gsf			
Peak Hour Trips:											
	AM	434		524		64		456		1,478	
	MD	722		464		54		522		1,762	
	PM	986		444		70		352		1,852	
	Saturday	1,556		130		8		368		2,062	
Person Trips:											
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
	Auto	26	22	133	17	23	3	68	42	250	84
	Taxi	0	0	23	2	1	0	17	10	41	12
AM	Subway	7	6	150	19	14	2	167	102	338	129
	Bus	4	4	59	7	4	1	25	16	92	28
	Walk/Other	193	172	102	12	14	2	6	3	315	189
	Total	230	204	467	57	56	8	283	173	1,036	442
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
	Auto	39	39	5	6	1	1	59	66	104	112
	Taxi	0	0	2	2	0	0	15	17	17	19
MD	Subway	10	10	15	17	2	2	145	162	172	191
	Bus	7	7	15	17	2	2	22	25	46	51
	Walk/Other	305	305	184	201	22	22	5	6	516	534
	Total	361	361	221	243	27	27	246	276	855	907
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
	Auto	55	55	21	107	3	25	30	55	109	242
	Taxi	0	0	4	18	0	1	7	14	11	33
PM	Subway	15	15	24	119	3	16	73	134	115	284
	Bus	10	10	9	47	1	4	11	21	31	82
	Walk/Other	413	413	16	79	2	15	2	5	433	512
	Total	493	493	74	370	9	61	123	229	699	1,153
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
	Auto	86	86	19	19	1	2	43	45	149	152
	Taxi	0	0	3	3	0	0	11	11	14	14
Saturday	Subway	24	24	21	21	2	1	106	111	153	157
	Bus	16	16	8	8	0	0	16	17	40	41
	Walk/Other	652	652	14	14	1	1	4	4	671	671
	Total	778	778	65	65	4	4	180	188	1,027	1,035

Notes:

a) 40% linked-trip credit applied to weekday local retail trips on Projected Development Site 1.
20% linked-trip credit applied to weekday local retail trips on Projected Development Site 3.

b) 20% linked-trip credit applied to Saturday local retail trips on Projected Development Site 1.
5% linked-trip credit applied to Saturday local retail trips on Projected Development Site 3.

Table I-4
RWCDS Travel Demand Forecast – Incremental Vehicle Trips

Land Use:		Local Retail [a,b]		Office		Light Industrial		Medical Office		Total	
Size/Units:		46,184	gsf	234,154	gsf	33,119	gsf	59,973	gsf		
Vehicle Trips :		**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
AM	Auto	21	18	118	15	20	3	45	28	204	64
	Taxi	0	0	18	2	1	0	11	7	30	9
	Taxi (Balanced)	0	0	20	20	1	1	18	18	39	39
	Truck	1	1	4	4	2	2	0	0	7	7
	Total	22	19	142	39	23	6	63	46	250	110
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
MD	Auto	33	33	5	6	1	1	39	44	78	84
	Taxi	0	0	2	2	0	0	10	11	12	13
	Taxi (Balanced)	0	0	4	4	0	0	21	21	25	25
	Truck	1	1	4	4	1	1	1	1	7	7
	Total	34	34	13	14	2	2	61	66	110	116
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
PM	Auto	45	45	19	95	3	22	20	37	87	199
	Taxi	0	0	4	14	0	1	5	9	9	24
	Taxi (Balanced)	0	0	18	18	1	1	14	14	33	33
	Truck	0	0	0	0	0	0	0	0	0	0
	Total	45	45	37	113	4	23	34	51	120	232
		In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
Saturday	Auto	72	72	17	17	1	2	29	30	119	121
	Taxi	0	0	3	3	0	0	7	7	10	10
	Taxi (Balanced)	0	0	6	6	0	0	14	14	20	20
	Truck	0	0	0	0	0	0	0	0	0	0
	Total	72	72	23	23	1	2	43	44	139	141

Table I-5
Travel Demand Forecast Summary

				Pedestrian Trips[1]														
Peak	**Vehicle Trips**			**Auto**			**Subway**			**Bus**			**Walk/Other**			**Total**		
Hour	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM	250	110	360	250	84	334	338	129	467	92	28	120	315	189	504	995	430	1,425
MD	110	116	226	104	112	216	172	191	363	46	51	97	516	534	1,050	838	888	1,726
PM	120	232	352	109	242	351	115	284	399	31	82	113	433	512	945	688	1,120	1,808
Saturday	139	141	280	149	152	301	153	157	310	40	41	81	671	671	1,342	1,013	1,021	2,034

Notes:

[1]Includes walk-only trips and pedestrians en route to/from nearby off-street parking spaces, subway stations, and bus stops.

D. LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the assignment of project-generated trips to the study area street network, pedestrian elements, and transit facilities, and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and therefore require a quantitative analysis.

Vehicular Traffic

As shown in **Table I-5** and discussed above, the Proposed Action is expected to result in new incremental increases of approximately 360, 226, 352 and 280 vehicle trips in the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. These traffic volumes would exceed the *CEQR Technical Manual* threshold of 50 vehicles during each peak hour for Level 1 screening and, therefore, a Level 2 screening was performed to help identify intersections for detailed analysis.

The *CEQR Technical Manual* Level 2 screening threshold for detailed analysis is also 50 vehicles, but this threshold applies to individual intersections during the peak hours (rather than total trips generated). Peak hour project increment traffic volumes were first assigned to the Project Area street network to identify the intersections that would potentially exceed the 50-trip threshold during one or more periods. The origins and destinations for the vehicle trip assignments were based on the project location, area arterials, and AASHTO Reverse Journey to Work data for Brooklyn Census Tracts 427, 429, 445, 447, 453 and 539.

Although the Proposed Action's RWCDS does not include on-site accessory parking and it is expected that drivers would park in nearby off-street public parking facilities or on-street, all auto trips were assigned directly to the building frontages on Jefferson Street and Flushing and Wyckoff avenues. This can be considered a conservative approach with respect to the traffic impact analysis as it concentrates project traffic at intersections in proximity to the Project Area rather than dispersing it to outlying streets. Taxis were generally assigned to the building frontages on Jefferson Street and Flushing and Wyckoff avenues. Trucks were assigned to Flushing Avenue, as it is the primary DOT-designated Local Truck Route in proximity to the Project Area. Additional data on the distributions of auto and taxi trips by land use are presented in the TPF/TDF *Technical Memorandum* included in **Appendix IV.**

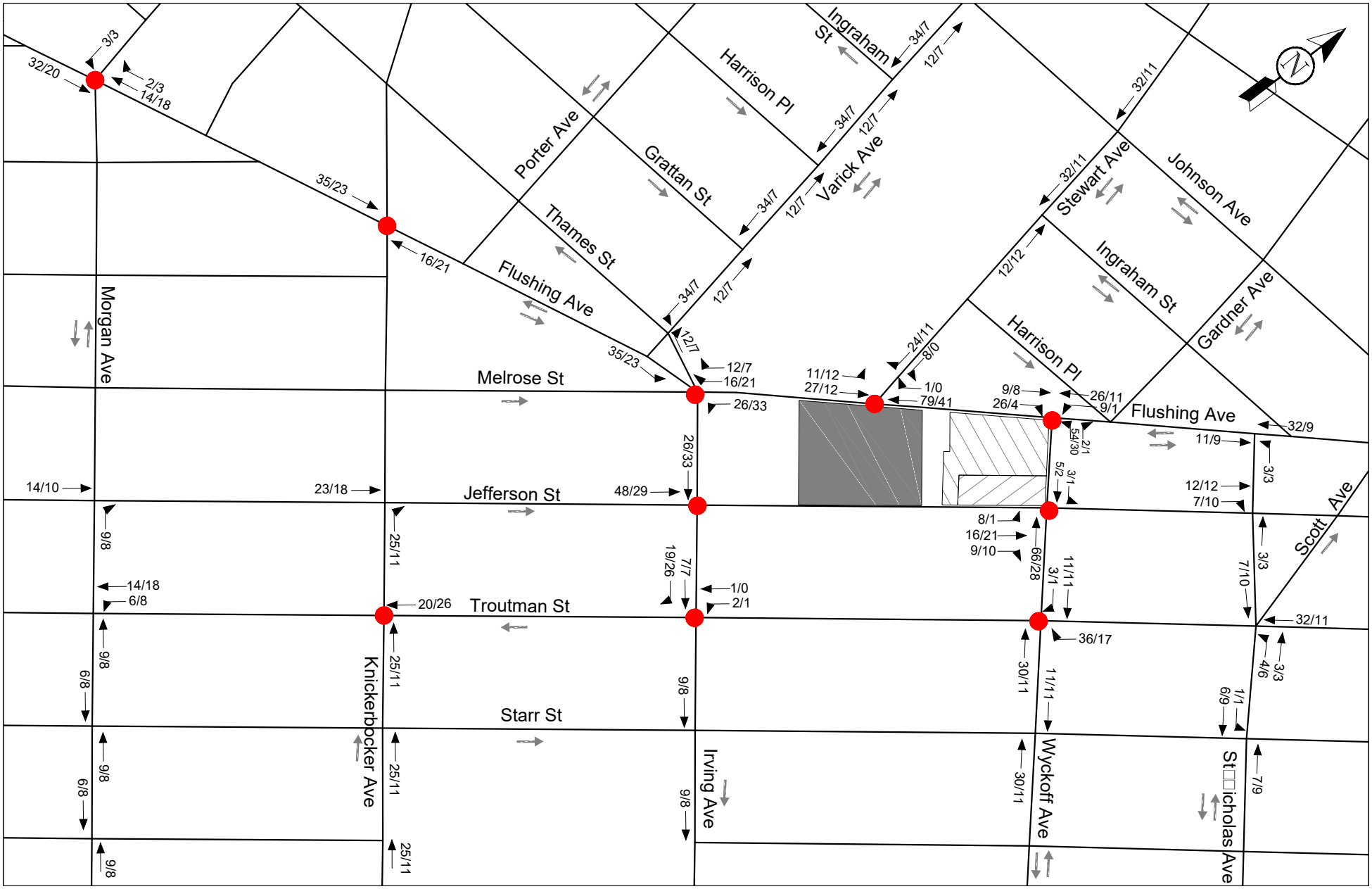
The assignment of net incremental peak hour vehicle trips at intersections in proximity to the Project Area are shown in **Figures I-2a and I-2b**. As shown in **Figures I-2a and I-2b**, a total of 10 intersections (seven signalized and three unsignalized) were selected for detailed analysis as they would exceed the 50-trip threshold in one or more peak hours. Detailed traffic analyses at these locations will be provided in the EIS.

Transit

Subway

Subway Stations

As shown in **Table I-5**, the Proposed Action is expected to generate a net total of approximately 467 and 399 incremental subway trips in the weekday AM and PM peak hours, respectively. Most, if not all, of these trips are expected to utilize the Jefferson Street subway station, which is served by L trains operating on the Canarsie Line. This station is located beneath Wyckoff Avenue immediately adjacent to the Project Area, and as noted previously, entrance stairs to the station's Brooklyn-bound platform are located on the northeastern portion of Lot 40 (see **Figure I-3**).

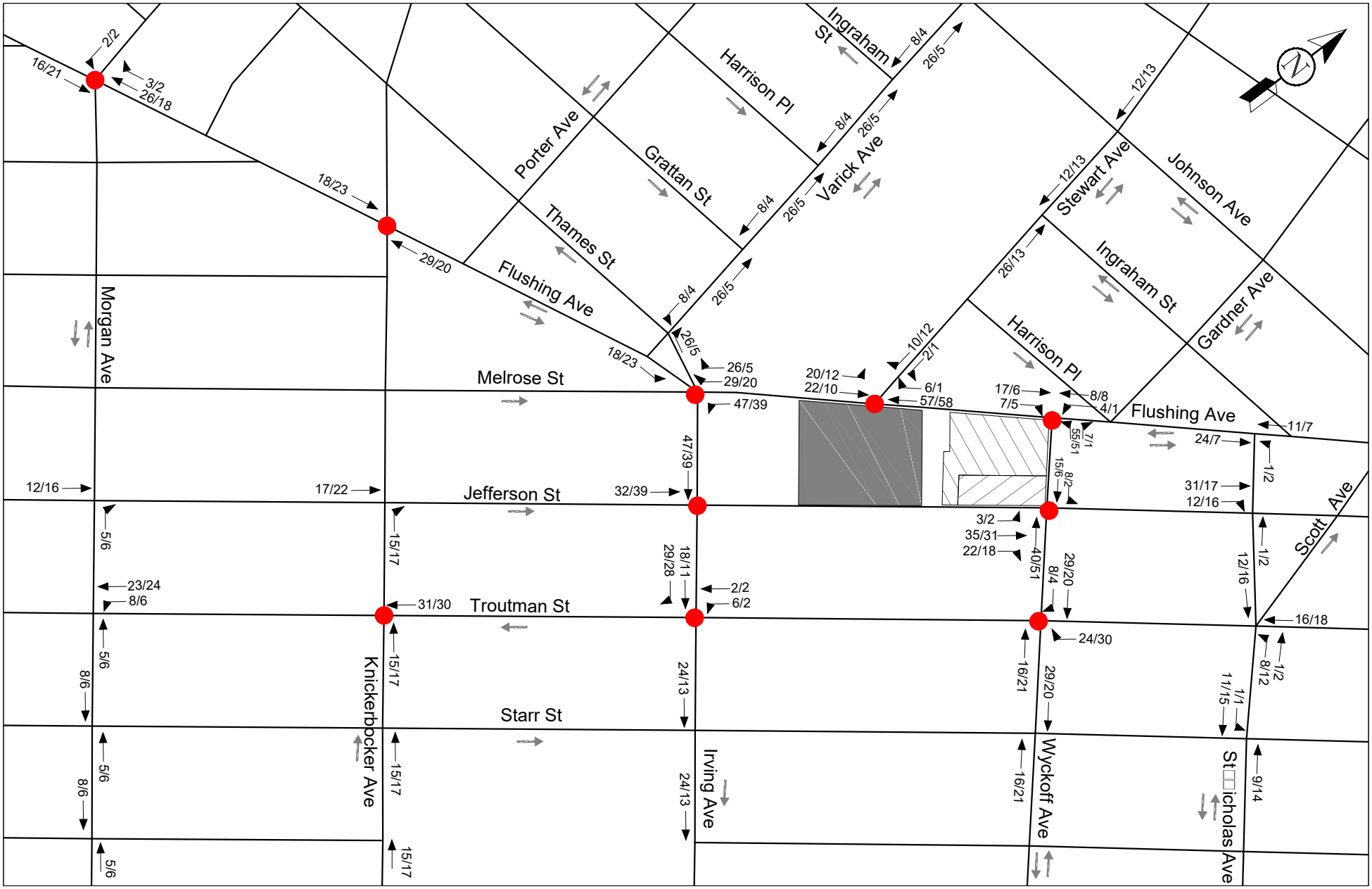


Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

□/□ = Weekday AM/MD Peak Hour Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure I-2a Weekday AM/MD Peak Hour Traffic Volumes



Legend = Projected Development Site 1 = Projected Development Site 2 = Projected Development Site 3

□/□ = Weekday PM/Saturday Peak Hour Volumes = Analyzed Intersection

1160 Flushing Ave Rezoning

Figure I-2b Weekday PM/Saturday Peak Hour Traffic Volumes


0 250 500 750 1,000 Feet
MEADOW ST
SCHOLES ST
STEWART AV
VARICK AV
MESEROLE ST
SCOTT AV
WOODWARD AV
CHARLOTTE ST
ONDERDONK AV
SENECA AV
RANDOLPH ST
CYPRESS AV
JOHNSON AV
GARDNER AV
FLUSHING AV
INGRAHAM ST
STARR ST
ST NICHOLAS AV
WILLOUGHBY AV
HARRISON PL
Jefferson Street Station
SUYDAM ST
HART ST
GRATTAN ST
PORTER AV
THAMES ST
VANDERVOORT PL
MORGAN AV
MELROSE ST
JEFFERSON ST
TROUTMAN ST
WYCKOFF AV
DeKalb Avenue Station
IRVING AV
GEORGE ST
NOLL ST
WILSON AV
KNICKERBOCKER AV
DEKALB AVENUE
STOCKHOLM ST
STANHOPE ST
HIMROD ST
CENTRAL AV
Legend
Project Area
LIRR
Subway
L-Line
Subway Station (L-Line)
Subway Station Entrance
Bus
B57
B13
B38
B60

As incremental peak hour demand from the Proposed Action would exceed the 200-trip *CEQR Technical Manual* analysis threshold at the Jefferson Street (L) station during the AM and PM peak hours, it has been selected for detailed analysis during the weekday AM and PM peak hours. Detailed analysis of key circulation elements (e.g., stairs and fare arrays) expected to be used by concentrations of new demand from the Proposed Action will be provided in the EIS.

Subway Line Haul

As discussed above, the vicinity of the Project Area is served by one NYCT subway route – the L train. The peak direction of travel along the L route is typically Manhattan-bound (northbound) in the AM and Brooklyn-bound (southbound) in the PM. **Table I-6** provides the assignment of project-generated subway trips for the weekday AM and PM peak hours, by direction. As shown below in **Table I-6**, the Proposed Action would generate approximately 150 Manhattan-bound trips along the L subway route during the weekday AM peak hour, and approximately 131 Brooklyn-bound trips during the weekday PM peak hour. Therefore, it is anticipated that the Proposed Actions would not generate 200 or more incremental subway trips along the L route in the peak direction during the AM and PM peak hours. As such, the Proposed Actions are not expected to result in significant adverse impacts to the subway line haul conditions. However, as the Proposed Action would generate more than 200 incremental subway trips along the L route in the non-peak direction during the AM and PM peak hours (i.e., 317 Brooklyn-bound trips during the weekday AM peak hour and 268 Manhattan-bound trips during the PM peak hour), further line haul analyses will be conducted and presented in the EIS if or as needed pursuant to *CEQR Technical Manual* guidance.

Table I-6
Subway Assignments by Direction - L Train

	AM			PM		
Direction	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Brooklyn Bound	304	13	317	103	28	131
Manhattan Bound	34	116	150	12	256	268
Total	**338**	**129**	**467**	**115**	**284**	**399**

Bus

As shown in **Table I-7** and discussed above, the approximate hourly public bus trips generated by the Proposed Action would be 120 and 113 trips in the weekday AM and PM peak hours, respectively. These bus trips were assigned to each route based on proximity to individual projected development sites and current ridership patterns. **Table I-7** shows the anticipated numbers of new riders expected on each local bus route in the AM and PM peak hours. According to the general thresholds used by the MTA and specified in the *CEQR Technical Manual*, a detailed analysis of bus conditions is generally not required if a proposed action is projected to result in fewer than 50 peak hour trips being assigned to a single bus route (in one direction), as this level of new demand is considered unlikely to result in significant adverse impacts. As shown in **Table I-7**, all four routes are expected to experience fewer than 50 new trips per direction in each peak hour. Therefore, based on *CEQR Technical Manual* guidance, significant adverse impacts to local bus service are not anticipated, and a detailed analysis of local bus conditions is not warranted.

Table I-7
Bus Assignments by Route

Route	Direction	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
B38	EB	23	1	24	7	1	8
	WB	1	7	8	1	20	21
B38 LTD	EB	23	0	23	8	1	9
	WB	1	7	8	1	21	22
B57	EB	11	2	13	5	7	12
	WB	9	4	13	2	11	13
B60	NB	14	3	17	4	9	13
	SB	10	4	14	3	12	15
Total		**92**	**28**	**120**	**31**	**82**	**113**

Pedestrians

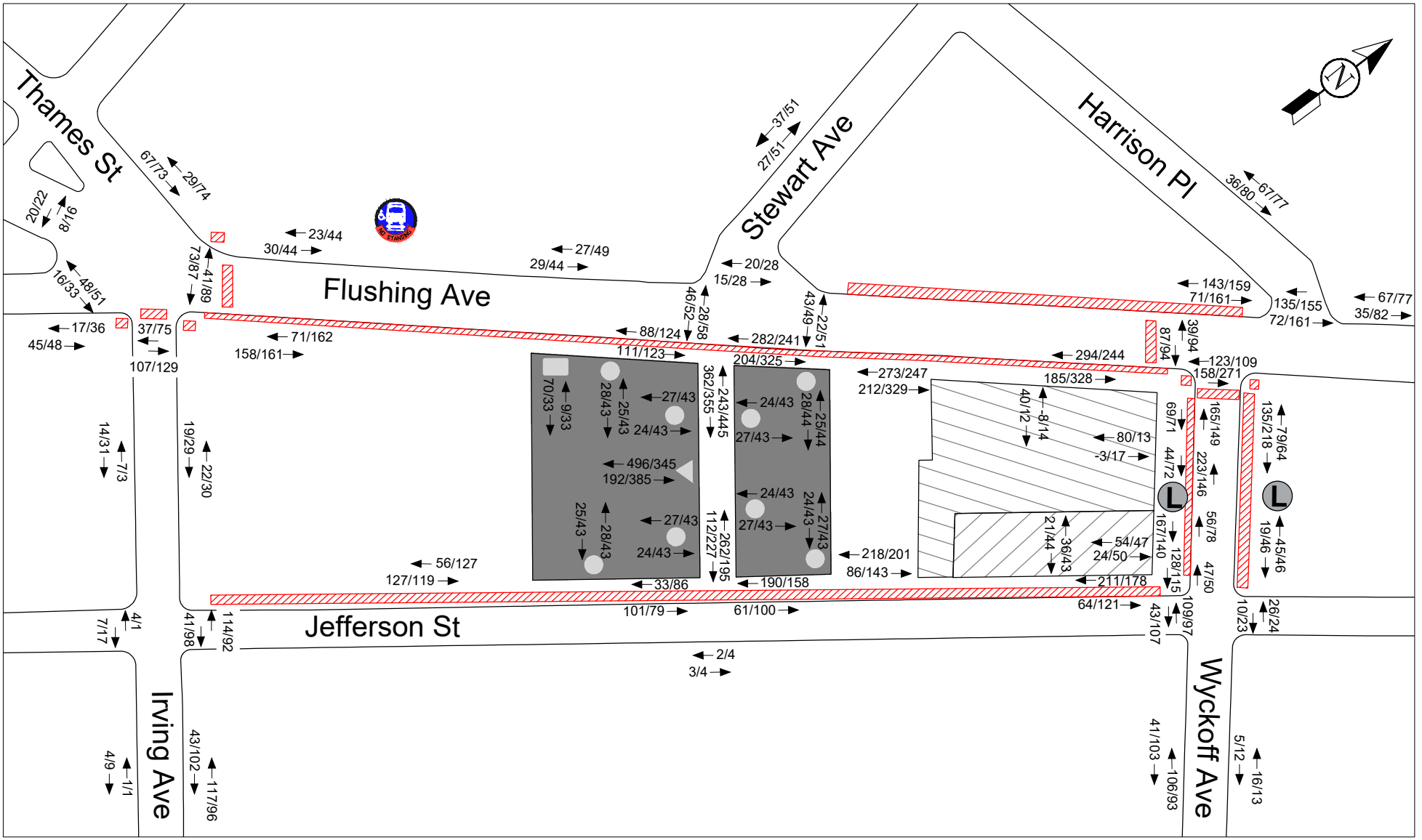
Under *CEQR Technical Manual* criteria, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more peak hour pedestrians at any sidewalk, corner area or crosswalk.

As shown in **Table I-5,** the Proposed Action and associated RWCDS is expected to generate approximately 504 incremental walk-only trips in the weekday AM peak hour, 1,050 in the weekday midday peak hour, 945 in the weekday PM peak hour, and 1,342 in the Saturday peak hour. Persons walking to and from subway station entrances and bus stops would add approximately 921, 676, 863, and 692 incremental pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Pedestrian trips associated with transit trips and walk-only trips would each have a different assignment pattern. Subway and bus trips would be assigned as described above. Walk-only trips were assigned evenly through the local street network, with "walk-only" trips originating/ending at their respective entrance/exit locations (refer to **Figures I-4a and I-4b**). In the weekday AM and PM peak hours, new pedestrian trips would be most concentrated on sidewalks and crosswalks adjacent to the Project Area and along corridors connecting the site to nearby bus stops. In the midday and Saturday periods, pedestrian trips would tend to be more dispersed, as people travel throughout the area for dining, shopping and/or running errands.

Given the numbers of incremental pedestrian trips that would be generated, a detailed analysis of pedestrian conditions under the Proposed Action is warranted. Based on pedestrian count data collected in proximity to the Project Area, the weekday AM (7:45-8:45 AM), midday (12:45-1:45 PM), PM (4:00-5:00 PM), and Saturday (1:45-2:45 PM) peak hours have been selected for analysis. A preliminary assignment of weekday AM, midday and PM peak hours, and Saturday peak hour pedestrian trips is shown in **Figures I-4a and I-4b**. As shown in **Figures I-4a and I-4b**, a total of 14 pedestrian elements (five sidewalks, four crosswalks, and five corner areas) will exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or more peak hours, thereby warranting detailed analyses. These pedestrian elements, as shown in **Figures I-4a and I-4b**, are primarily located along Flushing Avenue in the immediate proximity of the Project Area. Detailed pedestrian analyses at these locations will be provided in the EIS.

Street User Safety

Under *CEQR Technical Manual* guidance, an evaluation of street user safety is needed for locations within the traffic and pedestrian study areas that have been identified as high-crash locations. These are defined as a location identified along a Vision Zero corridor/intersection or where five or more pedestrian/bicyclist injury crashes have

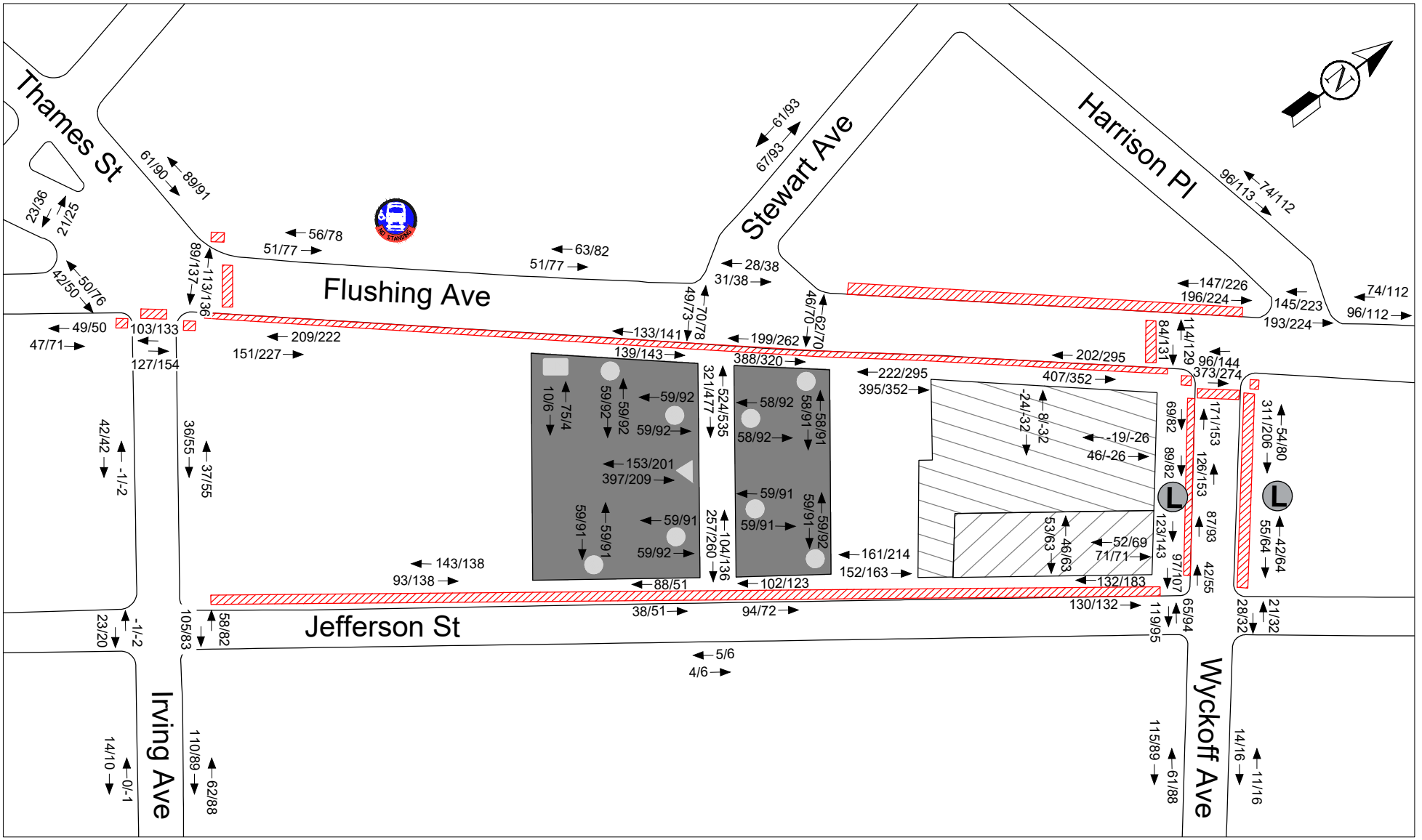


Legend
= Projected Development Site 1
= Projected Development Site 2
= Projected Development Site 3
2/2 = Weekday AM/MD Peak Hour Volume
= Pedestrian Element Analysis Locations
= Light Industrial Entrance
= Office/Community Facility Entrance
= Retail Entrance
L = Jefferson Street Subway Station
= Bus Stop

1160 Flushing Ave Rezoning

Figure I-4a

Weekday AM/MD Peak Hour Pedestrian Volumes



Legend
= Projected Development Site 1
= Projected Development Site 2
= Projected Development Site 3
2/2 = Weekday PM/SAT Peak Hour Volume
= Pedestrian Element Analysis Locations
= Light Industrial Entrance
= Office/Community Facility Entrance
= Retail Entrance
L = Jefferson Street Subway Station
= Bus Stop

1160 Flushing Ave Rezoning

Figure I-4b

Weekday PM/Saturday Peak Hour Pedestrian Volumes

occurred in any consecutive 12 months of the most recent three-year period for which data are available.[1] Within the traffic and pedestrian study areas, Flushing Avenue, to the north of the Project Area, is a Vision Zero Priority Corridor. For high-crash locations, crash trends will be identified in the EIS to determine whether projected vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips.

Parking

Parking demand from the proposed commercial, retail and community facility uses typically peaks in the midday period and declines during the afternoon and evening. As no accessory parking would be provided on-site under the Proposed Action's RWCDS, detailed existing on-street and off-street parking inventories will be provided in the EIS to document the existing supply and demand during the weekday midday period. The parking analyses will document changes in the parking supply and utilization within a ¼--mile radius of the Project Area under both No-Action and With-Action conditions. Changes in the parking supply and utilization under both No-Action and With-Action conditions are also forecasted.

[1] Vision Zero seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside of a motor vehicle. Vision Zero corridors and intersections are identified as locations that disproportionately account for pedestrian fatalities and severe injuries, thus prioritizing them for safety interventions.

Attachment J
Air Quality

A. INTRODUCTION

Ambient air quality, or the quality of the surrounding air, may be affected by air pollutants produced by motor vehicles, referred to as "mobile sources"; by fixed facilities, usually referenced as "stationary sources"; or by a combination of both. Under City Environmental Review (CEQR), an air quality assessment determines both a proposed project's effects on ambient air quality and the effects of ambient air quality on the project.

As described in **Attachment A, "Project Description,"** the Applicant seeks CPC approval for a zoning map amendment that would facilitate the demolition of the existing single-story building on Projected Development Site 1 and the construction of the Proposed Project. The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway. The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gsf of retail uses; the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf of light industrial uses; and the remaining floors (three through nine) of the proposed nine-story building would contain approximately 121,786 gsf of commercial office uses. Three loading bays would be provided with a single curb cut along Flushing Avenue to satisfy the M1-5 zoning requirements associated with the proposed office, retail, and light industrial uses; no accessory parking spaces would be required under the proposed M1-5 zoning district. In total, the Proposed Project would contain approximately 238,104 gsf of new development.

In addition, it is assumed that Lots 29 and 40 (both of which are non-Applicant-owned) would each be redeveloped in the future with approval of the Proposed Action as well. It is anticipated that Lot 29 would be redeveloped with a six-story, predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space ("Projected Development Site 2"), and Lot 40 would be redeveloped with a five-story, predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space ("Projected Development Site 3").

The developments are anticipated to use fossil fuel(s) for heating/hot water, ventilation, and air conditioning (HVAC) systems, the Proposed Project would result in new uses within 400 feet of manufacturing or processing facilities, and the Proposed Project could potently include operation(s) of manufacturing processing facilities. As such, stationary source analyses were conducted to evaluate the development HVAC stack(s) emissions effects on ambient air quality, the effects of ambient air quality associated with existing manufacturing or processing facilities, and the potential effect of the Proposed Project potential air toxics emission on nearby land uses.

The peak hour project-generated traffic would not exceed the *CEQR Technical Manual* threshold for carbon monoxide (CO), nor would the Proposed Actions parking facilities exceed the threshold that requires a detailed analysis, nor do the developments be located near a highway or a very large parking facility. However, the project-generate peak hour heavy-duty diesel vehicles (HDDVs) traffic or its equivalent in vehicular would exceed the *CEQR Technical Manual* threshold. As such, an air dispersion analysis was conducted for the most effected intersection.

B. PRINCIPAL CONCLUSIONS

The air quality analysis determined that both the Proposed Actions effects on ambient air quality and the effects of ambient air quality on the projected development sites would not result in significant adverse air quality impacts. A summary of the analysis is presented below.

The analysis for the projected development sites' heating/hot water, ventilation, and air conditioning (HVAC) systems included a screening analysis for Projected Development Site 1 stack emissions, a screening analysis for Projected Development Sites 2 and 3 (cumulative screening analysis), and a detailed air dispersion analysis for Projected Development Site 3 stack emissions. There are no buildings similar or greater in height than Projected Development Site 1 in the 400-foot study area surrounding the Project Area, and as such, a detailed air dispersion analysis was not required (Projected Development Site 1 screened out). The screening analysis of Projected Development Sites 2 and 3 (cumulative screening analysis) on the nearest building of similar or greater height (Projected Development Site 1) screened out (no detailed analysis was not required). The detailed air dispersion analysis for Projected Development Site 3 stack emissions resulting concentrations at Projected Development Site 2 required certain stack and equipment control measures. The control measures, specified in the (E) Designation (E-674) on Projected Development Site 3, include stack height and location, fossil fuel type used, and use of low-NOx burner(s) in the HVAC equipment.

Projected Development Site 1 could potently include operation(s) of manufacturing processing facilities, occupying at most 40,732 gsf. A detailed analysis was conducted for land uses within 400 feet of the Projected Development Site 1. The analysis showed that potential air toxics emissions from the industrial/manufacturing uses introduced by the project would not result in significant adverse air quality impacts. The air toxics concentrations would not exceed the Annual and Short-Term Guideline Concentrations (AGCs and SGCs, respectively), the cumulative inhalation excess cancer risk or the cumulative hazardous quotient thresholds would not be exceeded, and criteria pollutants concentrations would be within the National Air Quality Standard (NAAQS) and/or the city *de minimis*.

The transportation trip-assignment analysis showed that no intersections would exceed the threshold of 170 vehicular trips (condition outlined in Sections 210 of Chapter 17 of *the CEQR Technical Manual*). Therefore, no CO detailed analysis is required. The screening analysis for the generate peak hour HDDVs traffic or its equivalent in vehicular emissions, depending on the type of road, showed exceedance at the intersections of Irving Avenue and Jefferson Street and the intersection of Irving Avenue and Troutman Street. $PM_{2.5}$ detailed air dispersion analysis was conducted for the intersection of Irving Avenue and Jefferson Street, the most effected intersection. The air dispersion analysis showed that the increment between the future with-action to the no-action $PM_{2.5}$ concentrations would not exceed the *de minimis* design values. Therefore, no significant adverse air quality impacts are expected at intersections effected by the project-generated traffic. In addition, the Proposed Actions would include no accessory parking spaces. Therefore, the Proposed Actions parking facilities screened out, and no detailed air quality analysis is required.

The silk screen facility Inkz Print Shop, a manufacturing or processing facility, is located in the 400 feet area surrounding the Project Area. Therefore, an air toxics air dispersion analysis was conducted for the facility. The industrial sources analysis showed that the air toxics emissions from the silk screening facility would not result in significant adverse air quality impacts on the Proposed Actions. The air toxics concentrations would not exceed the Annual and Short-Term Guideline Concentrations (AGCs and SGCs, respectively), and the cumulative inhalation excess cancer risk or the cumulative hazardous quotient thresholds would not be exceeded.

There are no Title V facilities nor Air State facilities (major or large sources) in the 1,000 feet study area surrounding the development sites. Therefore, a major/large source analysis was not required.

C. POLLUTANTS OF CONCERN

The Clean Air Act (CAA) is a comprehensive federal law that regulates all sources of air emissions. The CAA requires U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants that are common in outdoor air, considered harmful to public health and the environment, and that come from numerous and diverse sources. The EPA has identified six key pollutants considered harmful to public health and the environment. In addition, national and state regulations identified numerous other pollutants, primarily due to industrial activities.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas, which is primarily formed by incomplete combustion of carbon-containing fuels and by photochemical reactions in the atmosphere. Nationally, particularly in urban areas, the majority of CO emissions to ambient air come from mobile sources. The majority of these on-road CO emissions are derived from gasoline powered vehicles[1]. Because CO disperses quickly, its concentrations may vary greatly over relatively short distances. Elevated concentrations are usually limited to locations near congested intersections and along heavily traveled and congested roadways.

Nitrogen Dioxide VOC and Ozone

Nitrogen oxides (NOx) is emitted from both mobile and stationary sources. Nitric Oxide (NO) accounts for approximately 90% of the total oxidized nitrogen emitted. In the atmosphere, and in the presence of sunlight, NO reacts with radicals and ozone (O_3) to form mainly nitrogen dioxide (NO_2)[2]. Ground-level ozone is formed when volatile organic compounds (VOCs), also known as hydrocarbons, and nitrogen oxides (NOx) interact in the presence of sunlight. Because the reactions are slow and occur as the pollutants are transported downwind, elevated ozone levels are often found many miles from the sources of the precursor pollutants.

The zone of elevated NO_2 concentration from vehicular emission extends away from the roadway. Therefore, the effects of NOx (NO and NO_2) emissions from mobile sources are generally examined on a regional basis. The Proposed Actions would not substantially increase the vehicle mile traveled or stationary source emissions at a regional scale. Therefore, mesoscale (regional) analysis for ozone precursor is not required. The Proposed Actions would include stationary fuel combustion sources (boiler(s) for heating and hot water). Therefore, the proposed project's effects on local NO_2 concentration were evaluated.

Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)

Airborne particulate matter (PM) is a mixture of substances suspended in air as small liquid and/or solid particles. In contrast to the other criteria pollutants, PM does not have a unique chemical composition. These individual particles range in size from less than 0.01 µm to more than 10 µm. $PM_{2.5}$ is the abbreviation for fine PM with a diameter smaller than 2.5 microns. PM_{10} refers to particulates with diameter less than or

[1] EPA. *Integrated Science Assessment (ISA) for Carbon Monoxide (Final Report, Jan 2010)*. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/019F, 2010

[2] EPA. *Integrated Science Assessment (ISA) for Oxide of Nitrogen – Health Criteria (Final Report, Jan 2010)*. U.S. Environmental Protection Agency, Washington, DC, EPA/ EPA/600/R-15/068, 2016

equal to 10 micrometers. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye.

PM sources are both primary and secondary in nature. Primary sources are specific sources, such as particles produced by mechanical abrasion. Secondary PM sources originate from gas-phase chemical compounds that condensate with certain gasses or when different gasses react with each other. These small particles might then coagulate with other particles to form larger particles. Sulfur oxides, nitrogen oxides, and volatile organic compounds (VOC) are examples of PM precursors[3]. The burning of fossil fuel can produce both primary and secondary PM. $PM_{2.5}$ is extremely persistent in the atmosphere and has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles.

Anthropogenic sources of PM are prevalent in many activities. Common sources include fuel combustion, such as in boilers or vehicular engines, industrial processes, such as spray painting or sanding of wood, and construction activities. Fugitive road dust that gets airborne when vehicles traverse roadways is also a common source.

Sulfur Dioxide

Fossil fuel combustion is the main anthropogenic source of primary SO_2. The amount of SO_2 emitted is directly related to the amount of sulfur in the fuel. Therefore, fuels with low sulfur content produces little SO_2. Beginning in 2006, EPA began to phase-in more stringent regulations to lower the amount of sulfur in diesel fuel to 15 parts per million (ppm). This fuel is known as ultra-low sulfur diesel (ULSD). SO_2 is also a precursor for the formation of $PM_{2.5}$. As such, controlling SO_2 emissions, controls $PM_{2.5}$ concentrations.

The amount of SO_2 emitted from on-road vehicles is not significant. Therefore, mobile source analysis for SO_2 is not required. The developments could potentially include stationary fuel combustion sources (boiler(s) for heating and hot water), where fuel oil No. 2 is burned. Therefore, effects on local SO_2 concentration were examined.

Lead

Emissions of lead (Pb) have dropped substantially over the past 40 years as results of phasing out of Pb as an anti-knock agent in gasoline for on-road vehicles, and later from enhanced controls of the metal processing industry[4]. The Proposed Actions is unlikely to result in lead emission. Therefore, no analysis is required.

Air Toxics

Noncriteria pollutants, also referred to as toxic air pollutants or air toxics, are mainly associated with industrial sources. The CAA identifies 187 HAPs to be regulated by the EPA, where the EPA regulates their emissions. These are substances that cause or may cause cancer or other serious health effects. In addition, the New York State Department of Environmental Conservation (NYSDEC) identified numerous

[3] EPA. *Integrated Science Assessment (ISA) for Particulate Matter (Final Report, Dec 2019)*. U.S. Environmental Protection Agency, Washington, DC, EPA EPA/600/R-19/188, 2019

[4] EPA. *Integrated Science Assessment (ISA) for Lead (Final Report, Jul 2013)*. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/075F, 2013

other pollutants, known as "noncriteria pollutants," for which the EPA has no established standards, and these are pollutants of various toxicities.

D. AIR QUALTIY STANDARDS, REGULATIONS, AND BENCHMARKS

National and State Air Quality Standards

The EPA has established national ambient air quality standards (NAAQS) for seven of the most common air pollutants—known as "criteria" pollutants. The presence of these pollutants in ambient air is generally due to numerous diverse and widespread sources of emissions. The NAAQS primary standards are designed to protect public health with adequate margin of safety. The NAAQS secondary standards are designed to protect the public welfare from adverse effects, including those related to effects on soils, water, vegetation, visibility, and other aspects. As required by the Clean Air Act, EPA periodically conducts comprehensive reviews of the scientific literature on health and welfare effects associated with exposure to the criteria air pollutants. The NAAQS have been adopted as the ambient air quality standards for the State of New York.

The New York State Department of Environmental Conservation (NYSDEC) measures air pollutants at more than 50 sites across the state using continuous and/or manual instrumentation. These sites are a mix of federally-mandated and supplemental monitoring networks. The primary NAAQS and background concentrations from the nearest federally-mandated monitoring station(s) of the pollutant(s) that a detailed analysis was conducted for are presented in **Table J-1**.

Table J-1: NAAQS and Background Concentration Published in the NYSDEC 2020 Report

Pollutant	Averaging Period	National and State Standards	Background Concentration	Monitoring Station
$PM_{2.5}$	24-Hour	35 µg/m^3	18.7 µg/m^3	JHS 126
	Annual	12 µg/m^3	7.6 µg/m^3	
PM_{10}	24-Hour	150 µg/m^3	24 µg/m^3	Division Street
NO_2	1-Hour	188 µg/m^3	99.8 µg/m^3	Queens College
	Annual	100 µg/m^3	23.5 µg/m^3	
CO	1-Hour	35 ppm	2.13 ppm	
	8-Hour	9 ppm	1.60 ppm	
SO_2	1-Hour	196 µg/m^3	15.1 µg/m^3	
	Annual	80 µg/m^3	0.9 µg/m^3	
Note: Background concentrations NYSDEC Ambient Air Quality Report for 2020				

NAAQS Attainment Status and State Implementation Plans

The setting of the NAAQS in the CAA was coupled with directing the states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards. The Act was amended in 1977 and 1990 primarily to set new goals (dates) for achieving attainment of NAAQS. The CAA 1990 amendment requires that each state with a nonattainment area (NAA) to submit a State Implementation Plan (SIP) that delineates the control strategies to achieve compliance with the NAAQS. New York City complies with the NAAQS for SO_2, NO_2, CO and lead, but is designated as a NAA for 8-hour ozone. New York County is also designated as a NAA for PM_{10}. **Table J-2** summarizes the attainment status of Kings County for each pollutant.

Table J-2: Kings County NAAQS Attainment Status

Pollutant	Status	Designation Date
Carbon Monoxide (CO)	Attainment (Maintenance Area)	5/20/2002
Lead	Attainment	
Nitrogen Dioxide (NO_2)	Attainment / Unclassified	
Ozone (O_3) Standard (2008-2015)	Nonattainment (Moderate)	8/3/2018
Respirable Particulate Matter (PM_{10})	Attainment / Unclassified	
Fine Particulate Matter ($PM_{2.5}$)	Attainment (Maintenance Area)	04/18/2014
Sulfur Dioxide (SO_2)	Attainment / Unclassified	

All five New York City boroughs have been designated as a $PM_{2.5}$ NAA area under the CAA by exceeding both the 24-hour and annual average standard. On December 31, 2012, the EPA determined that the New York-Northern New Jersey-Long Island, NY–NJ–CT fine particle ($PM_{2.5}$) nonattainment area for the 2006 24-hour $PM_{2.5}$ NAAQS has attained the 2006 24-hour $PM_{2.5}$ NAAQS. On November 15, 2010 EPA determined that the area has attained the 1997 annual $PM_{2.5}$ NAAQS. On March 18, 2013 the EPA revised the annual $PM_{2.5}$ standard by lowering the level to 12.0 micrograms per cubic meter ($\mu g/m^3$). Effective April 18, 2014 all five New York City boroughs were re-designated in attainment and are under maintenance plan. The EPA designated New York County (Manhattan) as a nonattainment area for respirable particulate matter (PM_{10}). The other four New York City boroughs are designated as in attainment for the PM_{10} standards.

Historical monitoring data for New York City indicate that the ozone 8-hour standard is exceeded. To be in compliance, the 3-year average of the annual fourth highest maximum 8-hour average concentration should not exceed the ozone 8-hour standard. On March 2008, the EPA revised the 8-hour ozone NAAQS to 0.075 parts per million (ppm). On January 2016, the EPA revised the 8-hour ozone NAAQS to 0.070 ppm. On August 3, 2018 EPA designated the New York-Northern New Jersey-Long Island as moderate nonattainment. On July 19, 2017 NYSDEC requested (announcement made in a public hearing) that the EPA issue an expeditious reclassification to serious nonattainment so New York, New Jersey, and Connecticut have adequate time to develop complete SIPs that forecast attainment in the New York Metropolitan Area (NYMA) by the serious area deadline of July 20, 2021. On November 14, 2018 EPA proposed that the NYMA would be reclassified as serious nonattainment.

NO_2 NAAQS

The 1-hour NO_2 NAAQS was promulgated in the United States in February 2010. The 1-hour standard is based on a percentile rank from the annual distribution of daily maximum 1-hour values, averaged across the number of years processed. The 1-hour NO_2 modeled design value is based on the 98th percentile, or 8th highest, of the daily maximum 1-hour values across the year. For typical multi-year modeling analysis based on 5 years of National Weather Service (NWS) meteorological data, the modeled design value is the 5-year average of the 8th highest values for NO_2.

Nitrogen oxide (NOx) emissions from combustion consist predominantly of nitric oxide (NO) at the source. The NOx in these emissions is then gradually converted to NO_2. For determining compliance with the 1-hour standard, the EPA has developed a three-tiered modeling approach: a) Tier 1, the most conservative approach, assumes a full (100%) conversion of NOx to NO_2. b) Tier 2 is the Ambient Ratio Method 2 (ARM2) which assumes ambient equilibrium between NO and NO_2. AERMOD multiplies Tier 1 impacts with default ambient ratios, or source-specific NO_2/NO_x in-stack ratio (ISR) data (the national default minimum and maximum ambient ratios for the primary facility are 0.5 and 0.9, respectively.) c) Tier 3,

which is the most precise approach, accounts for the chemical transformation of NO emitted from the stack to NO_2 within the source plume using hourly ozone background concentrations.

NYC GUIDELINES - Determining the Significance of Air Quality Impacts

The city's *de minimis* criteria are used to determine the significance of the incremental increase in CO and $PM_{2.5}$ concentrations that would result as a consequence of the proposed project. The CO criteria set the minimum change in 8-hour average CO concentration that constitutes a significant environmental impact. Significant increase of CO concentrations in New York City are:

- An increase of 0.5 parts per million (ppm) or more in the maximum 8-hour average CO concentration at a location where the predicted No-Action 8-hour concentration is equal to 8 ppm or between 8 ppm and 9 ppm; or
- An increase of more than half the difference between baseline (i.e., No-Action) concentrations and the 8-hour standard, when No-Action concentrations are below 8 ppm.

The following criteria are used for determination of significant adverse $PM_{2.5}$ incremental impacts for projects subject to CEQR:

- Predicted 24-hour maximum $PM_{2.5}$ concentration increase of more than half the difference between the 24-hour background concentration and the 24-hour standard; or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or for mobile sources, at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.3 $\mu g/m^3$ at any receptor location for stationary sources.

Accordingly, the 8-hour CO *de minimis* design value is 3.70 ppm and 24-hour $PM_{2.5}$ *de minimis* design value is 8.15 $\mu g/m^3$.

Noncriteria Pollutants

The NYSDEC Department of Air Resources established short-term (one-hour) and annual concentrations standards for certain noncriteria pollutants. The standards are acceptable ambient levels for these pollutants, which are based on human exposure. The New York State standards for noncriteria pollutants are published in the DAR-1 guidance document (latest version dated February 12, 2021). DAR-1 presents Annual and Short-Term Guideline Concentrations (AGCs and SGCs, respectively) for contaminants that range in toxicity from high to low. The AGCs and SGCs are annual and 1-hour guideline concentrations, respectively, for potentially toxic or carcinogenic air contaminants. In addition, NYSDEC also regulates pollutants that produce discomfort due to odors, where significant discomfort is evaluated on quantity, characteristic, or duration. The AGC and SGC concentration standards of compounds emitted from existing manufacturing or processing facilities in the area are presented in **Table J-3**.

Table J-3: Relevant Noncriteria Pollutants Guidelines - NYSDEC

Pollutant Name	CAS Number	SGC ($\mu g/m^3$)	AGC ($\mu g/m^3$)
Benzyl Alcohol	100-51-6	1300.0	350.0
Cyclohexone	108-94-1	20000.0	190.0
Butoxyethyl Acetate	112-07-2	---	310.0
Diacetone Alcohol	123-42-2	---	570.0
Source: NYSDEC, DAR-1 AGC/SGC Tables, Feb. 2021.			

Of the chemicals presented in **Table J-3**, Butoxyethyl Acetate is Hazardous Air Pollutants (HAPs).

The AGC and SGC concentration standards of compounds that could be emitted from the Proposed Actions manufacturing or processing operations are presented in **Table J-4**.

Table J-4: Relevant Noncriteria Pollutants Guidelines - NYSDEC

Pollutant Name	CAS Number	SGC ($\mu g/m^3$)	AGC ($\mu g/m^3$)	Note
Methyl Chloroform	00071-55-6	9000	5000	Hazardous Air Pollutants (HAP) or Other Carcinogen (2)
Hydrogen Cyanide	00074-90-8	340	0.8	
Dibutyl Phthalate	00084-74-2	---	12	
Toluene	00108-88-3	37000	5000	
Sodium Cyanide	00143-33-9	380	3.5	
Copper Cyanide	00544-92-3	380	3.5	
Lead Dio~~O~~xide	01309-60-0	---	0.044	
Xylene Mixt	01330-20-7	22000	100	
Lead Oxide	07439-92-1	---	0.038	
Zinc	07440-66-6	---	45	
Hydrogen Chloride	07647-01-0	2100	20	
Glycerin	00056-81-5	No CAS	No CAS	
Ethanol	00064-17-5	---	45000	
Isopropyl Alcohol	00067-63-0	98000	7000	
Acetone	00067-64-1	180000	30000	
Butoxyethanol, 2-	00111-76-2	4700	1600	
Butyl Acetate	00123-86-4	71300	565	
Ethyl Acetate	00141-78-6	---	3400	
Carbon Monoxide	00630-08-0	40000	N.A.	
Iron Oxide	01309-37-1	---	12	
Aluminum	07429-90-5	---	2.4	
Copper	07440-50-8	100	0.48	
Zinc Chloride	07646-85-7	200	2.4	
Ammonia	07664-41-7	2400	500	
Nitric Acid	07697-37-2	86	12.3	
VM&P Naphtha	08032-32-4	---	900	

Note:
1. Source: NYSDEC, DAR-1 AGC/SGC Tables, Feb. 2021.
2. Hazardous Air Pollutants (HAP), or AGC equivalent to one in a million excess cancer risk, or ACGIH Human Carcinogen, or ACGIH Suspected Human Carcinogen.

Of the chemicals presented in **Table J-4**, Methyl Chloroform, Hydrogen Cyanide, Dibutyl Phthalate, Toluene, Sodium Cyanide, Copper Cyanide, Lead Dioxide, Xylene Mixt, Lead Oxide, Zinc, Hydrogen Chloride are carcinogens, listed Hazardous Air Pollutants (HAPs) by the EPA. In addition to evaluating each chemical with its AGCs standard, cumulative noncriteria pollutants concentration is evaluated with the inhalation risk or the hazardous quotient. The inhalation risk is applicable to carcinogens pollutants and the hazardous quotient is applicable to non-carcinogenic pollutant.

E. MOBILE SOURCE ANALYSIS

According to the *CEQR Technical Manual*, projects may result in significant mobile source air quality impacts when they increase or cause a redistribution of traffic, create any other mobile sources of pollutants (e.g., diesel trains, helicopters, boats), or add new uses near mobile sources (e.g., roadways, garages, parking lots). Detailed analyses are required to predict whether a proposed action could potentially result in significant adverse air quality impact if certain threshold criterions are met or exceeded. Proposed actions that do not meet or exceed the threshold criterions (screen out) are not expected to result in mobile source impacts.

Screening Assessment

Project-Generated Traffic

Screening analyses for the project's peak hour auto traffic and peak hour heavy-duty diesel vehicle (HDDVs) traffic were conducted. Per the *CEQR Technical Manual*, a detailed analysis for carbon monoxide (CO) is required if the project generated peak hour auto traffic or diversion of existing peak hour traffic would result in an increment of 170 auto trips (in this area of the city). A detailed analysis for particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$) is required if the project generated peak hour HDDVs traffic or its equivalent in vehicular emissions, depending on the type of road, would be met or exceeded.

According to the transportation analysis for this project, the Proposed Project would generate a total of 318, 287, 356 and 246 net vehicle trip ends (inbound and outbound combined) during the AM, midday, PM, and Saturday peak hour periods, respectively.

The trip assignment's peak-hour increments at seven intersections were assessed for CO and HDDVs screens. However, none of the identified intersections would exceed the threshold of 170 vehicular trips (condition outlined in Sections 210 of Chapter 17 of *the CEQR Technical Manual*). Therefore, no further analysis of CO is required. The analyzed intersections and the maximum peak-hour traffic traversing each intersection are listed below:

- Flushing Avenue and Irving Avenue – 133 vehicle per hour at the PM peak-hour period.
- Flushing Avenue and Stewart Street – 133 vehicle per hour at the AM peak-hour period.
- Flushing Avenue and Wyckoff Avenue – 111 vehicle per hour at the AM peak-hour period.
- Wyckoff Avenue and Jefferson Street – 121 vehicle per hour at the PM peak-hour period.
- Wyckoff Avenue and Troutman Street – 67 vehicle per hour at the AM peak-hour period.
- Irving Avenue and Troutman Street – 59 vehicle per hour at the PM peak-hour period.
- Irving Avenue and Jefferson Street – 82 vehicle per hour at the midday peak-hour period.

The $PM_{2.5}$ equivalent truck calculation in vehicular emission screen ranges from 12 to 23 HDDVs depending on the type of road. All autos were assumed to be LDGT1 class vehicles, based on guidance from the New York City Department of City Planning (DCP). Truck traffic was assigned to truck routes and distributed between Cypress Avenue and Varick Avenue. The worst-case HDDVs or its equivalent in vehicular emissions would result in a maximum of 40 equivalent trucks at the intersection of Irving Avenue and Jefferson Street during the weekday midday peak-hour period. The intersection of Irving Avenue and Troutman Street also exceeded the HDDVs screen threshold (28 HDDVs during the weekday PM peak-hour period). **Table J-4** shows the *CEQR Technical Manual* Equivalent Truck Calculation for the intersection of Irving Avenue and Jefferson Street.

As seen in **Table J-5**, the Irving Avenue and Jefferson Street intersection fails the $PM_{2.5}$ equivalent truck calculation in vehicular emission during all peak-hour periods, and the intersection of Irvine Avenue and Troutman Street fail the HDDVs screen during the all peak-hour periods except the AM peak-hour period. Therefore, a detailed analysis is required.

Table J-5: *CEQR Technical Manual* Equivalent Truck Calculations for the Intersection of Irving Avenue and Jefferson Street and the Intersection of of Irving Avenue and Troutman Street

Intersection	Roadway Classification (Threshold HDDVs screen) [1]	Peak-Hour Period	Truck Per Hour	Auto Per Hour	Equivalent Truck	Pass / Fail
Irving Avenue and Jefferson Street	Local (12)	AM	0	66	32	Fail
		MD	0	82	40	Fail
		PM	0	74	36	Fail
		SAT	0	69	33	Fail
Irving Avenue and Troutman Street	Local (12)	AM	0	23	11	Pass
		MD	0	44	21	Fail
		PM	0	59	28	Fail
		SAT	0	36	17	Fail

Note: Roadway classification obtained from the New York State Department of Transportation (NYSDOT) map application (Feb. 2020). https://gis3.dot.ny.gov/html5viewer/?viewer=FC.

Because the intersection of Irving Avenue and Jefferson Street represent the worst-case condition (40 HDDVs compared with 28 HDDVs at the Irving Avenue and Troutman Street intersection), a detailed analysis was conducted for the intersection of Irvine Avenue and Jefferson Street.

Parking Garage

The Proposed Actions would not include any accessory parking spaces. Therefore, no analysis is required.

Existing Mobile Source of Pollutants

According to the *CEQR Technical Manual*, projects that would result in new sensitive uses within 200 feet of an atypical roadway or near other major mobile source of pollutant may result in significant adverse mobile source air quality impacts. The Proposed Project is not located near a highway or a very large parking facility, and thus, significant adverse air quality impact due to existing major mobile source of pollutants is unlikely. Therefore, no further analysis is required.

Detailed Intersection Analysis

Methodology

Mobile source impacts are a function of vehicular related emissions and pollutants' dispersion. Emissions of vehicular mechanical components (exhaust, crank case, break ware, and tire wear) were generated with the EPA's MOVES2014b. Fugitive road dust emissions were added to estimate total particulate matter emissions. Pollutants' concentrations at sensitive receptors were modeled with Lakes Environmental CALRoad, the commercial version of EPA's CAL3QHCR dated 13196 Gaussian dispersion model.

The MD peak hour period traffic was analyzed for both the annual and 24-hour averaging times (tier 1 approach). Queens County vehicle population in 2026 database, part of MOVES database, was used to

further classify vehicle types and engines technologies. No-Action traffic was assumed to travel at 15-mile per hour and With-Action at 10-mile per hour. The MOVES model was run for the time scale of January MD (12-1 PM) weekday. The latest MOVES database (2017) for inspection/maintenance, fuel data, age distribution, and meteorology were obtained from the NYSDEC for the borough of Queens.

In addition to vehicular mechanical and combustible related $PM_{2.5}$ emissions, vehicle related $PM_{2.5}$ emissions of dust generated by vehicles traveling on roadways were added to estimate total particulate matter emission factors for the short-term analysis (per the New York City Department of Environmental Protection (DEP), annual fugitive dust emission is negligible). Both Irving Avenue and Jefferson Streets are paved roadways[5]. Slit loading factors of 0.4 for paved roadway was obtained from the *CEQR Technical Manual*, and the equation from Section 13.2.1-3 of EPA's AP-42 manual was used to calculate each link's fugitive dust emission factor. In addition, based on DEP guidance, the conservative assumptions of "dry" road condition was used for the short-term calculation (precipitation reduced silt loading).

Dispersion analysis was conducted using the EPA's CAL3QHCR dispersion model version 13196 (Lakes Environmental CALRoad commercial version). $PM_{2.5}$ concentrations were predicted with model-ready meteorology data, obtained from DCP. Models specified settling and deposition velocities of 0-meter per second, 60-minute averaging time, and urban surface roughness of 108-centimeter (applicable to single family residential land use). Links were modeled as free flowing, at grade, links. Short-term receptors were placed in the middle of sidewalks at 1.8-meter height around the intersection in spaced intervals. Annual receptors were placed 15-meter from the curb side at 1.8-meter height in spaced intervals. Map application built into Lakes Environmental, Inc. CALRoad was used to spatially locate links and receptors.

Dispersion Analysis Results

The With-Action 24-hour $PM_{2.5}$ concentration and the annual $PM_{2.5}$ increment between the With-Action and No-Action concentration were evaluated with the NYC Guideline, *de minimis*. **Table J-6** shows the dispersion analysis results.

Table J-6: Irving Avenue and Jefferson Streets Dispersion Analysis Results

Pollutant and Averaging Time	Modeled Concentration	Increment	Threshold Concentration	Threshold Standard
$PM_{2.5}$ 24-hour	2.92 µg/m^3	2.92 µg/m^3	8.15 µg/m^3	*de minimis*
PM2.5 Annual With -Action (1)	0.05 µg/m^3	0.05 µg/m^3	0.1 µg/m^3	*de minimis*
Note: As the annual With-Action concentration is less than 0.1 µg/m^3, No-Action concentration was not considered (assumed 0 µg/m^3 and maximizing the increment).				

As seen in **Table J-6**, the Proposed Actions $PM_{2.5}$ increment concentrations do not exceed the *de minimis* (24-hour or annual averaging times). Therefore, no significant adverse air quality impacts are expected at intersections effected by the project-generated traffic. However, as there is the potential for the transportation planning factors and/or the No-Action or With-Action traffic volumes associated with this application's transportation analysis to be modified during agency review of the Draft Scope of Work (DSOW) and/or the targeted EIS, the detailed mobile source air quality analysis will be included in the EIS so as to ensure that the detailed mobile source air quality analysis is consistent with the detailed traffic analysis presented in the EIS.

[5] https://gis.dot.ny.gov/html5viewer/?viewer=FC

F. STATIONARY SOURCE ANALYSIS

Heating and Hot Water Systems

Per the *CEQR Technical Manual*, the HVAC analysis considers the potential for emissions from the HVAC system of the Proposed Actions to result in development that significantly impact existing land uses (project-on-existing), and the potential of the Proposed Actions to result in two or more developments that significantly impact each other (project-on-project). Based on CEQR guidance, a preliminary screening assessment is to be conducted as a first step to predict whether the potential impacts of the heat and hot water system(s) boiler emissions can be significant. The screening analysis determines the threshold of development size below which the action would not have a significant impact. This CEQR screening procedure is applicable to buildings that are not less than 30 feet from the nearest building of similar or greater height. Otherwise, a detailed dispersion analysis is required.

Screening Analysis

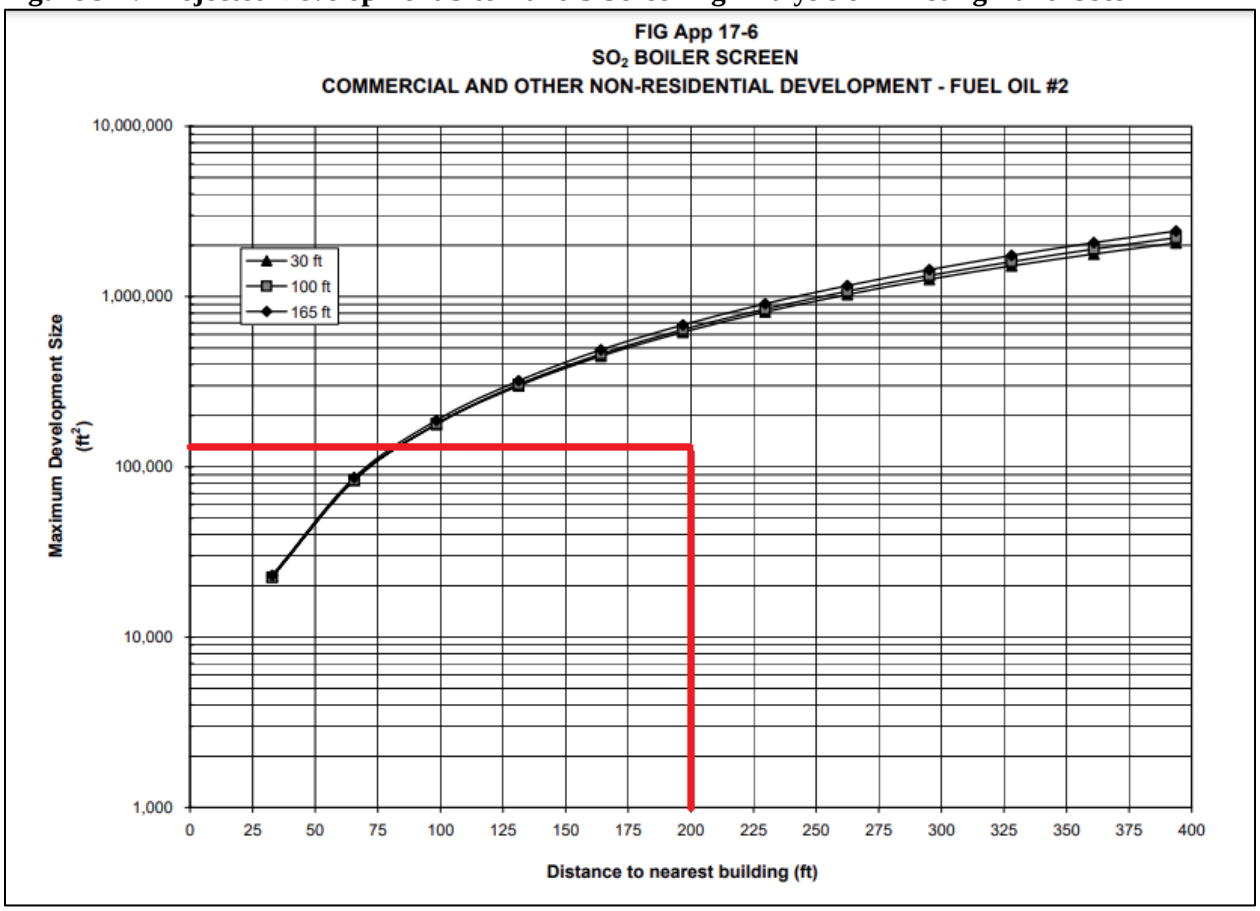
The potential for the heat and hot water system(s) to have a significant adverse impact on nearby receptors depends on the type of fuel that would be used by the HVAC system, the height of the stack venting the emissions, the distance to the nearest building of similar or greater height, the building's use which effects and the square footage of the development that would be served by the system which effects the amount of fossil fuel consumed. The *CEQR Technical Manual* screening analysis is based on these factors. A detailed analysis is required if the screening analysis failed.

As screening analysis is only applicable to a single smokestack, for the purposes of a cumulative screening analysis emissions from multiple stacks were combined in a single stack situated as close as possible to the receiving building. In addition, according to 15 RCNY 2-15, no new boiler or burner installations may use No. 6 or No. 4 fuel oils. Therefore, the highest-emitting fuel that could be used is No. 2 fuel oil. The following screening analyses were conducted:

- Project-on-Existing – Projected Development Site 2 and 3 on existing land uses: Based on the methodology above, Projected Development Sites 2 and 3 were combined and analyzed as a 71-foot tall commercial building, containing 135,348 gsf. For the screening analysis purposes, it is assumed that fuel oil No. 2 would be used in the HVAC system. A distance of approximately 200 feet, which is the distance between Projected Development Site 2 and the planned hotel development at 25 Stewart Avenue (Block 2994, Lot 75), was used in the screening analysis. The CEQR nomograph, depicted on Figure 17-6 of the *CEQR Technical Manual Appendices*, was used for the screening analysis and is for Oil No. 2 fueled boiler serving commercial and other non-residential development. **Figure J-1** (using Figure 17-6 of the *CEQR Technical Manual Appendices*) shows the screening analysis.

  As seen in the screening analysis (see **Figure J-1**), using the nomograph provided in the *CEQR Technical Manual*, Projected Development Sites 2 and 3 on the closest existing building with a similar or taller building height would fall below the curve for fuel oil No. 2. As such, Projected Development Sites 2 and 3 pass the HVAC screening analysis on existing land uses.

Figure J-1: Projected Development Site 2 and 3 Screening Analysis on Existing Land Uses

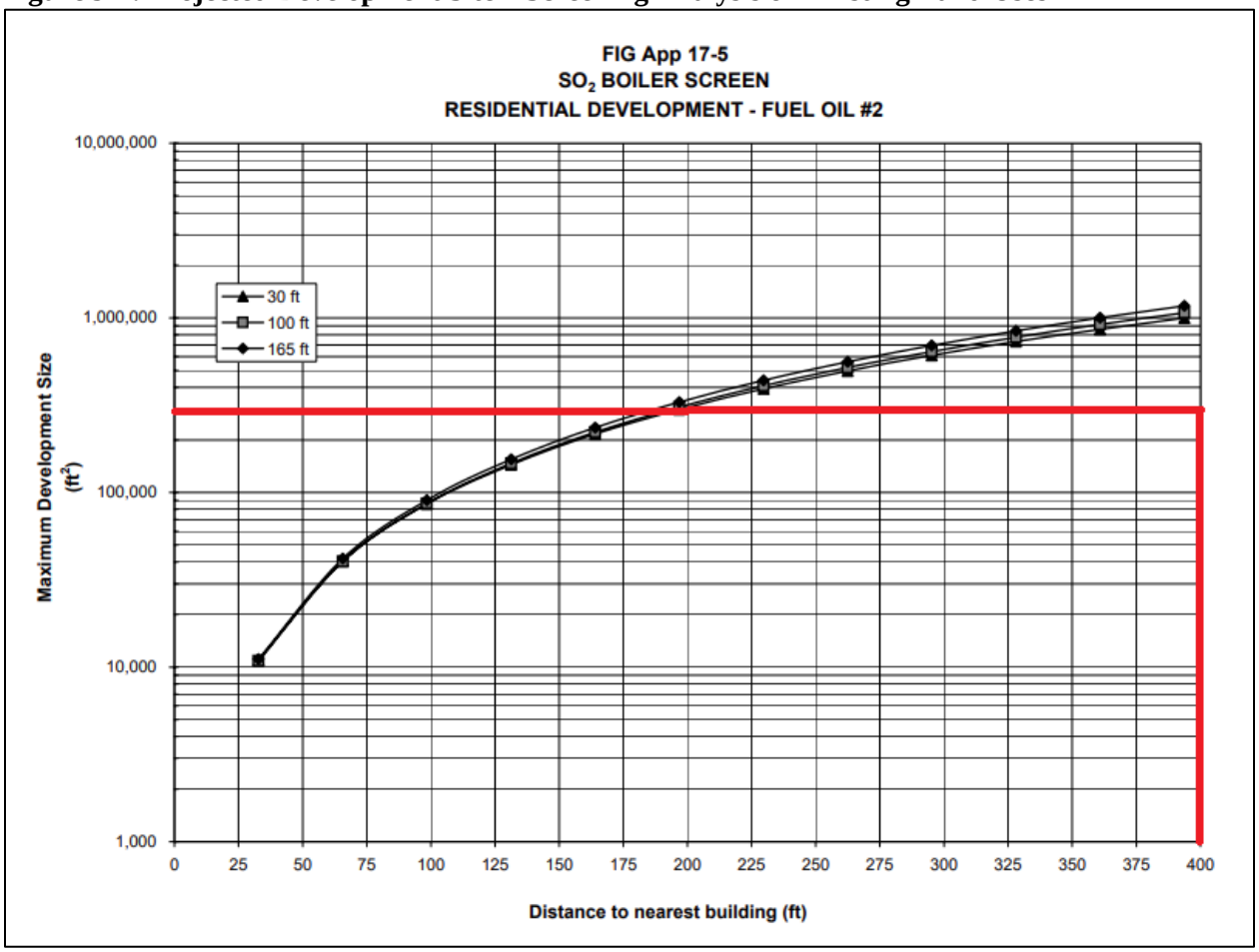


- Project-on-Existing – Projected Development Site 1 on existing land uses: For screening analysis purposes, it was assumed that Projected Development Site 1 is a 138-foot-tall residential building containing 298,077 gsf and that fuel oil No. 2 would be used in the HVAC system.[6] A distance of 400 feet (the *CEQR Technical Manual* maximum distance) was used in the analysis as there are no existing buildings located within 400 feet of Projected Development Site 1 that are 138-feet or taller. **Figure J-2** (using Figure 17-6 of the *CEQR Technical Manual Appendices*) shows the screening analysis.

  As seen in the screening analysis **Figure J-2**, using the nomograph provided in the *CEQR Technical Manual*, Projected Development Site 1 on the closest existing building with a similar or taller building height would fall below the curve for fuel oil No. 2. As such, Projected Development Site 1 passes the HVAC screening analysis on existing land uses.

[6] For conservative analysis purposes, the building height of the Proposed Project (138 feet) was used for this analysis rather than the height of the RWCDS building (208 feet) at Projected Development Site 1.

Figure J-2: Projected Development Site 1 Screening Analysis on Existing Land Uses

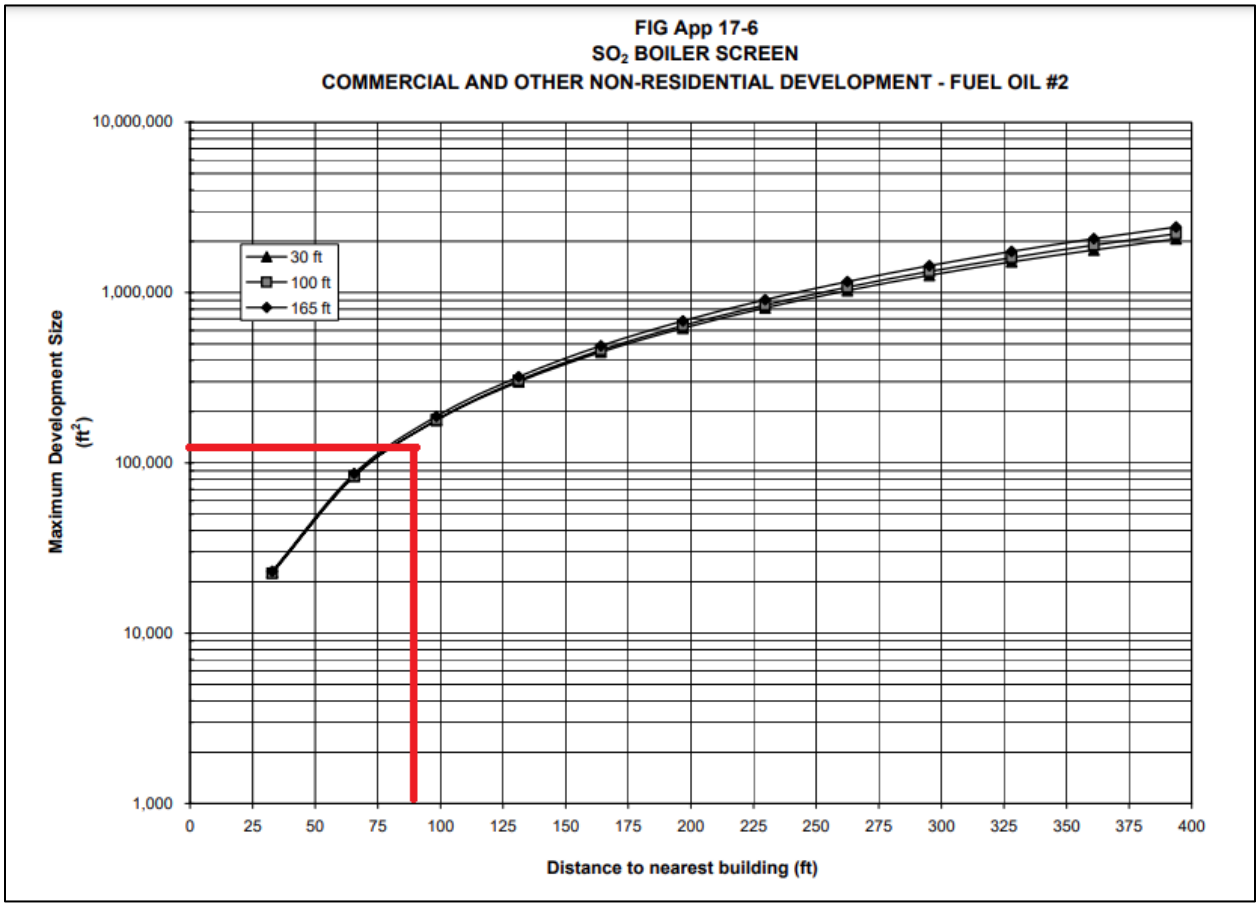


- Project-on-Project – Projected Development Site 2 and 3 on Projected Development Site 1: As described above, for conservative analysis purposes, it is assumed that Projected Development Sites 2 and 3 are combined and analyzed as a 71-foot tall commercial building containing 135,348 gsf. For the screening analysis purposes, it is assumed that fuel oil No. 2 would be used in the HVAC system. A distance of 90 feet, which is the distance between Projected Development Site 2 and Projected Development Site 1 was used in the screening analysis.[7] **Figure J-3** (using Figure 17-6 of the *CEQR Technical Manual Appendices*) shows the screening analysis.

  As seen in the screening analysis **Figure J-3**, using the nomograph provided in the *CEQR Technical Manual*, Projected Development Sites 2 and 3 on Projected Development Site 1 would fall below the curve for fuel oil No. 2. As such, Projected Development Sites 2 and 3 pass the HVAC screening analysis on Projected Development Site 1.

[7] The distance between Projected Development Site 3 and Projected Development Site 1 is 115 feet. As such, for conservative analysis purposes, a distance of 90 feet was used as a reasonable worst-case.

Figure J-3: Projected Development Site 2 and 3 Screening Analysis on Projected Development Site 1



- Project-on-Project – Projected Development Site 3 on Projected Development Site 2: As Projected Development Site 3 abuts Projected Development Site 2, the screening analysis is not applicable, and a detailed analysis is required.

Detailed Analysis

Methodology

A stationary source modeling was conducted to evaluate the potential impacts associated with the boilers stacks emissions. Lakes Environmental MPI executable was used in the analysis. The MPI executable take advantage of computers with multiple processors, reducing run-time significantly. Lakes Environmental has adjusted the US EPA AERMOD source code and recompiled the model to parallelize the processing of receptors. The latest MPI executable (used in the analysis) modified the EPA's AERMOD latest executable model version 19191. The AERMOD model incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. The model was run with the regulatory default option and for both with and without downwash effects options, where the Building Profile Input Program (BPIP) was run with the downwash effect enabled. All analyses were conducted using the latest five consecutive years of meteorological data (2015-2019), obtained from the NYSDEC, Division of Air Resources, BAQAR, Impact Assessment and Meteorology Section. Surface data used in the analysis is from LaGuardia Airport, upper air data is from Brookhaven station, New York. The meteorological data was processed using the latest

versions of AERMINUTE, AERSURFACE and AERMET. The meteorological data provided hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5-year period. Population in Brooklyn county, obtained from the U.S. Census Bureau (July 2019), was specified to account for the effects of increased surface heating from an urban area on pollutant dispersion under stable atmospheric conditions.

Natural gas would be the type of fuel used in Projected Development Site 3's boiler(s) and the burner(s) would be low-NOx burners. The pollutants of concern of natural gas fueled boilers are NO_2 and $PM_{2.5}$. The boiler's energy intensity was calculated based on energy consumption rate, obtained from the *CEQR Technical Manual Appendices*, corresponding to non-residential use in the building. Emissions were calculated based on emission factors obtained from the EPA's AP-42 manual for external combustion sources.[8] All fuel was assumed to be consumed during the 100-day (or 2,400 hour) heating season, based on *CEQR Technical Manual* guidance. **Table J-7** shows the boiler's energy intensity and pollutants emission rates.

Table J-7: RWCDS HVAC Systems Short-term and Annual Emission Rates

Site ID	Development Site RWCDS Floor Area (gsf)	Boiler's Energy Intensity (MMBtu); Fuel Used	Pollutant	Short-term Emission Rate (g/s)	Annual Emission Rate (g/s)
Projected Development Site 3	38,797	0.75; Natural gas Low-NOx	NO_2	4.60E-03	1.26E-03
			$PM_{2.5}$	7.00E-04	1.92E-04

The *CEQR Technical Manual* default stack's diameter and exhausts exit velocity were applied in the analysis. The stacks exit temperatures were assumed to be 426°K, which is appropriate for boilers. Projected Development Site 3's HVAC stack was located on the building's highest-level, 3 feet above the roofline, and as close as possible to the receiving building. A stack set back distance was specified if impact was predicted.

The projected development sites were modeled as buildings that cover their entire lot(s) area(s) (the wall façade located on the outer lot lines) and rise to their RWCDS heights. Buildings in the surrounding area were accounted for in the downwash effect on plums dispersions (BPIP). Receptors on the receiving building were placed on all wall façade from the ground floor to the roof-top height in spaced intervals.

The USGS National Elevation Dataset (NED) 1/3 arc-second resolution (GeoTIFF dataset), the terrain data set recommended by the US EPA for use in the United States for regulatory purposes, was used to process buildings base elevations. The base elevations of receptors and stacks were set to their buildings base elevations. Roof heights of buildings in the area were obtained from the NYC Building Footprint database.[9]

24-hour $PM_{2.5}$ was modeled with 1st highest output concentration, which is the *de minimis* requirement. The 1-hour NO_2 concentration was modeled with 8th highest concentration (the NAAQS design value) and a Tier 2 approach (ARM 2), where the national default in-stack and ambient ratios of 0.5 and 0.9, respectively, were applied.

[8] EPA. *Compilation of Air Pollutant Emission Factors AP-42 Fifth Edition, Vol. 1:* Chapter 1: External Combustion Sources, https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf. July 1998.

[9] City of New York, nyc-geo-metadata (May 03, 2016); https://data.cityofnewyork.us/Housing-Development/Building-Footprints/nqwf-w8eh

Results of Dispersion Analyses

Each pollutant averaging time was modeled twice; with building wake effect enabled/disabled. The predicted concentrations are the highest concentration of these. The NO_2 modeled concentrations were added to the background concentrations. The $PM_{2.5}$ modeled concentrations were evaluated with the *de minimis* design values for stationary sources. The HVAC dispersions analysis results are shown in **Table J-8**.

Table J-8: Concentrations at Projected Development Site 2 - HVAC Dispersion Analysis

Pollutant and Averaging Time	Modeled Concentration ($\mu g/m^3$) [(2)]	Background Concentration ($\mu g/m^3$)	Evaluated Concentration ($\mu g/m^3$)	Threshold Concentration ($\mu g/m^3$)	Threshold Standard
1-hour NO_2	81.94	99.8	**182**	**188**	NAAQS
Annual NO_2	1.39	23.5	**25**	**100**	NAAQS
24-hour $PM_{2.5}$	5.69	18.7	**5.69**	**8.15**	*de minimis*
Annual $PM_{2.5}$	0.22	7.6	**0.22**	**0.3**	*de minimis*

The concentrations shown in **Table J-8** were predicted with certain restrictions to ensure that no significant adverse air quality impact(s) would occur. The restrictions for the Proposed Actions are specified in the Air Quality E-Designations that would be placed on the Development Site(s), which are detailed further below.

Existing Industrial Sources

Identifying Potential Emission Sources

Per the *CEQR Technical Manual*, projects that would result in new uses (particularly schools, hospitals, parks, and residences) within 400 feet of manufacturing processing facilities may result in potentially significant adverse impacts. The analysis first determines if there are any existing manufacturing uses within the 400-foot study area containing exhaust stacks, vents, or other emission sources that may have the potential to adversely affect the uses introduced by the project. If warranted, an air dispersion analysis is then conducted for any existing industrial source(s) located in the study area.

Existing manufacturing uses with exhaust stacks, vents, or other emission sources that may have the potential to adversely affect the uses introduced by the project were identified by reviewing the DEP online Clean Air Tracking System (CATS) database, the NYSDEC map application (DECinfo Locator), and through a field survey. The field survey took place on March 1st, 2021.

The study area encompasses all or part of Blocks 2994, 3001, 3002, 3007, 3166, 3167, 3168, 3175, 3176, 3177, 3188, and 3189, and includes properties along Flushing Avenue, St. Nicholas Avenue, Wyckoff Avenue, Irving Avenue, Varick Avenue, Stewart Avenue, Gardner Avenue, Ingram Street, Harrison Place, Jefferson Street, and Troutman Street. The area is characterized by predominantly commercial uses including warehousing and distribution, retail stores, bars and restaurants, contractor's yards, artist and craftsman live/workspaces, event venues, and art galleries. The results of the study are as follows:

- There is a cancelled Processing permit for Reliable Coated Products at 28 Varick Avenue (Block 2994, Lot 105). Permit PA014185 was cancelled sometime before 11/22/1988. Reliable Coated Products no longer operates at this location. At the time of the field survey, the building at 28 Varick Avenue was occupied by wholesale consumer goods warehousing and distribution operations. No stacks, odors, or emissions were observed at this location.

- There are 18 Processing permits identified on Block 3001, Lot 1 (60 Stewart Avenue & 203 Harrison Place). Of these, 17 were issued to the Dialight Corporation, and all 17 permits were cancelled before 10/31/1992 (PA013380, PA013480, PA013580, PA027383, PA030285, PA030385, PA038771, PA039071, PA039271, PA039771, PA039971, PA049581, PA052881, PA052981, PA059981, PA060081, & PA215473). The Dialight Corporation no longer operates in the building on Block 3001, Lot 1. According to the company's website, the Dialight Corporation's United States manufacturing facilities are located in Farmingdale, New Jersey, and Houston, Texas. The other processing permit identified at this location was issued to Roy Albanese Plant, and this permit expired 6/29/87 (PA033981). Roy Albanese Plant no longer operates on Block 3100, Lot 1. The building on this lot is currently occupied by B(x) Spaces, which provides workspace for artists, crafts people, and small businesses. One of the identified businesses at this location is Inkz Print Shop, which is a small shop that specializes in silk screen printing of T-shirts. Inkz Print Shop emission stack (emission stack determined to be associated with the company based on company's website[10] and online search), was observed at this location during the field survey, and a detailed analysis was conducted for this facility. There were no other stacks, emissions or odors observed at this location during the field survey.

- There are four Processing permits identified at 1226 Flushing Avenue, Block 3168, Lot 1 (PA033481, PA033581, PA033681, PA033881). All four of these permits were issued to Anton Machine Works, and all four were cancelled prior to 6/29/91. Anton Machine Works no longer operates at 1226 Flushing Avenue. The building at 1226 Flushing Avenue is currently occupied by a Hotel. At the time of the site visit, an emergency diesel generator was present in an outdoor enclosure on the lot. This generator was not operating at the time, and no odors or emissions were observed. According to New York City Department of Buildings (DOB) records, an application for the installation of a 700-kW diesel emergency generator in an outdoor enclosure was approved on 11/24/04 and was signed off on 4/27/05 (Job Number 301866504). Emergency generators are exempt, and therefore, no analysis of this facility is required.

- There are four Processing permits identified at 1250 Flushing Avenue (Block 3168, Lot 14). All four of these permits were issued to El Dorado Coffee, and all four were cancelled prior to 8/2/99 (PA030080, PA024183, PA030180, PA024083). El Dorado Coffee no longer operates at 1250 Flushing Avenue. The building at 1250 Flushing Avenue is currently occupied by a plastic bag warehousing and distribution operation. No stacks, odors or emissions were observed at this location.

- There is a Processing permit identified at 362 Jefferson Street (Block 3176, Lot 13). Permit PA087289 was issued to European American Construction, and this permit was cancelled on 10/17/89. European American Construction no longer operates at this location. The building at 362 Jefferson Street is currently occupied by B(x) Spaces, which provides workspace for artists, crafts people, and small businesses. No stacks, odors or emissions were observed at this location.

- There are three Processing permits identified at 4 Wyckoff Avenue (Block 3176, Lot 34). Permits PB030101 and PA016493 were issued to Quality Chinese Laundry, and both permits were cancelled prior to 6/24/05. The third permit was issued to Chang Hahn (PA021697). This permit was cancelled on 5/16/97. Neither Quality Chinese Laundry nor Chang Hahn currently operate at 4 Wyckoff Avenue. At the time of the field survey, this lot was occupied by an event venue, and no stacks, odors or emissions were observed at this location.

- There are five Processing permits identified at 385 Troutman Street (Block 3176, Lot 44). Permits PA034683, PA034783, and PA034883 were issued to SC Plated Plastic, Inc., and all three permits were cancelled prior to 8/27/90. Permit PA037081 was issued to Plated Plastic, Inc., and was cancelled

[10] https://www.inkzny.com/services

sometime prior to 7/28/94. Finally, permit PA253173 was issued to Plastic Tech Enterprise and was cancelled sometime prior to 4/29/97. SC Plated Plastic, Inc., Plated Plastic, Inc. or Plastic Tech Enterprise do not currently operate at 385 Troutman Street. At the time of the site visit, the building at 385 Troutman Street was occupied by a residential apartment building, and no stacks, odors or emissions were observed at this location.

- There is one Processing permit identified at 17 Wyckoff Avenue (Block 3177, Lot 2). Permit PA061471 was issued to I. Zwornick & Sons. This permit was cancelled on 5/3/88. I. Zwornick & Sons no longer operates at 17 Wyckoff Avenue. At the time of the field survey, this lot was occupied by a residential apartment building with a ground floor restaurant, and no stacks, odors or emissions were observed at this location.

- There is one Processing permit identified at 1 Wyckoff Avenue (Block 3177, Lot 4). Permit PA001091 was issued to Nassau Tape & Thread Mills. This permit was cancelled on 1/8/91. Nassau Tape & Thread Mills no longer operates at 1 Wyckoff Avenue. According to information in the New York State Department of State, Division of Corporation's Entity Information database,[11] Nassau Tape & Thread Mills is inactive (Dissolution by Proclamation/Annulment of Authority – June 26th, 1996). At the time of the field survey, this lot was occupied by an industrial/warehouse building that appeared to be vacant. No stacks, odors or emissions were observed at this location.

- There are six Processing permits identified at 427 Troutman Street (Block 3177, Lot 25). All six of these permits were issued to the Putnam Rolling Ladder Company. Permits PA017392, PA019771, and PA063287 were all cancelled prior to 11/14/20. Permits PA019671, PA060772, and PB044805 are all current, and all expire on 11/14/23. The Putnam Rolling Ladder Company at 427 Troutman Street also has a NYSDEC Air Facility Registration Certificate (Registration ID 2-6104-00209/00003). In February of 2021, the Putnam Rolling Ladder Company was acquired by Custom Service Hardware of Cedarburg, Wisconsin. On March 1st, 2021, a telephone interview was conducted with Mr. Peter Monsees of the Putnam Rolling Ladder Company. Mr. Monsees confirmed that the Putnam Rolling Ladder Company had been acquired by Custom Service Hardware. He also stated that the Putnam Rolling Ladder Company had ceased operations in the building at 427 Troutman Street, and that they were in the process of vacating the building, which would be completed sometime in March of 2021. At the time of the site visit, the building at 427 Troutman Street appeared to be vacant. An air emission control device is visible on the roof of the building; however, no emissions from this device were noted. Given that it has been confirmed that the Putnam Rolling Ladder Company no longer manufactures at 427 Troutman Street, no analysis is required.

- There is one Processing permit identified at 421 Troutman Street (Block 3177, Lot 35). Permit PA244573 was issued to the George Hirn Co., Inc. This permit expired on 9/21/03. The George Hirn Co., Inc. no longer operates at 421 Troutman Street. At the time of the field survey, the building at 421 Troutman Street was occupied by a retail artwork framing business, and no stacks, odors or emissions were observed at this location. Therefore, no analysis is required.

In addition to the potential toxic air emission sources identified in the regulatory agency databases, the following potential sources of toxic air emissions were identified in the study area:

- There is an auto repair shop located at 1239 Flushing Avenue, Block 3002, Lot 3 (F&T Auto Repair Shop, Inc.). There is also an auto repair shop located at 1136 Flushing Avenue, Block 3167, Lot 6 (Flushing Auto Repair Center, Inc.). Both of these shops perform general auto repairs, and do not

[11] https://appext20.dos.ny.gov/corp_public/CORPSEARCH.ENTITY_SEARCH_ENTRY

perform auto body or painting operations. No stacks, odors, emissions, or indications of auto body painting operations were observed at either location.

- Billie-Ann Plastics is located at 360 Troutman Street (Block 3188, Lot 18). According to the company's website, Billie-Ann Plastics specializes in designing and manufacturing custom plastic packaging cylinders and containers. At the time of the field survey, this building appeared to be used for warehousing and distribution purposes, with stacks of boxes visible in the building. No stacks, odors or emissions were noted at this location.

  On March 15th, 2021 at 1:15 PM, a telephone interview was conducted with Mr. Bill Rubinstein, President of Billie-Ann Plastics. According to Mr. Rubinstein, the manufacturing operations in the building include the bending, folding, and forming of pre-made plastic sheets or rolls to make packaging containers. Billie-Ann Plastics does not manufacture any of the plastics used in the packaging, and there are not any air emissions associated with their packaging manufacturing operations. The operations also include a hot stamp printing process which is occasionally used to place custom labels on some of the plastic containers. However, these operations also do not produce any air emissions. Therefore, based on the observations made during the field survey, and the information provided by the company, the operations of Billie-Ann Plastics do not result in toxic air emission, and therefore, no analysis is required.

- There is a steel-products warehousing and distribution company (GCM Steel Products) located at 349 Troutman Street (Block 3176, Lot 59). There were not any indications of painting or other metal finishing operations observed at this location during the field survey. In addition, no stacks, odors or emissions were observed at this location.

There were no additional potential sources of toxic air emission identified in the study area.

Inkz Print Shop – Dispersion Analysis

Inkz Print Shop: The Inkz Print Shop facility is located at 201 Harrison Place (Block 3001, Lot 1) on the 2nd floor. The stack protruding through the 2nd floor window is located approximately 230 feet from the proposed project. Per the EPA *AP-42* manual *Chapter 4.11 textile Fabric Printing*, emissions associated with screen printing facilities are VOC from mineral spirit solvents in print pastes or inks. However, representative emission of a screening printing facility was obtained from the CEQR action *Industry City Final Environmental Impact Statement* (FEIS). The contaminants listed in the FEIS are specific chemicals and particulates (New York Identification Number NY075-00-0) as PM_{10}. Each specific chemical was analyzed with the SGC/AGC guideline concentration. PM_{10} concentration was evaluated with the NAAQS. The maximum 1-hour and annual emission rates of the chemicals that make up the representative coating compound, along with their CAS numbers, are presented in **Table J-9**.

Table J-9: VOC Emission Rates from the Inkz Print Shop Screen Printing Facility

Contaminant Name	CAS No.	1-Hour	Annual
		lb/hr	lb/yr
Benzyl Alcohol	100-51-6	0.06	51.7
Cyclohexone	108-94-1	0.02	18.8
Butoxyethyl Acetate (1)	112-07-2	0.006	4.7
Diacetone Alcohol	123-42-2	0.004	2.9
Naphtha Light	64742-95-6	0.04	30.4

Note:
1. Butoxyethyl Acetate is a Hazardous Air Pollutant (HAP)

The *CEQR Technical Manual* Industrial Source Screen methodology was used to predict pollutants' maximum short-term(s) and annual average concentrations. This methodology can be used to predict a pollutant concentration emitted from a single source at various distances (from 30 to 400 feet). The *CEQR Technical Manual* industrial source screen pre-tabulated concentrations are displayed in **Table J-10**.

Table J-10: *CEQR Technical Manual Table 17-3 Industrial Source Screen* Pre-Tabulated Concentrations

Facility Name	Distance from Source (ft)	1-Hour ($\mu g/m^3$)	8-Hour ($\mu g/m^3$)	24-Hour ($\mu g/m^3$)	Annual ($\mu g/m^3$)
Inkz Print Shop	230	2,657	1,720	924	131
Note: The *CEQR Technical Manual Table 17-3* pre-tabulated concentrations are based on a generic emission rate of 1 gram per second of a pollutant from a point source					

Table J-11 shows the pollutants predicted concentrations evaluated with the SGC/AGC standards.

Table J-11: Inkz Print Shop - Pollutants Concentrations and the SGC/AGC Standards (CEQR Industrial Source Screen Dispersion Analysis Result)

Contaminant	CAS No.	1-Hour	SGC	Annual	AGC
		($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)
Benzyl Alcohol	100-51-6	20.1	1300.0	0.097	350.0
Cyclohexone	108-94-1	6.7	20000.0	0.035	190.0
Butoxyethyl Acetate (1)	112-07-2	2.0	---	0.009	310.0
Diacetone Alcohol	123-42-2	1.3	---	0.005	570.0
Naphtha Light	64742-95-6	13.4	---	0.057	100.0
Particulates (PM_{10})	NY075-00-0	6.60	150		
Note: 1. Butoxyethyl Acetate is a HAP.					

As seen in **Table J-11**, the pollutants concentrations are within the SGC/AGC design values. In addition, the cumulative potential for significant impact was evaluated with the inhalation risk (for carcinogen pollutants) or the hazardous quotient. The inhalation risk for the HAP is 0.00003 (less than 1), and the hazardous quotient is 0.001 (less than 1) for the non-carcinogenic pollutants.

PM_{10} short-term concentration was evaluated with the NAAQS, where the average 24-hour emission was based on 8-hour activity rate (PM_{10} emission in the FEIS is based on 2,000 hour per year activity). **Table J-12** shows the PM_{10} 24-hour predicted concentration evaluated with the NAAQS.

As seen in **Table J-12**, PM_{10} predicted concentration is within the NAAQS. Therefore, no adverse air quality impacts on project-generated buildings are anticipated due to existing nearby industrial sources within the study area.

Table J-12: Inkz Print Shop – PM_{10} Concentration Evaluated With the NAAQS (CEQR Industrial Source Screen Dispersion Analysis Result)

Contaminant	24-Hour Emission Rate (lb/day)	24-Hour Increment Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
PM_{10}	1.36	6.60	24	31	150

Major and Large Source

Per the *CEQR Technical Manual*, projects that would introduce new uses near major sources, large sources, or odor producing facilities may result in potentially significant adverse air quality impacts. The study area considers major sources, large sources, and odor producing facilities within 1,000 feet of the proposed project. Major emission sources are identified as those sources located at Title V facilities; large emission sources are identified as sources located at facilities which require an Air State Facility permit. Solid waste or medical waste incinerators, asphalt and concrete plants, power generating plants, large boilers of large public facilities for example, and large industrial facilities are typical type of sources requiring these permits. Odor producing facilities are operations that have the potential to cause discomfort, such as: solid waste management facilities, water pollution control plants (i.e., sewage treatment plants), and incinerators.

No existing large combustion source(s), such as power plants, cogeneration facilities, etc., located within 1,000 feet of the proposed project, was identified in the study area. The nearest major/large source is the Wyckoff Heights Medical Center Air State Facility, which is located approximately 1,800 feet from the Project Area. In addition, no odor producing facility was identified within the 1,000 feet study area. As such, no significant adverse air quality impacts related to major source facilities is anticipated, and no further analysis is warranted.

Industrial Sources Introduced by the Proposed Project

The Proposed Project could potently include operation(s) of manufacturing processing facilities, occupying at most 40,732 gsf. The Proposed Project is similar to the approved applications for IBIA development projects located at 25 Kent Avenue (CEQR No: 16DCP065K; ULURP Nos: C 160124 ZSK; C 160125 ZSK; N 160126 ZRK), 103 North 13th Street (CEQR No: 18DCP182K, ULURP Nos: N 190083 ZRK; C 190084 ZSK; C 190085 ZSK), and 1 Wythe Avenue (CEQR No: 21DCP075K, ULURP Nos: 210272ZSK; N210273ZRK), all of which allocated a portion of their floor area to accommodate light industrial/manufacturing uses pursuant to IBIA regulations. Due to similarities between the Proposed Project and these three previously approved applications, the same approach and methodology was utilized for the Proposed Project.

Emission profile of the potential industrial manufacturing processing operation(s) was based on the previously mentioned approved applications for IBIA development projects. The analysis conservatively assumed that ten (10) of light industrial uses would operate simultaneously. Pollutants emitted by the manufacturing processing operation could potentially include $PM_{2.5}$, NOx, CO, and 25 noncriteria pollutants with varying toxicities. While particulate emission could be a mixture of $PM_{10}/PM_{2.5}$ combined, the analysis assumed that all particulate emission is $PM_{2.5}$ as a conservative measure ($PM_{2.5}$ standard (*de minimis* or NAAQS) is significantly more conservative than PM_{10} NAAQS.) **Table J-13** shows the emission rates of criteria pollutants emitted from the manufacturing processing operations.

Table J-13: Criteria Pollutants – Emission Rates From Industrial Sources Introduced By The Project

Facility Type	Pollutant	Emission Rate	
		(lb/hr)	(lb/yr)
Jewelry Cleaning	$PM_{2.5}$	0.001	0.002
Commercial Art & Graphic Design		0.068	26
Gold Precipitation		0.001	0.25
Baking of Cookies		0.011	21.1
Baking of Bread		0.008	15.4
Gold Precipitation	NOx	0.019	372
Baking of Cookies		0.07	134.4
Baking of Bread		0.046	88.3
Baking of Cookies	CO	0.001	1.92
Baking of Bread		0.001	1.90

Table J-14 shows the emission rates of noncriteria pollutants emitted from the manufacturing processing operations.

Table J-14: Noncriteria Pollutants – Emission Rates From Industrial Sources Introduced By The Project

Facility Type	Pollutant	CAS No.	Emission Rate	
			(lb/hr)	(lb/yr)
Commercial Art & Woodworking	Isopropyl Alcohol	00067-63-0	2.48	446
	Acetone	00067-64-1	4.5	810
	Methyl Chloroform	00071-55-6	4.8	864
	Butyl Acetate	00123-86-4	1.8	324
Jewelry Manufacturing	Zinc Chloride	07646-85-7	0.001	2
	Lead Oxide	07439-92-1	0.001	2
Jewelry Plating	Sodium Cyanide	00143-33-9	0.001	2
	Copper Cyanide	00544-92-3	0.001	2
Jewelry Cleaning	Sodium Cyanide	00143-33-9	0.002	0.5
	Hydrogen Cyanide	00074-90-8	0.002	0.5
	Ammonia	07664-41-7	0.001	0.002
Printing	Toluene	00108-88-3	2.12	4.23
	Xylene Mixt	01330-20-7	0.06	110
	Butoxyethanol, 2-	00111-76-2	0.07	147
Printing	VM&P Naphtha	08032-32-4	0.004	7.97
	Butoxyethanol, 2-	00111-76-2	0.042	84.04
	Glycerin	00056-81-5	0.011	22.41
	Aluminum	07429-90-5	0.003	34
	Iron Oxide	01309-37-1	0.002	25.5
	Copper	07440-50-8	0.001	3.6
	Zinc	07440-66-6	0.001	0.27
Commercial Art & Graphic Design	Butoxyethanol, 2-	00111-76-2	0.231	480
	Isopropyl Alcohol	00067-63-0	0.032	668
	Ethyl Acetate	00141-78-6	0.05	104
	Toluene	00108-88-3	0.444	888
	Acetone	00067-64-1	0.034	71
	Dibutyl Phthalate	00084-74-2	0.02	62
	Butyl Acetate	00123-86-4	0.3	624
	Ethyl Acetate	00141-78-6	0.05	104
Gold Precipitation	Sodium Cyanide	00143-33-9	0.001	2
	Lead Oxide	01309-60-0	0.09	18
	Nitric Acid	07697-37-2	0.033	64.3
	Hydrogen Chloride	07647-01-0	0.002	2.25
Baking of Cookies	Ethanol	00064-17-5	3.75	885
Baking of Bread	Ethanol	00064-17-5	3.75	885

AERMOD version 21112 was used to predict concentration at land uses within 400 feet of the Projected Development Site 1. The AERMOD modeling application and model setup are discussed in the HVAC analysis. Four stack locations set back from the rooftop edge were considered to predict maximum concentration. In addition, the stacks were raised to a height of 10 feet above the roof (148 feet above grade). The default stack parameters were specified for the industrial source stack, based on the *CEQR Technical Manual*. Receptors were placed around the envelope of the Projected Development Sites from ground floor to rooftop height in spaced intervals. Receptors for the existing land uses were placed in a grid extending 400 feet from the Projected Development Site 1 and at height of 6-53 feet above grade, which is the 2nd highest existing building within 400 feet of Projected Development Site 1. Receptors were also placed around the 116.5 feet tall building, located at 25 Stewart Avenue (Block 2994, Lot 75), from ground floor to rooftop height in spaced intervals.

CO and noncriteria pollutants concentrations were predicted with a generic emission rate of 1 gram per second. 1-hour NO_2 concentration was modeled with the 8th highest concentration (the NAAQS design value) and a Tier 1 approach. Twenty-four-hour $PM_{2.5}$ concentration was predicted with the 1st highest output (the *de minimis* design value) and specifying emission during 12-hour day, based on the approved applications for IBIA development projects (previously discussed applications). The model was run twice; with building wake effect enabled/disabled. The predicted concentration is the highest concentration of these. **Table J-15** shows the criteria pollutants dispersion analysis results.

Table J-15: Criteria Pollutants Dispersion Analysis Results – Concentrations At Locations No More Than 230 Feet From The Development Site, Excluding The William Vale Hotel

Criteria Pollutant	Increment (Modeled) Concentration	Background Concentration	Evaluated Concentration	Threshold Standard	Threshold Criteria
NO_2 1-Hour ($\mu g/m^3$)	50.3	99.8	150	NAAQS	188
NO_2 Annual ($\mu g/m^3$)	1.0	23.5	24.5	NAAQS	100
$PM_{2.5}$ 24-Hour ($\mu g/m^3$)	7.71	18.7	7.71	*de minimis*	8.15
$PM_{2.5}$ Annual ($\mu g/m^3$)	0.10	7.6	0.10	*de minimis*	0.3
CO 1-Hour (ppm)	0.001	2.13	2.13	NAAQS	35
CO 8-Hour (ppm)	0.001	1.60	1.60	NAAQS	9

As seen in **Table J-15**, the $PM_{2.5}$ predicted concentrations do not exceed the *de minimis* and NO_2 and CO concentration are within the NAAQS. **Table J-16** shows the noncriteria pollutants dispersion analysis results, where pollutant concentrations were predicted using a generic emission rate of 1 gram per second.

Table J-16: Noncriteria Pollutants Dispersion Analysis Results

Pollutant	CAS No.	1-Hour ($\mu g/m^3$)	SGC ($\mu g/m^3$)	Annual ($\mu g/m^3$)	AGC ($\mu g/m^3$)
Glycerin	00056-81-5	7.8	No CAS	0.04	No CAS
Ethanol	00064-17-5	5292.4	---	3.0	45000.0
Isopropyl Alcohol	00067-63-0	1772.6	98000.0	1.9	7000.0
Acetone	00067-64-1	3199.5	180000.0	1.5	30000.0
Butoxyethanol, 2-	00111-76-2	242.0	4700.0	1.2	1600.0
Butyl Acetate	00123-86-4	1481.9	71300.0	1.6	565.0
Ethyl Acetate	00141-78-6	70.6	---	0.4	3400.0
Iron Oxide	01309-37-1	1.4	---	0.04	12.0
Aluminum	07429-90-5	2.1	---	0.06	2.4
Copper	07440-50-8	0.7	100.0	0.006	0.48
Zinc Chloride	07646-85-7	0.7	200.0	0.003	2.4
Ammonia	07664-41-7	0.7	2400.0	0.000003	500.0
Nitric Acid	07697-37-2	23.3	86.0	0.1	12.3
VM&P Naphtha	08032-32-4	2.8	---	0.01	900.0
Lead Dioxide **	01309-60-0	63.5	---	0.031	0.044
Methyl Chloroform **	00071-55-6	3387.2	9000.0	1.5	5000.0
Hydrogen Cyanide **	00074-90-8	1.4	340.0	0.001	0.8
Dibutyl Phthalate **	00084-74-2	14.1	---	0.1	12.0
Toluene **	00108-88-3	1809.3	37000.0	1.5	5000.0
Sodium Cyanide **	00143-33-9	2.8	380.0	0.01	3.5
Copper Cyanide **	00544-92-3	0.7	380.0	0.003	3.5
Xylene Mixt **	01330-20-7	42.3	22000.0	0.2	100.0
Lead Oxide **	07439-92-1	0.7	---	0.003	0.038
Zinc **	07440-66-6	0.7	---	0.0005	45.0
Hydrogen Chloride **	07647-01-0	1.4	2100.0	0.004	20.0

Note:
** Indicates HAP.

As seen in **Table J-16**, the noncriteria pollutants concentrations are within the SGC/AGC standard. In addition, inhalation risk was calculated for each HAP pollutant and the cumulative inhalation excess cancer risk evaluated. Additionally, the hazardous quotient was calculated for each non-carcinogenic pollutant and the cumulative hazardous quotient evaluated. The inhalation risk for the HAPs is 0.8 (less than 1), and the hazardous quotient is 0.05 (less than 1) for the non-carcinogenic pollutants. Therefore, no adverse air quality impact is predicted from industrial source emission introduced by the project. The (E) Designation that would be assigned to Projected Development Site 1 in order to preclude the potential for any significant adverse air quality impacts due to manufacturing uses introduced by the Proposed Project is detailed in the section below.

(E) Designation

HVAC

As described above, the projected NO_2 and $PM_{2.5}$ concentrations presented in **Table J-6** were predicted with certain restrictions to ensure that no significant adverse air quality impact(s) would occur. The (E) Designation (E-674) that would be assigned to preclude the potential for any significant adverse air quality impacts related to HVAC systems as a result of the Proposed Actions is as follows:

Brooklyn Block 3167; Lots 18 and 24 (Projected Development Site 1)

Stationary Source – HVAC Source

Any new commercial, light industrial, and/or community facility development on the above-referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot water system(s) stack is located at the building's highest level or at least 141 feet above grade to avoid any potential significant adverse air quality impacts.

Brooklyn Block 3167; Lot 29 (Projected Development Site 2)

Any new commercial development on the above-referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot water system(s) stack is located at the building's highest level or at least 88 feet above grade to avoid any potential significant adverse air quality impacts.

Brooklyn Block 3167; Lot 40 (Projected Development Site 3)

Any new commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC), and hot water system(s) and must be fitted with low NOx (30 ppm) burners, ensure that the stack is located at the building's highest level at a minimum of 74 feet above grade, and that the stack is located at least 36 feet from the western lot line facing Flushing Avenue and 50 feet from the southern lot line facing Irving Avenue to avoid any potential significant adverse air quality impacts.

Industrial Sources Introduced by the Proposed Project

As described above, the Proposed Actions would facilitate the introduction of approximately 40,732 gsf of light manufacturing uses on the second and third floors of Projected Development Site 1. The (E) Designation (E-674) that would be assigned to Projected Development Site 1, in order to preclude the potential for any significant adverse air quality impacts due to manufacturing uses introduced by the Proposed Project, is as follows:

Brooklyn Block 3167; Lots 18 and 24 (Projected Development Site 1)

Stationary Source – Industrial/Manufacturing Source

To preclude any potential significant adverse air quality impacts from industrial uses listed in Table J-14 developed pursuant to Section 74-962 of the Zoning Resolution of the City of New York, the emission stack must be located at the building's highest level and at least 148 feet above grade and that the stack is located at least 50 feet from the western lot line facing Flushing Avenue, 70 feet from the southern lot line of Lot 18 facing Irving Avenue, 50 feet from the

eastern lot line facing Jefferson Street, and 50 feet from the northern lot line of Lot 24 facing Wyckoff Avenue. Any other processes that require an New York City Department of Environmental Protection Certificate of Operation (C of O) must provide an air quality analysis to OER prior to obtaining a Notice of Satisfaction in order to demonstrate that such process would not cause a significant adverse air quality impact.

In addition, a licensed architect or engineer must certify with the Department of Buildings that the manufacturing use on the above-referenced property will adhere to the following restrictions:

(a) The manufacturing use in the building does not have a New York City or New York State environmental rating of "A", "B" or "C" under Section 24–153 of the New York City Administrative Code for any process equipment requiring a New York City Department of Environmental Protection C of O or New York State Department of Environmental Conservation state facility air permit; and

(b) is not required, under the City Right-to-Know Law, to file a Risk Management Plan for Extremely Hazardous Substances.

Odor/vapor barrier and prevention: a mechanical ventilation system separate from the commercial building will provide fresh air to and exhaust from the second floor and the third floor, with vents running above the roof line of the commercial tower. An odor/vapor barrier would also be applied to the structural slab separating the manufacturing, residential and commercial spaces.

Conclusion

Based on the detailed air quality analysis, conditions associated with the Proposed Actions would not result in any violations of the ambient air quality standards. Therefore, there is no reason to believe that the Proposed Action would result in any potentially significant adverse stationary or mobile source air quality impacts. However, as described above, as there is the potential for the transportation planning factors and/or the No-Action or With-Action traffic volumes associated with this application's transportation analysis to be modified during agency review of the Draft Scope of Work (DSOW) and/or the targeted EIS, the detailed mobile source air quality analysis will be included in the EIS so as to ensure that the detailed mobile source air quality analysis is consistent with the detailed traffic analysis presented in the EIS.

Attachment K
Noise

I. INTRODUCTION

As discussed in **Attachment B, "Supplemental Screening,"** the Proposed Action would change traffic patterns and volumes in the general vicinity of the Project Area. As local vehicular traffic is a major source of ambient noise in the area, this could lead to changes in the ambient noise levels. According to the 2021 *CEQR Technical Manual*, if existing noise passenger car equivalent (PCE) values are increased by 100 percent or more due to a proposed action (which is equivalent to an increase of 3.0 dBA or more) a detailed analysis is generally warranted. Conversely, if existing noise PCE values are not increased by 100 percent or more it is likely that a proposed action would not cause a significant adverse vehicular noise impact, and therefore no further vehicular noise analysis is needed.

The noise analysis for the Proposed Action was carried out in compliance with *CEQR Technical Manual* guidelines and has two components:

1. A screening analysis to determine whether traffic generated by the Proposed Action would have the potential to result in significant adverse noise impacts on existing sensitive receptors;

2. An analysis to determine the level of building attenuation necessary to ensure that interior noise levels for the projected developments satisfy applicable interior noise criteria. This attachment does not include an analysis of mechanical equipment because such mechanical equipment would be designed to meet all applicable noise regulations and, therefore, would not result in adverse noise impacts.

II. PRINCIPAL CONCLUSIONS

Noise from the increased traffic volumes generated by the Proposed Action and resultant reasonable worst-case development scenario (RWCDS) would not cause significant adverse noise impacts as the relative increase in noise levels would fall below the applicable *CEQR Technical Manual* significant adverse impact threshold (3.0 dBA).

Based on the calculated With-Action L_{10} noise levels, the following composite window/wall attenuations were determined for future community facility uses as well as commercial office uses at the projected development sites:

- A minimum of 28 dBA composite window/wall attenuation must be provided on all facades facing Flushing Avenue and all facades facing Wyckoff Avenue and Irving Avenue within 50 feet of Flushing Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses at Projected Development Site 1.
- A minimum of 31 dBA composite window/wall attenuation must be provided on all facades facing Wyckoff Avenue and all facades facing Flushing Avenue and Jefferson Street within 50 feet of Wyckoff Avenue, and a minimum of 28 dBA composite window/wall attenuation on all facades facing Flushing Avenue beyond 50 feet of Wyckoff Avenue and all facades

facing Irving Avenue within 50 feet of Flushing Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses at Projected Development Site 2.

- A minimum of 31 dBA composite window/wall attenuation must be provided on all facades facing Wyckoff Avenue and all facades facing Flushing Avenue and Jefferson Street within 50 feet of Wyckoff Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses at Projected Development Site 3.
- No special attenuation measures beyond standard construction practices would be required for community facility uses or commercial office uses on any other frontages within the Project Area.

The composite window/wall noise attenuations described above would be required through the assignment of an (E) designation (E-674). With implementation of the attenuation levels outlined above and described in **Table K-7**, the projected development sites would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines. Therefore, the Proposed Action would not result in any significant adverse impacts related to noise attenuation.

III. ACOUSTICAL FUNDAMENTALS

Sound is a fluctuation in air pressure. Sound pressure levels (SPLs) are measured in units called "decibels" ("dB"). The particular character of the sound that we hear (a whistle compared with a French horn, for example) is determined by the speed, or "frequency," at which the air pressure fluctuates, or "oscillates." Frequency defines the oscillation of sound pressure in terms of cycles per second. One cycle per second is known as one Hertz ("Hz"). People can hear over a relatively limited range of sound frequencies, generally between 20 Hz and 20,000 Hz, and the human ear does not perceive all frequencies equally well. High frequencies (e.g., a whistle) are more easily discernible and, therefore, more intrusive than many of the lower frequencies (e.g., the lower notes on the French horn).

"A"-Weighted Sound Level (dBA)

In order to establish a uniform noise measurement that simulates people's perception of loudness and annoyance, the decibel measurement is weighted to account for those frequencies most audible to the human ear. This is known as the A-weighted sound level, or "dBA," and it is the descriptor of noise levels most often used for community noise. As shown in **Table K-1**, the threshold of human hearing is defined as 0 dBA; very quiet conditions (as in a library, for example) are approximately 40 dBA; levels between 50 dBA and 70 dBA define the range of noise levels generated by normal daily activity; levels above 70 dBA would be considered noisy, and then loud, intrusive, and deafening as the scale approaches 130 dBA.

In considering these values, it is important to note that the dBA scale is logarithmic, meaning that each increase of ten dBA describes a doubling of perceived loudness. Thus, the background noise in an office, at 50 dBA, is perceived as twice as loud as a library at 40 dBA. For most people to perceive an increase in noise, it must be at least three dBA. At three dBA, the change will be readily noticeable.

Noise Descriptors Used In Impact Assessment

As the SPL unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period as if it had been a

steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., one hour, denoted by $L_{eq(1)}$, or 24 hours, denoted as $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. The Day-Night Sound Level (L_{dn}) refers to a 24-hour average noise level with a ten dB penalty applied to the noise levels during the hours between 10 PM and 7 AM, due to increased sensitivity to noise levels during these hours. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are used to indicate noise levels that are exceeded one, ten, 50, 90, and x percent of the time, respectively.

Table K-1
Noise Levels of Common Sources

Sound Source	SPL (dBA)
Air raid siren at 50 feet	120
Maximum Levels at Rock Concerts (Rear Seats)	110
On Platform by Passing Subway Train	100
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area	60-70
Typical Suburban Area	50-60
Quiet Suburban Area at Night	40-50
Typical Rural Area at Night	30-40
Isolated Broadcast Studio	20
Audiometric (Hearing Testing) Booth	10
Threshold of hearing	0

Note: A change n 3 dBA is a just noticeable change in SPL. A change in 10 dBA is perceived as a doubling or halving of SPL.
Source: Cowan, James P. *Handbook of Environmental Acoustics*, Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates very little, L_{eq} will approximate L_{50} or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by ten or more decibels. Thus the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50}.

For purposes of the Proposed Action and resultant RWCDS, the maximum one-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in this noise impact evaluation. $L_{eq(1)}$ is the noise descriptor recommended for use in the *CEQR Technical Manual* for vehicular traffic and is used to provide an indication of highest expected sound levels. The one-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* noise exposure guidelines for city environmental impact review classification. The L_{dn} is the noise descriptor used in the *HUD Noise Guidebook* and sets exterior noise standards for housing construction projects receiving federal funds. As the Proposed Project and non-Applicant-owned projected development sites are not anticipated to include federal sources of funding in the future, only the required attenuation levels to meet CEQR noise guidelines are provided in this chapter.

IV. APPLICABLE NOISE CODES AND NOISE STANDARDS AND CRITERIA

New York City Noise Code

The New York City Noise Control Code, which was enacted in December 2005 and became effective July 2007, defines "unreasonable and prohibited noise standards and decibel levels" for the City of New York. The Noise Code generally seeks to reduce ambient noise, prohibiting all unreasonable and unnecessary noise and addressing construction hours and activities. It also (1) establishes sound level standards for specific noise sources, such as motor vehicles, air compressors, and construction activities; (2) requires that all exhausts be muffled; and (3) prohibits all unnecessary noise adjacent to schools, hospitals, or courts. It specifies maximum allowable SPLs for designated octave bands emanating from a commercial or business enterprise as measured within a receiving property (such as a mixed-use and residential property). The Noise Code's enforcement is driven by complaints of violations.

Table K-2
Noise Exposure Guidelines for Use in City Environmental Impact Review[1]

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- DNL ≤ 60 dBA ----------						
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 65$ dBA	---------- 60 < DNL ≤ 65 dBA ----------	65 < $L_{10} \leq 80$ dBA	(1) 65 < DNL ≤ 75 dBA,	$L_{10} > 80$ dBA	---------- 75 dBA < DNL ----------
3. Residence, residential hotel or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		65 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
5. Commercial or office		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10PM)	
6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Source: New York City Department of Environmental Protection (DEP); adopted policy 1983.
Notes:
(i) In addition, any new activity shall not increase the ambient noise level by three dBA or more.
[1] Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.
[2] Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.
[3] One may use the FAA-approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.
[4] External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

New York CEQR Technical Manual Noise Standards

The *CEQR Technical Manual* sets external noise exposure standards, which are shown in **Table K-2** above. Noise exposure is classified into four categories based on the L_{10}: Acceptable, Marginally Acceptable, Marginally Unacceptable, and Clearly Unacceptable. The *CEQR Technical Manual* Noise Exposure Guidelines shown in **Table K-2** are guidelines, not a law. However, City reviewing agencies use the guidelines in determining potential impacts when a project comes under their review.

The *CEQR Technical Manual* also defines attenuation requirements for buildings based on exterior noise levels (see **Table K-3**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential, hotel, or community facility uses and interior noise levels of 50 dBA or lower for commercial office uses, and are determined based on exterior $L_{10(1)}$ noise levels.

Table K-3
Required Attenuation Values to Achieve Acceptable Interior Noise Level

	Marginally Unacceptable				Clearly Unacceptable
Vehicular Traffic	$70<L_{10}\leq73$	$73<L_{10}\leq76$	$76<L_{10}\leq78$	$78<L_{10}\leq80$	$80<L_{10}$
Aircraft[A]	$65<DNL\leq68$	$68<DNL\leq71$	$71<DNL\leq73$	$73<DNL\leq75$	$75<DNL$
Train	$65<L_{dn}\leq68$	$68<L_{dn}\leq71$	$71<L_{dn}\leq73$	$73<L_{dn}\leq75$	$75<L_{dn}$
Attenuation[B]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	See note[C]

Source: DEP; 2021 *CEQR Technical Manual*, Table 19-3.
Notes:
[A] DNL descriptor based on average values of Ldn over a year period.
[B] The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial office spaces and meeting rooms would be 5.0 dB(A) less in each category. All the above categories require a closed window situation and, hence, an alternate means of ventilation.
[C] The required attenuation value is the difference between L_{huild} and $L_{interior}$, using the appropriate noise descriptor
Where:
L_{build} is the projected noise level under the build condition rounded up to the whole number
$L_{interior}$ is the designed interior noise level (45 dBA for vehicular noise, 40 dBA for aircraft and train noise)

V. METHODOLOGY

Noise Prediction Methodology

Future No-Action and With-Action noise levels were calculated using a proportional modeling technique, which is used as a screening tool to estimate changes in noise levels. The proportional modeling technique is an analysis methodology recommended for analysis purposes in the *CEQR Technical Manual.*

Using the proportional modeling technique, the prediction of future noise levels where traffic is the dominant noise source is based on a calculation using measured existing noise levels and predicted changes in traffic volumes to determine noise levels in the future without the Proposed Action (the No-Action condition) and with the Proposed Action (the With-Action condition). Vehicular traffic volumes are converted into noise PCE values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of 13 cars, one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars, and one bus (vehicles designed to carry more than nine passengers) is assumed to generate the noise equivalent of 18 cars. Future noise levels are calculated using the following equation:

F NL - E NL = 10 * log10 (F PCE / E PCE)

where:

F NL = Future Noise Level
E NL = Existing Noise Level
F PCE = Future PCEs
E PCE = Existing PCEs

Sound levels are measured in decibels and, therefore, increase logarithmically with sound source strength. In this case, the sound source is traffic volumes measured in PCEs. For example, assume that traffic is the dominant noise source at a particular location. If the existing traffic volume on a street is 100 PCEs and if the future traffic volume were increased by 50 PCEs (to a total of 150 PCEs), the noise level would increase by 1.8 dBA. Similarly, if the future traffic were increased by 100 PCEs, or doubled to a total of 200 PCEs, the noise level would increase by 3.0 dBA.

For the purpose of this analysis, during the noise recording, vehicles were counted and classified. To calculate the 2027 No-Action PCE values, an annual background growth rate of 0.5 percent for years one through five and a growth rate of 0.25 percent for year six, plus the estimated incremental travel demand from new development within the vicinity of the Project Area (refer to **Table C-3** and **Figure C-4** in **Attachment C, "Land Use, Zoning, and Public Policy"**) was applied to the counted PCE values based on the existing and No-Action vehicle volumes presented in **Attachment I, "Transportation."**[1] In order to obtain the necessary 2027 With-Action PCE values to calculate the With-Action noise levels, the 2027 With-Action traffic increment assignments presented in **Attachment I, "Transportation,"** were converted into PCE values and added to the calculated No-Action PCE values.

Building Attenuation Analysis Procedure

In general, the following procedure was used in performing the *CEQR Technical Manual* building attenuation analysis:

- Noise-sensitive receptor locations that have the greatest potential for being adversely affected by action-generated noise in the 2027 analysis year and the location of dominant sources of ambient noise were identified;
- Noise receptor locations were selected based on the following criteria: (1) locations where the highest noise levels are likely to occur based upon the consideration of existing land use patterns (e.g., locations near major commercial roadways, industrial uses, or stationary sources, etc.); and (2) along future street frontages of the projected development sites;
- Existing noise levels were determined through field measurements of ambient noise adjacent to the projected development sites;
- Future (2027) noise levels without the Proposed Action were predicted using the PCE-based proportionality equation (per *CEQR Technical Manual* guidelines) for all locations where local traffic is the dominant source of noise and were based on the 2027 No-Action vehicle trip assignments presented in **Attachment I, "Transportation**";
- Future (2027) noise levels with the Proposed Action were predicted using the PCE-based proportionality equation (per *CEQR Technical Manual* guidelines) based on the 2027 With-Action vehicle trip assignments presented in **Attachment I, "Transportation"**;
- Future (2027) noise levels with the Proposed Action were compared with future noise levels without the Proposed Action to determine, by applying *CEQR Technical Manual*

[1] Calculation according to Table 16-4 in the *CEQR Technical Manual.*

impact criteria, whether the Proposed Action and resultant RWCDS would have the potential to result in a significant adverse impact;

- Noise levels were determined for exterior building façades at the projected development sites; and
- In compliance with CEQR requirements to determine an acceptable interior space noise environment, façade-based composite window/wall attenuation specifications for the projected development sites were estimated based on future projected maximum exterior noise exposure at the projected development sites; CEQR requirements are based on the maximum L_{10} values.

VI. EXISTING NOISE LEVELS

According to the RWCDS, three projected development sites have been identified within the Project Area and no other development is anticipated. Projected Development Site 1 (Block 3167, Lots 18 and 24) is an Applicant-owned through-lot located on the mid-block with frontage on two streets, including approximately 221.5 feet along Flushing Avenue to the west and approximately 216 feet along Jefferson Street to the east (see **Figure K-1**). The approximately 37,928-sf development site is currently occupied by one single-story vacant industrial (warehouse) building and a small portion (approximately 3,750-sf) of vacant, underdeveloped land on the northernmost portion of the site.

As shown in **Figure K-1**, Projected Development Site 2 (Block 3167, Lot 29) is a corner lot located on the northwestern portion of the block and is not owned or controlled by the Applicant. The approximately 18,530-sf lot contains frontages on both Flushing Avenue (to the west) and Wyckoff Avenue (to the north) and is currently occupied by a single-story building that, according to New York City Department of Buildings (DOB) records, is currently undergoing a conversion from industrial (warehouse) uses to commercial retail uses (DOB job no. 340525300), which will result in a building containing approximately 20,475 gsf of commercial retail space. Projected Development Site 3 (Block 3167, Lot 40) is a corner lot located on the northeastern portion of the block and is also not owned or controlled by the Applicant. The approximately 7,450-sf lot contains frontages on both Wyckoff Avenue (to the north) and Jefferson Street (to the east) and is currently occupied by a single-story warehouse building containing approximately 7,613 gsf of industrial uses. In addition, a small, northeastern portion of Lot 40 is encumbered by a Real Estate of Utility Companies (REUC) easement due to the location of street stairs serving the L-line's Jefferson Street Station.

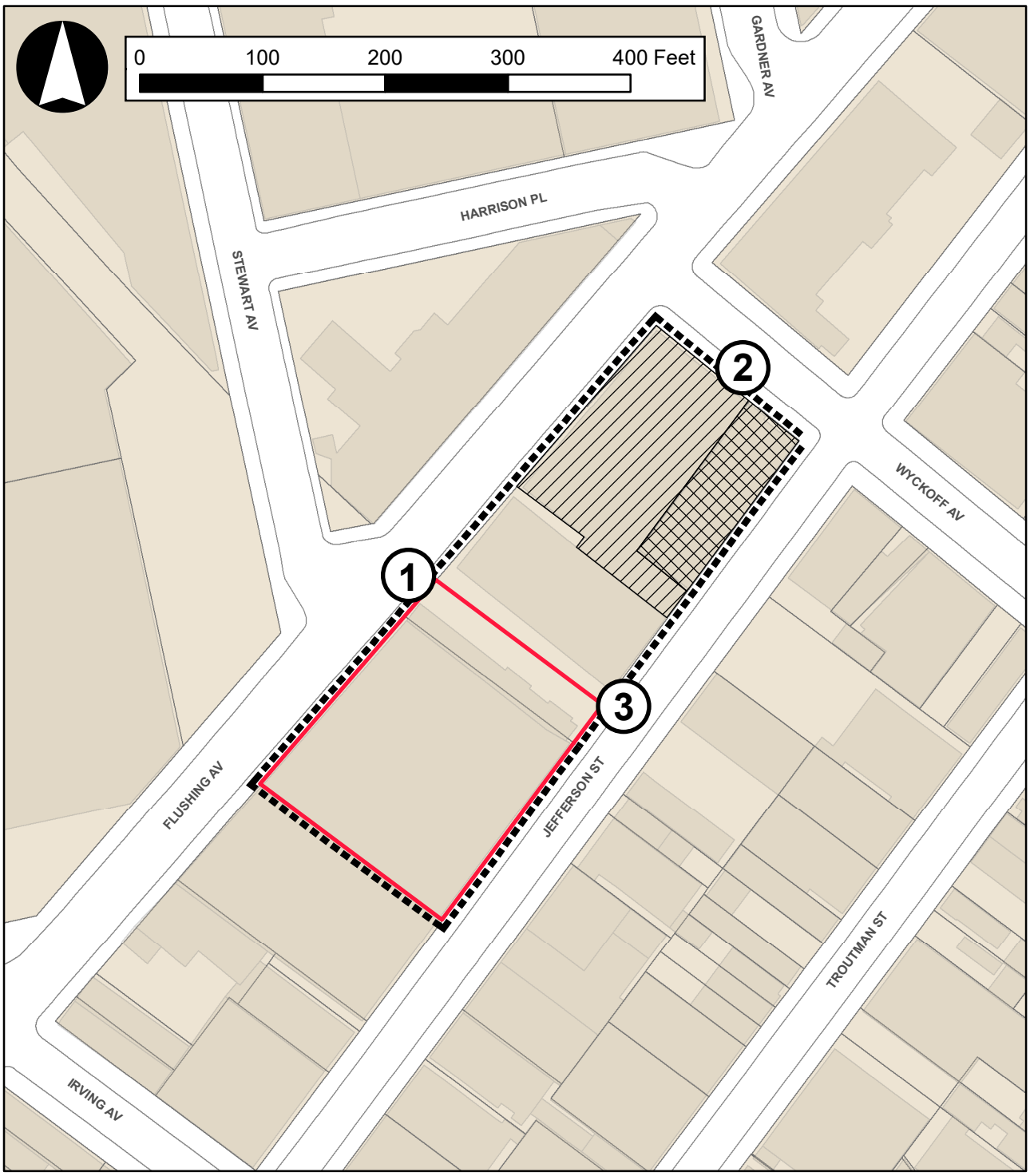
Noise Monitoring Locations

As traffic along Flushing Avenue, Wyckoff Avenue, and Jefferson Street is the dominant source of noise in the vicinity of the Project Area, the noise receptor locations were selected based upon the assumption that the future developments within the Proposed Rezoning Area would be built to their respective lot lines. As such, existing noise levels at the Project Area were measured at three locations along Flushing Avenue, Wyckoff Avenue, and Jefferson Street. These locations are shown in **Figure K-1** described below:

- Receptor Location 1 – Future western frontage of Applicant-owned Projected Development Site 1 and non-Applicant-owned Projected Development Site 2 (Flushing Avenue); approximate midpoint of frontage (approximately 270 feet south of Wyckoff Avenue);
- Receptor Location 2 – Future northern frontage of non-Applicant-owned Projected Development sites 2 and 3 (Wyckoff Avenue); approximate midpoint of frontage (approximately 70 feet east of Flushing Avenue); and

Figure K-1

Noise Monitoring Locations



Legend

- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3
- Project Area
- (1) Noise Receptor Location

- Receptor Location 3 – Future eastern frontage of Applicant-owned Projected Development Site and non-Applicant-owned Projected Development Site 3 (Jefferson Street); approximate midpoint of frontage (approximately 270 feet south of Wyckoff Avenue).

At all receptor locations, 20-minute spot noise measurements were performed during the weekday AM (7:30 – 8:30 AM), midday (1:00 – 2:00 PM), and PM (4:00 – 5:00 PM) peak periods. The noise monitoring occurred on Thursday, November 5, 2020. The weather was partly cloudy and in the high-50s°F on November 5, with a wind speed average of nine miles per hour. Additionally, vehicle classification counts were conducted during the 20-minute measurements, which were used in the proportional modeling analysis.

Equipment Used During Noise Monitoring

Measurements were performed using Brüel & Kjær Sound Level Meters (SLM) Type 2250 and 2260, Brüel & Kjær ½-inch microphones Type 4189, and Brüel & Kjær Sound Level Calibrators Type 4231. The Brüel & Kjær SLMs are Type 1 instruments according to ANSI Standard S1.4- 1983 (R2006). The SLMs had a laboratory calibration date within one year of the time of use. For the three receptor locations, the microphones were mounted at a height of approximately five feet above the ground surface on a tripod and approximately six feet or more away from any large sound-reflecting surface to avoid major interference with sound propagation. The SLMs were calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the SLMs and displayed at the end of the measurement period in units of dBA. Measured quantities included the L_{eq}, L_1, L_{10}, L_{50}, and L_{90} values, as well as ⅓-octave bands. A windscreen was used during all sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

Existing Noise Levels At Noise Receptor Locations

Measured Noise Levels

Noise monitoring results for Receptor Locations 1 through 3 are summarized in **Table K-4**. Traffic was the dominant noise source and the values shown reflect the level of vehicular activity on the respective thoroughfares adjacent to the Project Area. Vehicular traffic volumes were counted during the noise recording for each peak period and converted into hourly PCE values.

As shown in **Table K-4**, the results of the monitoring indicated that noise levels are generally highest during the weekday midday and PM peak periods. The highest L_{10} noise levels were observed at Receptor Location 2, measuring 73.46 dBA in the weekday midday peak period. Existing L_{10} noise levels at Receptor Location 1 ranged from 69.06 dBA to 70.63 dBA, placing it in the "Marginally Unacceptable (I)" CEQR Noise Exposure category. Existing L_{10} noise levels at Receptor Location 2 ranged from 69.85 dBA to 73.46 dBA, placing it in the "Marginally Unacceptable (II)" CEQR Noise Exposure category. Existing L_{10} noise levels at Receptor Location 3 ranged from 59.37 dBA to 63.22 dBA, placing it in the "Acceptable" CEQR Noise Exposure category.

Table K-4
Existing Noise Levels (dBA)

Receptor[1]	Measurement Location	Time[2]	L_{eq}	L_1	L_{10}[3]	L_{50}	L_{90}	CEQR Noise Exposure Category[4]
1	Flushing Avenue	AM	66.54	75.99	69.64	63.68	55.69	Marginally Unacceptable (I)[5]
		MD	70.10	83.63	69.06	61.99	58.17	
		PM	72.44	79.56	**70.63**	63.39	54.95	
2	Wyckoff Avenue	AM	68.63	79.33	70.73	63.81	57.47	Marginally Unacceptable (II)
		MD	73.44	85.13	**73.46**	64.21	58.91	
		PM	68.05	79.18	69.85	64.21	60.55	
3	Jefferson Street	AM	56.47	65.35	59.37	53.04	50.76	Acceptable
		MD	56.98	65.94	60.62	53.63	50.97	
		PM	59.86	68.60	**63.22**	56.22	53.38	

Notes: Field measurements were performed by Philip Habib & Associates on Thursday, November 5, 2020.
[1] Receptor locations shown in **Figure K-1**.
[2] AM = weekday AM peak period; MD = weekday midday peak period; PM = weekday PM peak period.
[3] The highest measured noise level at each receptor is indicated in **bold.**
[4] For consistency purposes, the CEQR noise exposure categories for existing, No-Action, and With-Action conditions are based on the community facility noise exposure guidelines; reflects the worst-case peak hour noise levels.
[5] As the highest existing L_{eq} noise levels at Receptor Location 1 (72.44 dBA) during the weekday PM peak period exceeds that of the corresponding highest existing L_{10} noise level (70.63 dBA), the higher L_{eq} noise levels were uses in place of the highest L_{10} noise levels to determine the appropriate CEQR Noise Exposure category, and thus, any relevant noise attenuation requirements.

VII. THE FUTURE WITHOUT THE PROPOSED ACTION (NO-ACTION CONDITION)

Mobile Source Noise Screening Analysis

In the 2027 future without the Proposed Action (the No-Action condition), it is assumed that while no new construction would be planned for the Applicant-owned Projected Development Site 1, the currently vacant, approximately 30,388 sf former industrial building on Lots 18 and 24 would be converted and reoccupied with commercial retail uses in the No-Action condition. As a result, the Projected Development Site 1 would be occupied by approximately 31,907 gsf (30,388 zsf) of commercial retail uses on a 37,928-sf lot (0.80 FAR). No other changes to the remaining Project Area lots are anticipated in the future without the Proposed Action. As such, traffic patterns and volumes under the No-Action condition are expected to differ slightly from existing conditions. As vehicle noise emissions on adjacent roadways are the dominant source of noise at Receptor Locations 1 through 3, the change in traffic patterns is expected to affect the levels of ambient noise at those locations. Using the noise prediction methodology described in Section E above, future noise levels in the No-Action condition were calculated for the three analysis periods for the 2027 analysis year. **Table K-5** shows the measured existing noise levels and calculated future No-Action condition noise levels at the receptor locations.

Comparing future No-Action noise levels with existing noise levels, the increases in L_{eq} noise levels at the three receptor locations would be minimal, ranging from 0.16 dBA to 0.86 dBA for all analysis periods. According to *CEQR Technical Manual* guidelines, increases of less than 3.0 dBA would be barely perceptible. The projected No-Action L_{10} noise levels at Receptor Location 1 would range from 69.43 dBA to 70.80 dBA and would remain in the "Marginally Unacceptable (I)" CEQR Noise Exposure category, as under existing conditions; projected L_{10} noise levels at Receptor Location 2 would range from 70.26 dBA to 73.83 dBA and would remain in the "Marginally Unacceptable (II)" CEQR Noise Exposure category; and projected L_{10} noise levels at Receptor Location 3 would range from 59.54 dBA to 63.68 dBA and would remain in the "Acceptable" CEQR Noise Exposure category.

Table K-5
2027 No-Action Condition Noise Levels and PCE Values (dBA)

Noise Receptor Location[1]	Time[2]	Existing PCEs	No-Action PCEs	Existing L_{eq}	No-Action L_{eq}	Change in L_{eq}[3]	No-Action L_{10}[4]	CEQR Noise Exposure Category
1	AM	2716.0	2827.0	66.54	66.71	0.17	69.81	Marginally Unacceptable (I)[5]
	MD	5478.0	5964.0	70.10	70.47	0.37	69.43	
	PM	1839.0	1914.0	72.44	72.61	0.17	**70.80**	
2	AM	764.0	792.0	68.63	68.79	0.16	70.89	Marginally Unacceptable (II)
	MD	1213.0	1320.0	73.44	73.81	0.37	**73.83**	
	PM	245.0	269.0	68.05	68.46	0.41	70.26	
3	AM	179.0	186.0	56.47	56.64	0.17	59.54	Acceptable
	MD	178.0	217.0	56.98	57.84	0.86	61.48	
	PM	261.0	290.0	59.86	60.32	0.46	**63.68**	

Notes:
[1] Receptor locations shown in **Figure K-1**.
[2] AM = weekday AM peak period; MD = weekday midday peak period; PM = weekday PM peak period.
[3] Change in L_{eq} = No-Action L_{eq} – Existing L_{eq}.
[4] The highest No-Action noise level at each receptor is indicated in **bold.**
[5] As the highest No-Action L_{eq} noise levels at Receptor Location 1 (72.56 dBA) during the weekday PM peak period exceeds that of the corresponding highest No-Action L_{10} noise level (70.80 dBA), the higher L_{eq} noise levels were uses in place of the highest L_{10} noise levels to determine the appropriate CEQR Noise Exposure category, and thus, any relevant noise attenuation requirements.

VIII. THE FUTURE WITH THE PROPOSED ACTION (WITH-ACTION CONDITION)

In the 2027 future with the Proposed Action (the With-Action scenario), the proposed zoning map amendment would be approved, allowing the Applicant to construct the Proposed Project (5.0 FAR) at Projected Development Site 1. However, as discussed above, it is conservatively assumed that the Proposed Action would result in the development of a new mixed-use building with a built FAR of up to 6.5.

In addition, it is assumed that Projected Development Site 2 (Lot 29) and Projected Development Site 3 (Lot 40) would each be redeveloped in the 2027 With-Action scenario. It is anticipated that Projected Development Site 2 would be redeveloped with a six-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space, and Projected Development Site 3 would be redeveloped with a five-story, 5.0 FAR predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space. As a result, the total With-Action development scenario for the Project Area would include approximately 234,154 gsf of commercial office uses, 98,566 gsf of retail uses, 40,732 gsf of light industrial uses, and 59,973 gsf of community facility (medical office) uses.

Mobile Source Noise Screening Analysis

Using the methodology described in Section V, future noise levels in the With-Action condition were calculated for the three analysis periods for the 2027 analysis year, which are presented in **Table K-6**. As presented in the table, after accounting for additional traffic introduced by the Proposed Action, the maximum projected L_{10} noise level in the With-Action condition would be 74.14 dBA during the midday weekday peak period at Receptor Location 2. Therefore, the highest noise level would remain in the "Marginally Unacceptable (II)" CEQR Noise Exposure category. The maximum projected noise levels in the With-Action condition at Receptor Location 1 would be 72.92 dBA, and thus would remain in the "Marginally Unacceptable (I): CEQR Noise Exposure category, as under existing and No-Action conditions. The maximum projected L_{10} noise levels in the With-Action condition at Receptor Location 3

would be 64.49 dBA, and thus, would remain in the "Acceptable" CEQR Noise Exposure category, as under existing and No-Action conditions.

Furthermore, comparing the future With-Action noise levels with No-Action noise levels, increases in L_{eq} noise levels would vary at the three receptor locations, ranging from 0.19 to 1.28 dBA. However, increases of these magnitudes would not be perceptible as they are less than 3.0 dBA, and based upon CEQR impact criteria would not be significant. As the noise levels at all receptor locations would experience changes of less than 3.0 dBA in all peak hours, the overall changes to noise levels as a result of the Proposed Action would not result in any significant adverse impacts.

Table K-6
2027 No-Action and With-Action Condition Noise Levels and PCE Values (dBA)

Noise Receptor Location[1]	Time[2]	No-Action PCEs	With-Action PCEs	No-Action L_{eq}	With-Action L_{eq}	Change in L_{eq}[3]	With-Action L_{10}[4]	CEQR Noise Exposure Category
1	AM	2827.0	3128.0	66.71	67.15	0.44	70.25	Marginally Unacceptable (I)[5]
	MD	5964.0	6227.0	70.47	70.66	0.19	69.62	
	PM	1914.0	2053.0	72.61	72.92	0.30	**71.11**	
2	AM	792.0	892.0	68.79	69.30	0.52	71.40	Marginally Unacceptable (II)
	MD	1320.0	1418.0	73.81	74.12	0.31	**74.14**	
	PM	269.0	361.0	68.46	69.73	1.28	71.53	
3	AM	186.0	231.0	56.64	57.58	0.94	60.48	Acceptable
	MD	217.0	264.0	57.84	58.69	0.85	62.33	
	PM	290.0	350.0	60.32	61.13	0.82	**64.49**	

Notes:
[1] Receptor locations shown in **Figure K-1**.
[2] AM = weekday AM peak period; MD = weekday midday peak period; PM = weekday PM peak period.
[3] Change in L_{eq} = With-Action L_{eq} – No-Action L_{eq}.
[4] The highest With-Action noise level at each receptor is indicated in **bold.**
[5] As the highest With-Action L_{eq} noise levels at Receptor Location 1 (72.92 dBA) during the weekday PM peak period exceeds that of the corresponding highest With-Action L_{10} noise level (71.11 dBA), the higher L_{eq} noise levels were uses in place of the highest L_{10} noise levels to determine the appropriate CEQR Noise Exposure category, and thus, any relevant noise attenuation requirements.

IX. NOISE ATTENUATION REQUIREMENTS

As shown in **Table K-3**, the *CEQR Technical Manual* has noise attenuation guidance for buildings based on exterior noise levels. Recommended noise attenuation values for buildings are designed to maintain a maximum interior noise level of 45 dBA or lower for community facility uses and 50 dBA or lower for commercial office uses, and are determined based on exterior L_{10} noise levels. Results of the building attenuation analysis are summarized in **Table K-7** and **Figure K-2**.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Typically, a building façade is composed of the wall, windows, and any vents or louvers for HVAC systems in various ratios of area. Since the proposed project would most likely be of masonry construction, which typically provides a high level of sound attenuation, the attenuation requirements for CEQR purposes apply primarily to the windows, but may also represent a composite window/wall attenuation value. Window/Wall attenuation can be described in terms of sound transmission class (STC), transmission loss (TL), and outdoor-indoor transmission class (OITC). Although these terms are sometimes used interchangeably, they are unique from each other. Transmission loss refers to how many decibels of sound a façade (wall) or façade accessory (window or door) can stop at a given frequency. The TL for a given construction material varies with the individual frequencies of the noise.

To simplify the noise attenuation properties of a wall, the STC rating was developed. It is a single number that describes the sound isolation performance of a given material for the range of test frequencies between 125 and 4,000 Hz. These frequencies sufficiently cover the range of human speech. Higher STC values reflect greater efficiencies to block airborne sound. HUD uses the STC when identifying the required sound attenuation for a façade.

The OITC is similar to the STC, except that it is weighted more towards the lower frequencies associated with aircraft, rail, and truck traffic. The OITC classification is defined by the American Society of Testing and Materials (ASTM E1332-90 (Reapproved 2003)) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of ground and air transportation noise. NYCDEP uses the OITC when identifying the required sound attenuation for a façade.

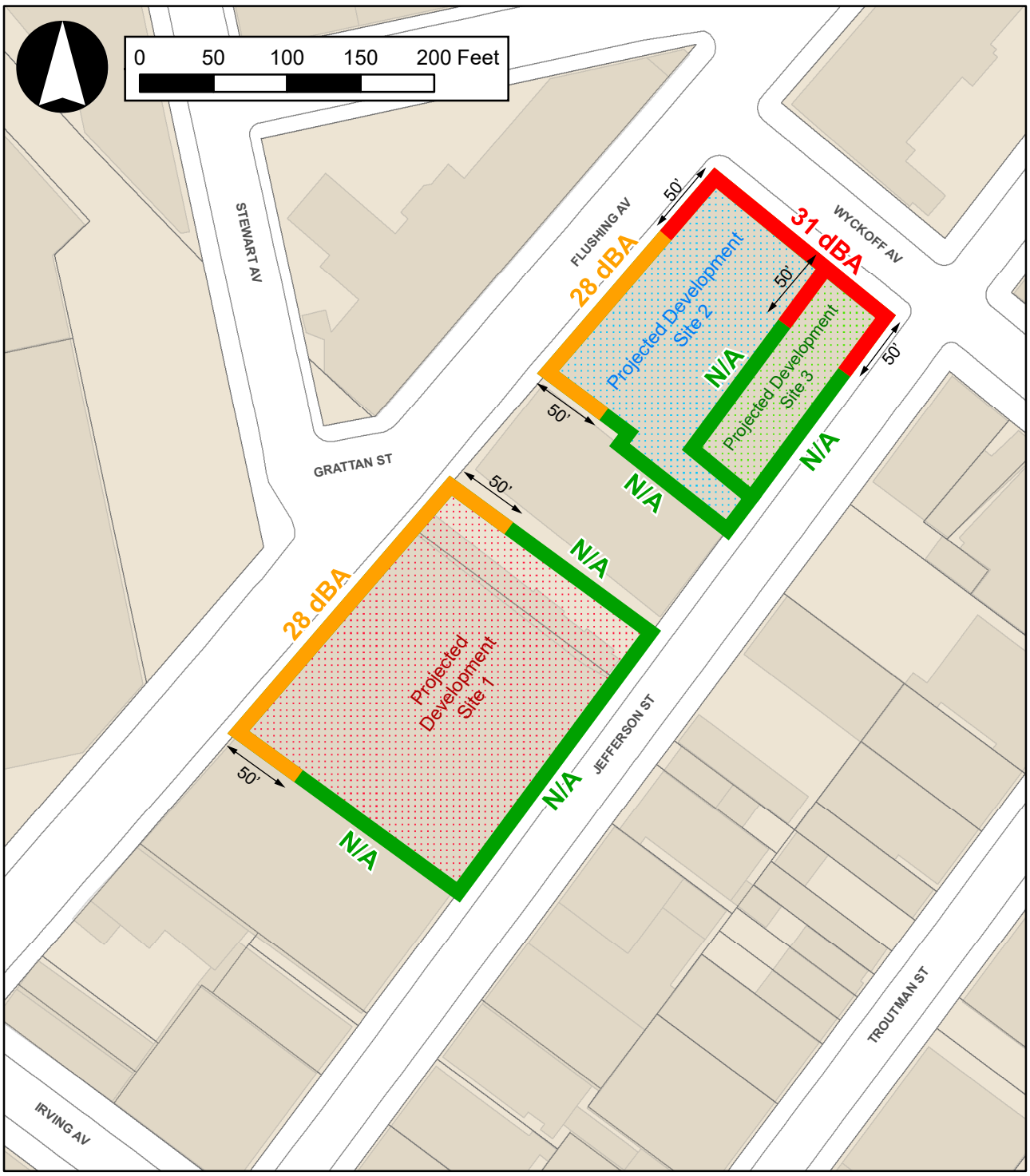
Table K-7
Required Attenuation Values for the Projected Development Sites under CEQR Criteria

Site	Facade	Associated Receptor Location[1]	Maximum With-Action L_{10} (in dBA)	CEQR Noise Exposure Category	CEQR Minimum Required Attenuation (in dBA)[2]
Projected Development Site 1 (Block 3167, Lots 18, 24)	Western (Flushing Ave)	1	72.92[3]	Marginally Unacceptable (I)	28
	Southern (Irving Ave ≤ 50 ft from Flushing Ave)	1	72.92[3]	Marginally Unacceptable (I)	28
	Eastern (Jefferson St)	3	64.49	Acceptable	N/A
	Northern (Wyckoff Ave ≤ 50 ft from Flushing Ave)	1	72.92[3]	Marginally Unacceptable (I)	28
Projected Development Site 2 (Block 3167, Lot 29)	Western (Flushing Ave)	1	72.92[3]	Marginally Unacceptable (I)	28
	Southern (Irving Ave ≤ 50 ft from Flushing Ave)	1	72.92[3]	Marginally Unacceptable (I)	28
	Eastern (Jefferson St ≤ 50 ft from Wyckoff Ave)	2	74.14	Marginally Unacceptable (II)	31
	Northern (Wyckoff Ave)	2	74.14	Marginally Unacceptable (II)	31
Projected Development Site 3 (Block 3167, Lot 40)	Western (Flushing Ave ≤ 50 ft from Wyckoff Ave)	2	74.14	Marginally Unacceptable (II)	31
	Southern (Irving Ave)	N/A	N/A	N/A	N/A
	Eastern (Jefferson St ≤ 50 ft from Wyckoff Ave)	2	74.14	Marginally Unacceptable (II)	31
	Eastern (Jefferson St > 50 ft from Wyckoff Ave)	3	64.49	Acceptable	N/A
	Northern (Wyckoff Ave)	2	74.14	Marginally Unacceptable (II)	31

Notes:
[1] Receptor locations shown in **Figure K-1**; necessary attenuation levels shown in **Figure K-2**.
[2] The above composite window-wall attenuation values are for community facility uses. Commercial office uses would be 5.0 dBA less in each category. All the above categories require a closed window situation and an alternate means of ventilation.
[3] As described in Table K-6 above, the highest With-Action L_{eq} noise levels at Receptor Location 1 (72.92 dBA) during the weekday PM peak period exceeds that of the corresponding highest With-Action L_{10} noise level (71.11 dBA). As such the higher L_{eq} noise levels were uses in place of the highest L_{10} noise levels to determine the appropriate CEQR Noise Exposure category, and thus, any relevant noise attenuation requirements.

Based on predicted future With-Action exterior noise levels and *CEQR Technical Manual* criteria, maximum With-Action L_{10} noise levels at Receptor Location 3 would be less than 70 dBA and would

Building Attenuation Requirements



Legend

- Projected Development Site 1
- Projected Development Site 2
- Projected Development Site 3

CEQR Noise Attenuation Requirement for Community Facility Uses

28 dBA | 31 dBA | N/A

*Attenuation requirements are 5 dBA less for commercial office uses

remain in the "Acceptable" CEQR Noise Exposure category, and, as noted above, would not require special noise attenuation measures beyond standard construction practices for community facility uses on any of Projected Development Site 1's eastern frontages or Projected Development Site 3's eastern frontages beyond 50 feet from Wyckoff Avenue in order to achieve the required community facility interior noise level of 45 dBA (refer to **Figure K-2**). Likewise, any future commercial uses would also not require any special noise attenuation measure beyond standard construction practices on Projected Development Site 1's eastern frontages or Projected Development Site 3's eastern frontages beyond 50 feet from Wyckoff Avenue in order to achieve the required commercial interior noise level of 50 dBA or lower.

As maximum With-Action noise levels at Receptor Location 1 and 3 would be 72.92 dBA and 74.14 dBA, respectively, a minimum 31 dBA of composite window/wall attenuation would be required for community facility uses on any northern-facing (Wyckoff Avenue) at Projected Development Sites 2 and 3, as well as any western- (Flushing Avenue) or eastern-facing (Jefferson Street) frontage within 50 feet from Wyckoff Avenue at Projected Development Sites 2 and 3; and a minimum of 28 dBA of composite window/wall attenuation would be required for community facility uses on any western-facing (Flushing Avenue) frontage beyond 50 feet from Wyckoff Avenue at Projected Development Sites 1 and 2, any northern-facing frontage within 50 feet of Flushing Avenue at Projected Development Site 1; any southern-facing (Irving Avenue) frontage within 50 feet of Flushing Avenue at Projected Development Sites 1 and 2. By providing the attenuation described above and presented in **Table K-7** and **Figure K-2**, the projected development sites would achieve the required community facility interior noise level of 45 dBA or lower. Any future commercial office uses would be required to provide an attenuation rating of 5 dBA less than the community facility requirement in order to maintain an interior noise level 50 dBA or lower.

(E) Designation

The composite window/wall noise attenuation described above would be required through the assignment of an (E) designation for noise to Projected Development Site 1 (Block 3167, Lots 18 and 24), Projected Development Site 2 (Block 3167, Lot 29), and Projected Development Site 3 (Block 3167, Lot 40) in conjunction with the Proposed Action. With the implementation of this composite window/wall noise attenuation, no significant adverse noise impacts would occur as a result of the Proposed Action.

The text of the (E) designation (E-674) is as follows:

> **Block: 3167, Lots: 18, 24 (Projected Development Site 1)**
>
> **To ensure an acceptable interior noise environment, future community facility and commercial office uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on all facades facing Flushing Avenue and all facades facing Wyckoff Avenue and Irving Avenue within 50 feet of Flushing Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses, as illustrated in the EAS. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.**
>
> **Block: 3167, Lot: 29 (Projected Development Site 2)**
>
> **To ensure an acceptable interior noise environment, future community facility and commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades facing Wyckoff Avenue and all facades facing Flushing Avenue and Jefferson Street within 50 feet of Wyckoff Avenue, and a minimum of 28 dBA window/wall attenuation on all facades facing**

Flushing Avenue beyond 50 feet of Wyckoff Avenue and all facades facing Irving Avenue within 50 feet of Flushing Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses, as illustrated in the EAS. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

Block: 3167, Lot: 40 (Projected Development Site 3)

To ensure an acceptable interior noise environment, future community facility and commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades facing Wyckoff Avenue and all facades facing Flushing Avenue and Jefferson Street within 50 feet of Wyckoff Avenue to maintain an interior noise level not greater than 45 dBA for community facility uses or not greater than 50 dBA for commercial office uses, as illustrated in the EAS. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

With implementation of the attenuation levels outlined above and described in **Table K-7**, the projected development sites would provide sufficient attenuation to achieve *CEQR Technical Manual* interior noise level guidelines of 45 dBA for community facility uses and 50 dBA for commercial office uses. Therefore, the Proposed Action and associated RWCDS would not result in any significant adverse noise impacts.

X. OTHER NOISE CONCERNS

Mechanical Equipment

The Proposed Action would not include any unenclosed mechanical equipment for building ventilation purposes, and would not include any active outdoor recreational space that could result in stationary source noise impacts to the surrounding area. All mechanical equipment would be located either inside the building or would be enclosed on the roof of the structures, and should be designed to meet all applicable noise regulations and requirements (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code, the New York City Department of Buildings Code). Therefore, the Proposed Action would not result in any significant increase in ambient noise levels in the vicinity of the Applicant-owned Development Site, the Project Area, or the surrounding study area.

Train Noise

An initial train noise impact screening analysis could be warranted if a new receptor would be located within 1,500 feet of existing rail activity and have a direct line of sight to that activity. As the Project Area is not within 1,500 feet of an existing rail line nor does the site have a direct line of sight to a rail activity, no initial train noise impact screening analysis is warranted.

Aircraft Noise

An initial aircraft noise impact screening analysis would be warranted if the new receptor would either generate or reroute aircraft or introduce a new receptor that is within a 65 dBA DNL contour. Since the Proposed Action would not generate or reroute aircraft, and as the Project Area is not within a 65 dBA DNL contour, no initial aircraft noise impact screening analysis is warranted.

Appendix A
New York Landmarks Preservation Commission (LPC) Environmental Review Letters

Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / LA-CEQR-K
Project: 1160_FLUSHING_AVE_REZONING
Date Received: 6/22/2020

.

Properties with no Architectural or Archaeological significance:

1) 1154 FLUSHING AVENUE, BBL: 3031670012
2) 1160 FLUSHING AVENUE, BBL: 3031670018
3) 1162 FLUSHING AVENUE, BBL: 3031670024
4) 1182 FLUSHING AVENUE, BBL: 3031670026
5) 1224 FLUSHING AVENUE, BBL: 3031670029
6) 379 JEFFERSON STREET, BBL: 3031670040



6/25/2020

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 35017_FSO_DNP_06252020.docx

Appendix B
Phase 1 Environmental Site Assessment (ESA): Brooklyn Block 3167, Lots 18 & 24 (Executive Summary)

Phase I Environmental Site Assessment

1160-1168 Flushing Avenue
Block 3167, Lots 18 and 24
Brooklyn, New York

July 17, 2020

Prepared for:

1160 Flushing Ave, LLC
26 Harbor Park Drive
Port Washington, New York 11050

Prepared by:

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209 Shafter Street
Islandia, New York 11749

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Executive Summary

At the request of 1160 Flushing Ave, LLC (Client and User), Roux Environmental Engineering and Geology, D.P.C. (Roux) performed a Phase I Environmental Site Assessment (ESA) of the real property identified as 1160-1168 Flushing Avenue (Block 3167, Lots 18 and 24) in the borough of Brooklyn, City and State of New York (Subject Property; Figure 1). A Subject Property Plan showing relevant features is provided as Figure 2. The Phase I ESA is intended to define the historical uses of the Subject Property and identify any potential Recognized Environmental Conditions (RECs) that could warrant further consideration, in accordance with ASTM International Standard Practice E1527-13 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process).

A review of historical sources, including historical aerial photographs, historical topographic maps, and a City Directory Abstract, as well as an interview with a Key Subject Property Representative, indicate the Subject Property was developed between 1907 and 1933 with a one-story paper warehouse in the southern portion and railroad tracks running northwest to southeast through the northern portion. By 1951, the same building was identified as the Metropolitan Millwork Co. and Lumber Warehouse. This warehouse was present during the Subject Property Reconnaissance conducted in June 2020 and was identified to be vacant with no occupants.

Based on the information gathered during the Phase I ESA process, Roux has identified the following REC:

- Historical and Current Off-Site Usage: The Subject Property is in a predominantly industrial and manufacturing area of Brooklyn, New York and has historically contained nearby environmentally damaging businesses. Sanborn Maps indicated adjoining properties of environmental concern including a velvet dyeing and finishing company, an auto electric parts manufacturer, the Long Island Railroad Freight Yard, an electric-metallic company (potential electroplating identified as Sherron Corp) and a private garage with gasoline tanks. Sanborn Maps also identified numerous garages, filling stations and auto repairs throughout this area, which were noted to have gasoline storage tanks. Radius Map records also identified adjoining open spills (#1410058 and #0510000), which are both related to the Former Universal Scrap Processing/Auto Parts facility (Brownfield Cleanup Program (BCP) Site # C224210). This facility was identified with petroleum-related soil and groundwater contamination in connect to its former site operations. Dry cleaning operations were also identified at 2 Wyckoff Avenue, which is approximately 176 feet away from and upgradient of the Subject Property. Due to the presence of these nearby and adjoining sites, the soil, groundwater and soil vapor quality of the Subject Property may be adversely impacted.

Roux has not identified any Controlled RECs (CRECs), Historical RECs (HRECs) or Business Environmental Risks (BERs) in connection with the Subject Property.

Roux has identified the following data gaps in connection with this Phase I ESA:

- Awaiting responses to Freedom of Information Act (FOIA) requests from the New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH) and the New York City Department of Environmental Protection (NYCDEP) pertaining to the Subject Property. Based on the records obtained and reviewed from other resources, this is not considered a significant data gap. If any pertinent information is obtained from responses to outstanding FOIA requests regarding the Subject Property, Roux will prepare a letter addendum summarizing these findings.

1. Introduction

At the request of 1160 Flushing Ave, LLC (Client and User), Roux Environmental Engineering and Geology, D.P.C. (Roux) performed a Phase I Environmental Site Assessment (ESA) of the real property identified as 1160-1168 Flushing Avenue (Block 3167, Lots 18 and 24) in the borough of Brooklyn, City and State of New York (Subject Property; Figure 1). A Subject Property Plan showing relevant features is provided as Figure 2. The Phase I ESA is intended to define the historical uses of the Subject Property and identify any potential Recognized Environmental Conditions (RECs) that could warrant further consideration, in accordance with ASTM International Standard Practice E1527-13 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process).

The Phase I ESA was conducted in accordance with the scope of work presented in the original contract between 1160 Flushing Ave, LLC and Roux, dated June 15, 2020, and in general accordance with the ASTM International Standard Practice E1527-13 (Standard Practice for Environmental Site Assessments), consistent with the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries (AAI) Rule (40 CFR Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule[1]). The preamble for the AAI Rule states:

> *In today's final rule, EPA is referencing the standards and practices developed by ASTM International and known as Standard E1527-05 (entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process") and recognizing the E1527-05 standard as consistent with today's final rule. The Agency determined that this voluntary consensus standard is consistent with today's final rule and is compliant with the statutory criteria for all appropriate inquiries. Persons conducting all appropriate inquiries may use the procedures included in the ASTM E1527-05 standard to comply with today's final rule.*[2]

This AAI Rule was subsequently amended in 2013, as indicated in the following "Background":

> *With today's action, EPA is establishing that parties seeking liability relief under CERCLA's landowner liability protections, as well as recipients of brownfields grants for conducting site assessments, will be considered to have met the standards and practices for all appropriate inquiries, as set forth in the Brownfields Amendments to CERCLA and 40 CFR Part 312, if such parties follow the procedures provided in the ASTM E1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." EPA made this determination based upon the Agency's finding that the ASTM E1527-13 standard is compliant with the All Appropriate Inquiries Rule. Therefore, parties conducting all appropriate inquiries may use the procedures in the newly issued ASTM E1527-13 standard when conducting all appropriate inquiries.*[3]

The purpose of the Phase I ESA was to identify, to the extent feasible, RECs in connection with the Subject Property. ASTM Standard Practice E1527-13 defines RECs as:

> *the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.*

ASTM Standard Practice E1527-13 provides that identified RECs can be evaluated and classified into Controlled Recognized Environmental Conditions (CRECs) or Historical Recognized Environmental

[1] Final Rule and information available at www.epa.gov/swerosps/bf/regneg.htm#final_rule, and https://federalregister.gov/a/2013-31112.
[2] Federal Register: November 1, 2005 (Volume 70, Number 210), page 66081.
[3] Federal Register: December 30, 2013 (Volume 78, Number 250).

Conditions (HRECs) based on the following definitions. ASTM Standard Practice E1527-13 defines a CREC as:

> *a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).*

ASTM Standard Practice E1527-13 defines a HREC as:

> *a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).*

To assess the potential for RECs associated with the Subject Property, Roux utilized a variety of informational sources to perform the Phase I ESA, including a radial information search from federal, state, and local regulatory agency databases; Freedom of Information Act (FOIA)/public records responses from federal, state, and local regulatory agencies; and readily available information from the following sources: historical aerial photographs, historical topographic maps and a City Directory Abstract. The historical research and interviews were conducted to develop an understanding of the following:

- Current and past uses of the Subject Property;
- Current and past uses of hazardous substances and/or petroleum at the Subject Property, if any;
- Waste management and disposal practices that might have potentially caused releases or threatened releases of hazardous substances and/or petroleum products at the Subject Property;
- Current and past corrective actions and response activities undertaken to address past and ongoing releases of hazardous substances and/or petroleum products at the Subject Property, if any;
- The existence of any engineering and/or institutional controls recorded for the Subject Property; and
- Current and past uses of adjoining properties that could have resulted in releases or threatened releases of hazardous substances and/or petroleum products to the Subject Property.

Mr. Sin Senh and Mr. Adam Nasiatka served as the Environmental Professionals who conducted this Phase I ESA. As the Environmental Professionals, Mr. Senh and Mr. Nasiatka possess sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases or threatened releases (as defined in §312.1(c) on, at, in, or to a site, sufficient to meet the objectives and performance factors in §312.20(e) and (f)). Mr. Senh's and Mr. Nasiatka's professional profiles are provided in Appendix A.

2. Methods of Investigation

The methods of investigation used to conduct this Phase I ESA are outlined in the following sections.

2.1 General

The activities performed in conjunction with the Phase I ESA of the Subject Property include:

- Review of federal, state, and local environmental regulatory agency databases provided by Environmental Data Resources (EDR), Inc. of Milford, Connecticut indicating locations of environmental concern within specified radii from the Subject Property (Appendix B);
- Submission of FOIA/public records requests and inquiries to federal, state, and local regulatory agencies for the Subject Property (Appendix C);
- Review of historical information for the Subject Property and surrounding area, including aerial photographs, topographic maps, and other relevant historical information sources; and
- Reconnaissance of the Subject Property and surrounding area; and
- Conducted interviews with Key Subject Property personnel.

2.2 Review of Readily Available Information

The resources compiled and reviewed by Roux to date include the following:

- EDR Radius Map with GeoCheck, dated June 17, 2020 (EDR report) (Appendix B);
- Historical Certified Sanborn Fire Insurance Maps dated 1888, 1907, 1933, 1951, 1965, 1968, 1977, 1979 through 1982, 1986 through 1995, and 2001 through 2007 (Appendix D);
- Historical Aerial Photographs 1924, 1951, 1954, 1961, 1966, 1974, 1976, 1984, 1991, 1994, 2006, 2009, 2013, and 2017 (Appendix E);
- United States Geological Survey (USGS) 15 Minute Topographic Maps, Brooklyn, New York Quadrangle dated 1897, 1898 and 1900; 7.5 Minute Topographic Maps, Brooklyn, New York Quadrangle dated 1947, 1956, 1967, 1979, 1995, and 2013 (Appendix F); and
- A search of the City Directory Abstract conducted by EDR (Appendix G);

Pursuant to ASTM E1527-13, Roux contacted and reviewed additional environmental records provided by the following agencies:

Agency	Status
USEPA	Online database reviewed; no records identified.
NYSDEC	Acknowledgement received; no records provided. Records for off-site properties obtained online.
NYSDOH	Acknowledgement received; no records provided.
New York City Department of Environmental Protection (NYCDEP)	No response provided to our initial request.
New York Fire Department (FDNY)	Records provided and discussed in Section 5.2.
New York City Department of Finance (NYCDOF)	Records accessed online.
New York City Department of Buildings (NYCDOB)	Records accessed online.
New York City Department of City Planning (NYCDCP)	Records accessed online.

2.3 Subject Property and Surrounding Area Reconnaissance

Pursuant to ASTM Standard Practice E1527-13, Roux conducted a reconnaissance of the Subject Property and surrounding area on June 26, 2020 to identify, investigate, and assess potential RECs and other potential environmental concerns. The reconnaissance included observation of the Subject Property, including structures and buildings, and the surrounding area to determine the current use and condition of the Subject Property, indications of past uses of the Subject Property, and current uses of adjacent and adjoining properties and the surrounding area. During the Subject Property reconnaissance, Roux placed particular emphasis on identifying the following features, if present, in accordance with ASTM E1527-13:

- Hazardous substances and petroleum products in connection with identified uses;
- Storage tanks;
- Odors;
- Pools of liquid;
- Drums;
- Hazardous substances and petroleum products containers;
- Unidentified substance containers;
- Polychlorinated biphenyls (PCBs);
- Heating and cooling systems;
- Stains or corrosion;
- Drains and sumps;
- Pits, ponds, or lagoons;
- Stained soil or pavement;
- Stressed vegetation;
- Solid waste;
- Wastewater;
- Wells; and
- Septic systems.

In addition, observation of the general topographic setting of the Subject Property was made, and inquiry was made into the source of potable water for the Subject Property and other utilities, as presented in Section 6. Photographs from the Subject Property reconnaissance are presented in Appendix H.

2.4 Interview with Key Subject Property Manager

On June 26, 2020, in conjunction with the Subject Property reconnaissance, Mr. Nasiatka interviewed Mr. Guy Maxis as the Key Subject Property Representative. During the interview, Mr. Nasiatka asked general questions regarding the current and historical use and conditions of the Subject Property and surrounding area and inquired about specific observations made during the Subject Property reconnaissance. Pertinent information obtained during the interview is presented in appropriate sections throughout this Phase I ESA report.

2.5 User Provided Information

As of the date of this Phase I ESA, no historical documents have been provided to Roux for review.

3. Subject Property Description

Descriptions of the Subject Property and surrounding properties are included in the following sections. The location of the Subject Property is presented in Figure 1. The Subject Property and surrounding properties are presented in Figure 2.

3.1 Subject Property Location and Description

The Subject Property is defined as the following parcels:

- 1160 Flushing Avenue and 359-367 Jefferson Street, Brooklyn, New York (Block 3167, Lot 18); and
- 1162-1168 Flushing Avenue, Brooklyn, New York (Block 3167, Lot 24).

The Subject Property represents a combined approximate area of 37,063 square feet and is occupied with a single-story warehouse building and an adjoining vacant lot. Lot 24 represents an area of 6,675 square feet and is currently vacant and overgrown with vegetation. A locked chain link fence provides access to this lot from Flushing Avenue. Lot 18 represents an area of 30,388 square feet and contains a single-story warehouse building, which was not occupied at the time of inspection.

A partial basement was observed beneath the southwestern portion of the warehouse and was observed to be vacant. A partial sub-basement is also located beneath the basement and contains old and inactive air handling equipment, a hot water heater, sprinkler lines and other utility connections. The building also contained a freight elevator, which connects the basement and ground floor of the building, which was observed to be electric motor driven. The freight elevator does not extend to the sub-basement level of the warehouse.

Access to the Subject Property is provided via Flushing Avenue towards the northwest and Jefferson Street towards the southeast. The Subject Property and surrounding area were inspected during the Subject Property reconnaissance. The findings of the reconnaissance are summarized in Section 6.

3.2 Current Surrounding Property Usage

The areas surrounding the Subject Property are developed with manufacturing, retail and industrial buildings. Table 3.2 below provides details on adjoining and adjacent properties.

Table 3.2 Surrounding Property Uses	
North	Three-Story Industrial/Manufacturing Building (Julia Trading Inc. Wholesale)
South	One-Story Industrial/Manufacturing Building (Oriental Lumber)
East	Multiple Industrial/ Manufacturing Buildings (GNA Enterprises Inc./ Unspecified)
West	One-Story Industrial/Manufacturing Building (Unspecified/ Baby Blue Photo Studio)

3.3 Topographic and Hydrogeologic Setting

The grade of the Subject Property slopes gently towards the northwest in the general direction of Newtown Creek. The average elevation of the Subject Property is approximately 19 feet above mean sea level (ft amsl) as shown in the USGS 7.5 Minute Series Topographic Map (Appendix F) and EDR Radius Map (Appendix B). According to the EDR Report and National Wetlands Inventory, the Subject Property is not located in or adjacent

to any wetlands. The Subject Property is not located in the 100-year or 500-year flood zones according to FEMA Flood Maps and the EDR Report.

A formal groundwater flow direction study has not been conducted as part of this Phase I ESA. For purposes of investigating potential migration of off-site groundwater impacts during this Phase I ESA, the regional direction of groundwater flow in the vicinity of the Subject Property is assumed to flow towards the northwest in the direction of Newtown Creek and the East River. This estimation was based on regional topographic and hydrogeological features.

4. Subject Property History

The historical uses of the Subject Property are discussed below.

4.1 Historical Subject Property and Surrounding Property Usage

The historical uses of the Subject Property and surrounding properties were researched by examining Certified Sanborn Fire Insurance Maps (Appendix D); historical aerial photographs (Appendix E); historical USGS topographic maps (Appendix F); and the City Directory Abstract (Appendix G).

4.2 Historical Aerial Photographs

Historical aerial photographs were obtained from EDR, and they are provided in Appendix E. Historical aerials may indicate past activities at a property that may not have been documented by other means or observed during a reconnaissance visit. The aerial photographs reviewed were generally poor-quality images and specific Subject Property features were difficult to discern. The Subject Property appears developed with the existing warehouse building in the 1924 aerial photograph with the northern portion appearing vacant. The usage identified in the first 1924 aerial appears consistent with the usage of the Subject Property that was identified during the June 2020 Reconnaissance.

Off-site features including freight yards were noted to the west of the Subject Property in the 1924 aerial photograph. This freight yard was later replaced with manufacturing buildings, which were first identified in the 1966 aerial photograph. It appears from the early photographs (1924 through 1951) that a cleared area ran northwest to southeast through the vacant portion of the Subject Property, which may have been utilized for rail transit. Additional information on this is presented in Section 4.5 of this report.

4.3 Historical Topographic Maps

Historical topographic maps of the Subject Property were obtained from EDR, and they are provided in Appendix F. Elevation of the Subject Property was consistent in topographic maps reviewed from 1897 to 2013. No significant elevation changes that would suggest backfilling operations were identified.

4.4 City Directory Abstract

A City Directory Abstract of the Subject Property was obtained from EDR and is presented in Appendix G. Records reviewed from 1928 to 2017 were sourced from New York Telephone, Cole Information services, Hill-Donnelly Corporation, NYNEX, NYNEX Information Resources Company, R.L. Polk & Co. and the EDR Digital Archive. It is noted that the listings in the table below are transcribed as recorded directly in the City Directories.

Listings for 1160-1168 Flushing Avenue are provided in Table 4.4 below:

Table 4.4 City Directory Listings for 1160-1168 Flushing Avenue

Date	Description
1928	Mesmer Louis F Inc Whsle Millwork
1934	Centaur Paper Mills Supply Corp, Harry Peariman Pres
1970	Perlin Jack Milwk
1973 - 2017	B&B Sweater Mills Inc

Listings for the Subject Property were identified to be manufacturing/industrial and indicated the use of the Subject Property as a clothing mill (B&B Sweater Mills). A historical listing for 1934 identified the property as a paper mill. Records for the surrounding area were also industrial and commercial in nature and included various clothing manufacturers, a lumber and building material company, auto garages/repair shops, auto parts stores, trucking companies, scrap processing companies, auto recyclers, car washes, service stations, a wood and fuel company and food companies/restaurants. Additional information is presented on surrounding properties in Section 5.1 of this report.

4.5 Historical Sanborn Maps

Roux reviewed historical Certified Sanborn Fire Insurance maps for the Subject Property. Table 4.5 provides a summary of the Subject Property and surrounding area from 1888 to 2007, as determined from the Certified Sanborn Fire Insurance maps, which are included as Appendix D.

Table 4.5 Certified Sanborn Fire Insurance Maps

Date	Description
1888	**Subject Property:** Does not appear to be developed. A rail line is depicted in the northern portion of the property, entering from the southeast from Jefferson Avenue. **Surrounding Area:** Generally undeveloped with some dwellings noted to the east across Jefferson Avenue.
1907	**Subject Property:** Generally the same as the previous map. The rail line is now shown to extend through the Subject Property towards the northwest, which connects to the Long Island R.R. Freight Yard. **Surrounding Area:** Generally the same as the previous map, except the Long Island R.R. Freight Yard is now depicted off-site to the northwest. The southwestern portion of Block 3167 is developed with multiple stables, stores and a wagon house. The Block to the east (3176) is developed with a baby carriage manufacturer, a stone cutting yard and additional dwellings are also present.
1933	**Subject Property:** Developed with a one-story Paper Warehouse. The rail lines now include a switch and a second rail on the northern portion of the Subject Property (Lot 24). **Surrounding Area:** A private garage with a 60-truck capacity adjoins to the southwest and is noted to have a gasoline tank. Additional developments on the southwestern portion of the Subject Property's block include a poultry market, filling station and a hay/feed warehouse. The area west still contains the freight yard, and the area east of the Subject Property now includes auto electric parts manufacturing and fur dressing in addition to the uses previously identified in the 1907 Sanborn map.
1951	**Subject Property:** Generally the same as the previous map except the Subject Property is now identified as the Metropolitan Millwork Co. A portion of the building in the south is denoted as a lumber warehouse. **Surrounding Area:** A new building is present in the southeastern portion of the freight yard, which adjoins the Subject Property to the west. This building is identified for firewood cutting, charcoal storage and contained a gasoline tank. Adjoining to the north is now developed with the Sherron Metallic Corporation. Adjoining to the southeast is the new Caljohn Corporation, which is identified as velvet dyeing and finishing. The gasoline station on the southern end of Block 3167 is now noted with four gasoline tanks and an auto servicing area.

Table 4.5 Certified Sanborn Fire Insurance Maps	
Date	**Description**
1965-1968	**Subject Property:** Generally the same as the previous map. **Surrounding Area:** Generally the same as the previous map, except the building adjoining across Flushing Avenue to the west is noted for auto service and contains a filling station.
1977-1990	**Subject Property:** Generally the same as the previous map. **Surrounding Area:** Generally the same as the previous map, except the Caljohn Corporation (Velvet Dyeing and Finishing) to the southeast is now noted as a knitting mill.
1991-1992	**Subject Property:** Generally the same as the previous map. **Surrounding Area:** Generally the same as the previous map, except the garage adjoining to the south is now noted as Lumber Sales.
1993-2002	**Subject Property:** Generally the same as the previous map. **Surrounding Area:** Generally the same as the previous map, except the garage adjoining to the south is now generally noted as commercial with no specific usage identified.
2003-2007	**Subject Property:** Generally the same as the previous map. **Surrounding Area:** Generally the same as the previous map, except the auto related usage to the west no longer includes a filling station. This building is still noted as auto service.

The Subject Property has historically been present in an industrial/ manufacturing area. Although the use of the Subject Property for textile manufacturing is not environmentally concerning, the usage of the surrounding area may have impacted adversely upon the environmental quality of the Subject Property and is considered a REC. Historical Sanborn Maps have identified numerous auto garages with gasoline tanks, metal companies, scrap yards, gasoline filling stations, auto repair shops, velvet dyeing and finishing and electric auto parts manufacturing adjoining to and upgradient of the Subject Property. Additional information on surrounding sites is also presented in Section 5.1 of this report.

4.6 Environmental Lien Search and Activity Use Limitations

The Client did not engage Roux to review title and judicial records for environmental liens or AULs recorded for the Subject Property. Furthermore, these documents were not provided to Roux for review. The absence of this information represents an insignificant data gap due to information obtained from other sources throughout the course of this Phase I ESA.

5. Records Review

This section summarizes the information regarding the Subject Property and potential environmental sites of concern that are contained in the standard and additional environmental record sources reviewed by Roux in accordance with ASTM Standard Practice E1527-13.

5.1 Environmental Database Review

Roux used a computerized environmental database and radius map report prepared by EDR to conduct a government records database search of properties of potential environmental concern within a maximum of one-mile radius of the Subject Property. Appendix B contains a complete copy of the EDR Radius Map Report with GeoCheck. A summary of the pertinent results is provided in Table 5.1. Table 5.1 tabulates all the search results with at least one environmental database entry.

Table 5.1
Environmental Database Listings

Database	Subject Property	<1/8 mile	1/8-1/4 mile	1/4-1/2 mile	1/2-1 mile	Total
NPL	0	0	0	0	**1**	**1**
SEMS-ARCHIVE	0	2	0	1	**NR**	**3**
RCRA-LQG	0	5	5	**NR**	**NR**	**10**
RCRA-SQG	0	0	2	**NR**	**NR**	**2**
RCRA-VSQG	0	1	4	**NR**	**NR**	**5**
NY SHWS	0	1	0	2	3	**6**
NY SWF/ LF	0	2	2	10	**NR**	**14**
NY LTANKS	0	1	10	26	**NR**	**37**
NY UST	0	7	32	**NR**	**NR**	**39**
NY AST	0	9	19	**NR**	**NR**	**28**
NY ENG CONTROLS	0	0	1	2	**NR**	**3**
NY INST CONTROLS	0	0	1	2	**NR**	**3**
NY VCP	0	0	2	2	**NR**	**4**
NY BROWNFIELDS	0	1	0	3	**NR**	**4**
NY SWRCY	0	0	1	9	**NR**	**10**
NY SPILLS	0	33	**NR**	**NR**	**NR**	**33**
RCRA NONGEN/NLR	0	39	58	**NR**	**NR**	**97**
NY DRYCLEANERS	0	1	0	**NR**	**NR**	**1**

Table 5.1 Environmental Database Listings						
Database	**Subject Property**	**<1/8 mile**	**1/8-1/4 mile**	**1/4-1/2 mile**	**1/2-1 mile**	**Total**
NY HSWDS	0	0	0	3	**NR**	**3**
NY MANIFEST	0	47	86	**NR**	**NR**	**133**
PA MANIFEST	0	1	3	**NR**	**NR**	**4**
RI MANIFEST	0	1	0	**NR**	**NR**	**1**
NJ MANIFEST	0	17	17	**NR**	**NR**	**34**
EDR MGP	0	0	0	0	3	**3**
EDR HIST AUTO	0	5	**NR**	**NR**	**NR**	**5**
EDR HIST CLEANER	0	1	**NR**	**NR**	**NR**	**1**

NR – Not Reported

The Subject Property was not identified in any environmental databases.

Off-site properties that meet the criteria presented below are discussed in this report:

- Facilities adjoining or adjacent to the Subject Property are examined due to their proximity and the potential for surface water discharges (e.g., stormwater runoff, surface water effluent discharges) to enter the Subject Property or through the migration of groundwater or soil vapor.
- Facilities located topographically or hydraulically upgradient of the Subject Property.

Groundwater flow direction is presumed northwest across the Subject Property, toward Newtown Creek and the East River. Facilities that are located downgradient or cross gradient to the Subject Property—but not adjoining the Subject Property—are not discussed in this report because these facilities are considered to pose a low potential environmental concern to the Subject Property.

Adjoining Property Detail

Former Universal Scrap Metal Processors Corp – 27 Stewart Avenue/ 1181 Flushing Avenue (Adjoins Subject Property to the northwest)

The above-referenced site is identified in the SWF/LF, SPDES, AST, BROWNFIELDS and NY SPILLS databases. According to the Solid Waste Facility/Landfill (SWF/LF) database, the site was identified as a vehicle dismantling facility with a current status of inactive. According to the State Pollutant Discharge Elimination System (SPDES) database, this site was associated with permit #NYR00E020, which discharges to English Kills. The Aboveground Storage Tank (AST) database indicates the site is associated with Petroleum Bulk Storage (PBS) #2-611944, which is currently unregulated/closed. This registration accounts for a single 200-gallon waste oil AST that was closed and removed from the site in April 2014. The BROWNFIELDS database indicates this site was formerly operated as a freight rail yard in the late 1800s until approximately 1965. The database further indicated that the area near the Subject Property was operated as a filling station/auto repair. In January 2006, under Spill #0510000, eleven (11) 550-gallon gasoline underground storage tanks (USTs) and 240 tons of petroleum-impacted soil were removed, and a

chemical oxidant was applied to treat groundwater. The database further indicates that contaminants of the site include: petroleum related volatile organic compounds (VOCs), chlorinated VOCs, semivolatiles (SVOCs), metals and PCBs. Information on individual NY SPILLS listings are provided below:

- NY SPILL #1410058 occurred on January 14, 2015 and was opened due to contamination identified in environmental sample results. The NYSDEC memo indicated that this site was enrolled in the Brownfield Cleanup Program (BCP) and is being managed by Albany (NYSDEC Headquarters). This spill is currently open and has not yet been addressed to the satisfaction of the NYSDEC.
- NY SPILL #1305242 occurred on August 14, 2013 occurred after a petroleum sheen was identified on the groundwater surface. The NYSDEC memo further states that this spill will be closed and cross-referenced to NY SPILL #0510000 and that the spills will be managed through the BCP. This spill was closed to the satisfaction of the NYSDEC on October 5, 2017.

Due to the historical operations and contamination identified, this adjoining BCP Site is considered an off-site REC in connection with the Subject Property. Additional information on this site is provided in Section 5.2 of this report.

Universal Used Auto Parts – 1175 Flushing Avenue
(Adjoins Subject Property to the west)

The above-referenced site is identified in the SWF/LF, UST and NY SPILLS databases. According to the Solid Waste Facility/Landfill (SWF/LF) database, the site was identified as a vehicle dismantling facility with a current status of inactive. The underground storage tank (UST) database indicates that this site is associated with PBS #2-610117, which is currently unregulated/ closed. The PBS registration is associated with eleven (11) 550-gallon gasoline USTs, which have been removed from the site. Information on individual NY SPILLS listing is provided below:

- NY SPILL #0510000 occurred on November 21, 2005 and resulted from contamination observed during a Phase II investigation. It was concluded that petroleum contamination related to the USTs was present in the soil and groundwater. During the original investigation, groundwater samples indicated BTEX compounds as high as 4,400 parts per billion (ppb). It was noted in this report that the depth to water during environmental investigations was approximately 12 feet below grade surface (bgs). PW Grosser Consulting (PWGC) installed additional wells in 2009 and collected additional groundwater samples, which indicated concentrations for total VOCs as high as 9,217 micrograms per liter (µg/L). PWGC recommended chemical oxidation injections, which were performed in the area of the former tanks. NYSDEC expressed concerns that the active facility (scrap processing) had housekeeping issues that might be contributing further to existing groundwater contamination. The most recent notes of the spill case indicate that the BCP consultant, EBC, planned to submit a work plan to investigate off-site groundwater contamination, which was the most recent update in March 2018. As of the date of this report, this spill is still open.

A N F Service Corp – 1175 Flushing Avenue
(Adjoins Subject Property to the west)

The above-referenced site is identified in the EDR HIST AUTO database which identified historical auto related properties. The listing identifies J&J Service Station (gasoline service station) as operating in 1969 and 1970. The listings further identify A N F Service Corp (automotive repair shop) as operating in 1977 through 1979.

Hygiene Industries Div of API – 1177 Flushing Avenue
(Adjoins Subject Property to the west)

The above-referenced site is identified in the RCRA NONGEN/NLR, MANIFEST, FINDS and ECHO databases. This site is associated with EPA ID NYD986192947 and is currently identified as a handler (non-generator) of

hazardous wastes. The wastes handled were identified as D001 (ignitable waste) and U213 (FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)). This site was historically identified as a Large Quantity Generator (LQG) in 1990 and was first identified as a non-generator in 1999. No violations were identified to be associated with the RCRA operations. The FINDS and ECHO databases track information already discussed in the RCRA database, and no additional information was provided. The MANIFEST database indicated the shipment of D001 and U213 waste from the site.

Flush Mel Garage Inc – 1154 Flushing Avenue
(Adjoins Subject Property to the southwest)

The above-referenced site is identified in the EDR HIST AUTO database, which identified historical auto related properties. The listing identifies Flush Mel Garage Inc as a gasoline service station for the years 1969 through 1980, 1982 and 1983.

Upgradient Property Detail

Quality Chinese Laundry – 2 Wyckoff Avenue
(Approx. 176 feet to the northeast)

The above-referenced site is identified in the AIRS, DRYCLEANERS, RCRA NONGEN/NLR and MANIFEST databases. The AIRS database is associated with an expired air discharge permit. The DRYCLEANERS database indicates a facility ID of 2-6104-00534. This site is associated with EPA ID: NYD987036134 and is currently identified as a non-generator of hazardous waste. The wastes associated with this operation include F002 (spent halogenated solvents). This site was identified as a Large-Quantity Generator in 1993, 1998 and 1999. The site was identified to have a Conditionally Exempt Small Quantity Generator (CESQG) in 2006. Manifests associated with the operation were identified as F002 (spent halogenated solvents and still bottoms of recovered solvent).

F&A Processing Corp – 2 Wyckoff Avenue
(Approx. 176 feet to the northeast)

The above-referenced site is identified in the EDR HIST CLEANER database. The EDR HIST CLEANER database indicates F&A Processing Corp as operating in 1973, which was later identified as F&A Textile Processing Corp in 1974 and 1975. United Boulevard Cleaners was identified for the years 2002 and 2003.

Generally, the above-mentioned upgradient and adjoining facilities represent an off-site REC in connection with the Subject Property due to confirmed and potential releases to the environment.

Numerous ConEdison listings were identified in the RCRA NONGEN/NLR, MANIFEST, NY SPILLS, FINDS and ECHO databases. These ConEdison listings are typically underground concrete utility vaults with no pathways to the subsurface for contamination to migrate. The listings were reviewed for the surrounding area and no open NY SPILLS were identified to be associated with any of these manholes. The spill cases also did not identify any contamination leaving the concrete vaults in which the releases occurred. The surrounding ConEdison utility vaults should not impact upon the environmental quality of the Subject Property.

5.2 Freedom of Information Act Letter Responses

FOIA requests were submitted to the NYSDEC, NYSDOH, NYCDEP and the FDNY. Online USEPA, NYCDOF, NYCDOB and NYCDCP resources and databases were searched for records related to the Subject Property. If any additional pertinent environmental information is received from the outstanding FOIA requests following the issuance of this report, Roux will provide a letter addendum to this report detailing this

information. Information obtained from the Internet Databases and FOIA responses is included as Appendix C.

USEPA

The USEPA Envirofacts search tool was utilized and the Subject Property was not identified.

NYSDEC

As of the date of this report, the NYSDEC has acknowledged our FOIA request. The NYSDEC has not identified whether any records exist for the Subject Property. Any additional information provided by the NYSDEC will be provided as soon as it has been received and evaluated.

Information related to the adjoin BCP Site # C224210 (Former Universal Scrap Metal Processors Corp.) was available for review online through the NYSDEC Info Locator tool. The most recent document posted was a May 2018 Fact Sheet, which was posted by the NYSDEC. The fact sheet indicates the start of the remedial action, which will include mass excavation of site soils to 15 to 25 feet bgs (approximately 15,275 cubic yards of material). Additional work will include dewatering, post-excavation groundwater evaluations and if necessary, additional *in situ* chemical oxidation injections and a vapor intrusion evaluation. Copies of the Fact Sheet and the December 2017 Remedial Action Work Plan (RAWP) are included in Appendix C.

NYSDOH

As of the date of this report, the NYSDOH has acknowledged our FOIA request. The NYSDOH has not identified whether any records exist for the Subject Property. Any additional information provided by the NYSDOH will be provided as soon as it has been received and evaluated.

NYCDEP

As of the date of this report, the NYCDEP has not yet responded to our initial FOIA request. Any additional information provided by the NYCDEP will be provided as soon as it has been received and evaluated.

FDNY

As of the date of this report, the FDNY has responded to our FOIA request and provided tank account records related to the Subject Property. The account for B&B Sweater Mills (1160 Flushing Avenue) indicated a 1,080-gallon fuel oil tank. The tank was not specified to be an AST or UST, and the account was changed in October 1988 as the property was converted to natural gas for heating.

NYCDOF

The NYCDOF Automated City Register Information System (ACRIS) was searched for the Subject Property. The ACRIS files generally contained mortgage agreements, lease agreements and deeds. Lot 18 and 24 of the Subject Property are currently owned by B&B Sweater Mills Inc.

NYCDOB

The New York City Department of Buildings database was searched for the Subject Property. Lot 18 is associated with seven open DOB violations and two open Environmental Control Board (ECB) violations. The open DOB violations are related to elevators (work without a permit and failure to benchmark). The ECB violations are related to failure to maintain the elevator and roof drainage systems. Lot 24 is not associated with any open DOB or ECB violations.

NYCDCP

Appendix C of the City Environmental Quality Review (CEQR) of the Zoning Resolution of the City of New York was searched for any E-designations or restrictive declarations related to the Subject Property. A search of Table 1 – Environmental Requirements did not identify any E-designations associated with the Subject Property. A search of Table 2 – Restrictive Declarations did not identify any restrictive restrictions on the Subject Property.

6. Subject Property Reconnaissance

The findings of the Subject Property reconnaissance, conducted on June 26, 2020 are discussed below.

6.1 Utilities

The Subject Property was observed to be connected to electric, natural gas, sewer and municipal water utilities.

6.2 Hazardous Substances

Several gasoline containers no larger than five-gallons in size were observed to be stored on the concrete floor of the warehouse area. The containers appear to be utilized for a snow blower that was stored nearby. No stains, odors or signs of spillage were identified near these containers.

6.3 Storage Tanks

No storage tanks were identified at the Subject Property. A cut vent pipe and concrete-filled fill port were identified in the sidewalk of Flushing Avenue centrally on the western exterior of the Subject Property building. This fill and vent are assumed to be associated with the former 1,080-gallon fuel oil tank, which was identified in FDNY account records. No stains, odors, or signs of spillage were identified near the fill or vent.

6.4 Polychlorinated Biphenyls (PCBs)

No evidence of transformers or suspect PCB containing equipment was observed at the Subject Property.

6.5 Staining and Stressed Vegetation

No staining or stressed vegetation was identified at the Subject Property.

6.6 Interior Drains, Pits and Sumps

Numerous floor drains were observed on the main floor warehouse area. A sump pit was also observed within the sub-basement and was filled with standing water. This observation likely indicates that the sump was operational in the past, but it was shut off when the building became vacant. Roux is not aware of any discharge permits for the water that was discharged from the sump when it was formerly operational. No sheens, odors, or signs of spillage were identified in the sump pit or near the floor drains.

6.7 Solid Waste

Solid waste is currently not generated at the Subject Property since it is vacant.

6.8 Wastewater and Stormwater

Wastewater generated at the Subject Property is limited to sanitary waste and is connected to the municipal sewer system. Stormwater is expected to flow off of concrete areas into catch basins located in the street, which are managed by the City of New York. Stormwater is also expected to infiltrate directly into the soil surface of Lot 24 of the Subject Property.

6.9 Wells

No groundwater monitoring or potable water wells were observed at the Subject Property.

No groundwater monitoring wells were observed at any adjoining properties.

7. Interviews and User Provided Information

Pertinent findings from these sources are summarized in the following sections.

7.1 Interviews

Roux conducted an interview with Mr. Guy Maxis, the Key Subject Property Representative. Mr. Maxis was identified as the building manager. The following pertinent information was collected from the interview:

- Mr. Maxis indicated that his company has been managing the Subject Property for a little over a year.
- Mr. Maxis indicated that the elevator was electrically powered.
- Mr. Maxis indicated that he was unaware of any environmental reports, spills or issues associated with the Subject Property.

7.2 User Questionnaire

As of the date of this report, Roux was not provided with a completed environmental questionnaire to review and incorporate into this Phase I ESA. This data gap is considered insignificant due to the availability of information collected from historical resources.

8. Summary of Findings

Based on the information gathered during the Phase I ESA process, Roux has identified the following REC:

- Historical and Current Off-Site Usage: The Subject Property is in a predominantly industrial and manufacturing area of Brooklyn, New York and has historically contained nearby environmentally damaging businesses. Sanborn Maps indicated adjoining properties of environmental concern including a velvet dyeing and finishing company, an auto electric parts manufacturer, the Long Island Railroad Freight Yard, an electric-metallic company (potential electroplating identified as Sherron Corp) and a private garage with gasoline tanks. Sanborn Maps also identified numerous garages, filling stations and auto repairs throughout this area, which were noted to have gasoline storage tanks. Radius Map records also identified adjoining open spills (#1410058 and #0510000), which are both related to the Former Universal Scrap Processing/Auto Parts facility (BCP Site # C224210). This facility was identified with petroleum-related soil and groundwater contamination in connection to former site operations. Dry cleaning operations were also identified at 2 Wyckoff Avenue, which is approximately 176-feet away from and upgradient of the Subject Property. Due to the presence of these nearby and adjoining sites, the soil, groundwater and soil vapor quality of the Subject Property may be adversely impacted.

Roux has not identified any CRECs, HRECs or BERs in connection with the Subject Property.

Roux has identified the following data gaps in connection with this Phase I ESA:

- Awaiting responses to FOIA requests from the NYSDEC, NYSDOH and NYCDEP pertaining to the Subject Property. Based on the records obtained and reviewed from other resources, this is not considered a significant data gap. If any pertinent information is obtained from responses to outstanding FOIA requests regarding the Subject Property, Roux will prepare a letter addendum summarizing these findings.

9. Report Assumptions and Limitations

This Phase I ESA Report, including the exhibits attached hereto, describes the results of Roux's initial investigation to identify the potential presence of RECs involving or affecting the Subject Property in accordance with ASTM Standard Practice E1527-13. This Phase I ESA was conducted by Roux in accordance with the regulatory requirements for conducting AAI as set forth in the USEPA AAI Rule, at 40 CFR Part 312. Specifically, the preamble to the AAI Rule states:

> *"In today's final rule, EPA is referencing the standards and practices developed by ASTM International and known as Standard E1527-13 (entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process") and recognizing the E1527-13 standard as consistent with today's final rule. The Agency determined that this voluntary consensus standard is consistent with today's final rule and is compliant with the statutory criteria for all appropriate inquiries. Persons conducting all appropriate inquiries may use the procedures included in the ASTM E1527-13 standard to comply with today's final rule.[4]"*

One of the requirements that a person acquiring real property must meet in order to qualify for either the innocent landowner, contiguous owner, or bona fide prospective purchaser (collectively hereinafter "Prospective Purchaser") defense to liability under the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), is that person must conduct all appropriate inquiry in conformance with the AAI Rule (or the ASTM E1527-13) prior to acquisition of the property. 1160 Flushing Ave, LLC understands that, under the AAI Rule, Roux' performance of the Phase I ESA in accordance with ASTM E1527-13 will not alone result in 1160 Flushing Ave, LLC satisfying all requirements of the AAI Rule and provide a defense to CERCLA liability.

1160 Flushing Ave, LLC understands that the AAI Rule also requires that the Prospective Purchaser undertake certain additional inquiries and post-acquisition activities to satisfy the CERCLA AAI requirements. **ACCORDINGLY, ROUX MAKES NO GUARANTEES OR WARRANTIES, EXPRESSED OR IMPLIED, REGARDING THIS PHASE I ESA, INCLUDING WITHOUT LIMITATION, ANY WARRANTY THAT THIS PHASE I ESA WILL IN FACT QUALIFY THE CLIENT FOR A DEFENSE TO CERCLA LIABILITY.**

Roux has performed this Phase I ESA in a professional manner using the degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. Professional judgments expressed herein are based on the facts currently available to Roux.

The AAI Rule requires, and the conclusions and recommendations stated herein, represent the application of a variety of engineering and technical disciplines to material facts and conditions associated with the Subject Property. As such, these conclusions and recommendations are based on subjective interpretations and the exercise of discretion. Many of these facts and conditions are subject to change over time. Accordingly, the conclusions and recommendations must be considered within this context.

1160 Flushing Ave, LLC understands that Roux will not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the Phase I ESA was performed. To the extent practicable, Roux has identified data gaps and has evaluated the potential significance of such data gaps. Recommendations to address those data gaps are presented herein and are based on the data available at the time of the performance of the Phase I ESA. Implementation of the

[4] Federal Register: November 1, 2005 (Volume 70, Number 210) Page 66081.

recommendations may not fully address the data gaps as the information obtained from execution of those recommendations may alter or modify the interpretation of the Subject Property conditions and conclusions regarding the data gaps.

It should be noted that Roux has not conducted any intrusive activities on the Subject Property and is relying on information presented by others, often in preliminary, draft, or verbal form. By referencing this information, Roux does not accept responsibility for the accuracy of the underlying data, sampling methods, laboratory analysis, or documentation.

This Phase I ESA Report should not be considered a legal interpretation of existing environmental laws and regulations. The Phase I ESA was conducted with a reasonable degree of inquiry to identify significant RECs, but uncertainty is not eliminated. No Phase I ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. The Phase I ESA process is intended to reduce, but not eliminate, the uncertainty involved with identifying RECs.

This Phase I ESA Report is not an appraisal or value judgment of the Subject Property. 1160 Flushing Ave, LLC understands that Roux shall not be liable for any use of the Phase I ESA Report as an appraisal or value judgment of the Subject Property.

The Phase I ESA Report has been prepared for the exclusive 1160 Flushing Ave, LLC for specific application to the Subject Property covered by the Phase I ESA Report. 1160 Flushing Ave, LLC understands that any third-party use of this Phase I ESA Report is the sole responsibility and at the sole liability of 1160 Flushing Ave, LLC.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312; and

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth on 40 CFR 312.

Respectfully Submitted,

ROUX ENVIRONMENTAL ENGINEERING AND GEOLOGY, D.P.C.



Adam P. Nasiatka
Project Geologist



Sin Senh, P.G.
President and CEO

Appendix C
Phase 2 Environmental Site Assessment (ESA): Brooklyn Block 3167, Lots 18 & 24 (Executive Summary)

May 18, 2018

Mr. Brett Goldman
Director of Acquisitions
Triangle Equities Development Company, LLC
30-56 Whitestone Expressway
Whitestone, New York 13354

Re: Phase II Environmental Site Assessment Results
1160 Flushing Avenue, Brooklyn, New York, 11237
Tax Map Block 3167, Lots 18 and 24

Dear Mr. Goldman:

At the request of Triangle Equities Development Company, LLC (Client), Roux Environmental Engineering and Geology, D.P.C. (Roux) has prepared this Phase II Summary Letter Report (Report) to summarize the analytical results for the soil, groundwater, and soil vapor samples collected at the property located at 1160 Flushing Avenue, Brooklyn, New York (Site). The Site is also identified as Block 3167, Lots 18 and 24. A Site location map is included as Figure 1. The environmental samples summarized in this Report were collected in accordance with the scope of work described in Roux's March 1, 2018 revised proposal for Phase I and Phase II Environmental Site Assessments (ESAs).

Background Information
The Roux Draft Phase I Environmental Site Assessment (Draft Phase I ESA) describes the Site as a former industrial manufacturing one-story building that was built in at least 1928 in addition to an adjoined vacant lot. Roux identified potential petroleum contamination from offsite properties as a Recognized Environmental Condition (REC) at the Site. The historical presence of F&A Processing Corporation (drycleaners) and Quality Chinese Laundry at 2 Wyckoff Avenue (253 feet northeast of the Site) was identified as an HREC.

Based on the RECs identified in the Phase I ESA, a Phase II ESA was recommended by Roux to further evaluate the subsurface conditions at the Site. The redevelopment plans for the Site were not yet determined by the Client at the time of this report.

Phase II Environmental Site Assessment
The scope of work for the Phase II ESA included installation of soil borings, temporary well points, and temporary soil vapor points as well as collecting soil, groundwater, soil vapor for laboratory analysis. From April 23, 2018 through April 25, 2018, Roux sampled a total of ten soil boring locations, four temporary well points, and three temporary soil vapor points. An additional groundwater grab sample was collected from the dewatering system on May 9, 2018.

The locations of the soil borings, temporary well points, and soil vapor points are provided on Figure 2. Soil samples were collected from each of the ten soil boring locations (SB-1 through SB-10). Four groundwater grab samples, TW-1, TW-2, TW-3, and TW-4 were collected from locations SB-1, SB-2, SB-3, and SB-4 respectively. Three soil vapor samples, SV-1, SV-2, and SV-3 were collected from locations SB-5, SB-6, and SB-7 respectively. Roux retained the services of Aquifer Drilling and Testing, Inc. (ADT) of Mineola, New York to complete the installation of the soil borings, the temporary wells, and the soil vapor screens.

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209 Shafter Street ■ Islandia, New York 11749 ■ +1.631.232.2600 ■ www.rouxinc.com
California ■ Illinois ■ Massachusetts ■ New Jersey ■ New York ■ Texas

Prior to any drilling, all deeper soil boring locations were pre-cleared by hand to a depth of five feet below land surface (ft bls) to ensure each drilling location was free of any potential utilities in the subsurface. The site investigation conducted by Roux is summarized below.

Soil Sampling
Ten soil borings were installed at the Site during the Phase II investigation. Seven of the ten borings were installed using the Geoprobe® direct-push method which allows for continuous soil sampling from the beginning of the boring to the target depth, unless refusal is encountered. During drilling, ADT collected continuous soil samples using five-foot disposable acetate tubes. ADT utilized the Geoprobe® 6620DT rig for the seven deeper soil borings. ADT utilized a hammer drill and a hand auger for the three shallower soil borings. For the soil boring installations, soil samples were field screened for volatile organic compounds (VOCs) using a photoionization detector (PID). All soils were visually inspected for evidence of environmental impacts (e.g., odors, staining, and/or visible free product) and the lithology was recorded in accordance with the Unified Soils Classification System (USCS). Geologic logs were completed for each boring and are provided in Attachment 1.

Each soil boring was installed to evaluate potential environmental impacts at the Site. The soil at the Site consists of mostly fine to coarse sand with some intervals of silt and clay. A fill layer was observed, varying from two to fifteen feet in thickness, at each of the soil boring locations. Roux did not observe any visual or olfactory evidence of environmental impacts in any of the soil samples during field screening. None of the soil borings exhibited PID readings above five parts per million (ppm) during the drilling activities.

At each soil boring location, Roux collected a soil sample from the two-foot interval located directly above the groundwater interface.

Roux collected 10 soil samples from the ten soil borings utilizing laboratory-supplied containers. All soil samples (both shallow and deep) collected were analyzed for the following parameters:

- Target Compound List (TCL) Volatile Organic Compounds (VOCs) via USEPA Method 8260;
- TCL Semivolatile Organic Compounds (SVOCs) via USEPA Method 8270;
- Target Analyte List (TAL) Metals via USEPA Method 6010C.

Groundwater Sampling
Four of the ten soil borings were converted to temporary well points for groundwater sampling. The temporary well points were constructed of 1-inch diameter PVC well material consisting of ten feet of 0.010-inch slotted well screen and riser to land surface. TW-1, TW-3, and TW-4 were installed to a depth of approximately 20 ft bls using ten feet of well screen. TW-2 was installed to a depth of approximately 25 ft bls using ten feet of well screen. Following the temporary well point installation, Roux collected a groundwater grab sample using a peristaltic pump and Teflon-lined tubing from the newly installed temporary monitoring wells. Since all four of the samples were collected from temporary well points, well development was not performed to remove sediments/fines from within the well points. The groundwater samples were analyzed for the following parameters:

- TCL VOCs via USEPA Method 8260B;
- TCL SVOCs via USEPA Method 8270; and
- TAL Metals via USEPA Method 6010C (total and dissolved).

The current building also has a dewatering system operating in the sub-cellar, which discharges to the New York City combined sewer. A groundwater grab sample was collected and analyzed for the same parameters listed above.

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Roux placed the soil and groundwater samples in the laboratory-supplied containers, packaged the samples in a cooler with ice, and relinquished the samples to the laboratory courier following chain of custody procedures.

Soil Vapor Sampling
Roux collected three soil vapor samples, SV-1, SV-2 and SV-3, from soil vapor screens installed in soil boring locations SB-5, SB-6 and SB-7, respectively.

Stainless steel soil vapor screens were installed into the borehole, at depths varying from 2 ft bls to 15.5 ft bls. The borehole was sealed off from ambient air using a bentonite seal at the surface. Following installation of each temporary soil vapor point, the integrity of each sampling point seal was checked in accordance with the May 2017 New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH Guidance). This step was conducted as a quality assurance/quality control (QA/QC) measure to verify that the soil vapor sample was not compromised by inadvertent introduction of ambient air into the sample. Soil vapor was purged from the point using an air pump calibrated to approximately 0.2 liters per minute while the sampling point was covered at the surface with a small enclosure that is partially filled with helium. The soil vapor discharging from the air pump and the air within the enclosure was continuously monitored for helium during purging. Immediately prior to sample collection, each soil vapor point was purged of approximately three volumes of soil vapor using an air pump calibrated to approximately 0.2 liters per minute. Samples were collected using batch certified vacuum canisters equipped with laboratory-supplied, two-hour regulators for analysis of organic vapors using the TO-15 method. Vacuum-pressure readings in the sample canister were recorded before and after the sample collection period. Samples were relinquished to the laboratory courier following chain of custody procedures.

After sample collection, ADT removed the temporary wells and soil vapor points and finished the boreholes to the ground surface with sand and asphalt patch.

Results
Roux submitted all the samples for analysis to Alpha Analytical (Alpha) of Westborough, Massachusetts, a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory. Soil sampling results were compared to the NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCO) and NYSDEC Part 375 Restricted Residential Soil Cleanup Objectives (RRSCOs). Groundwater sampling results were compared to the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQSGVs). Soil vapor detections are also reported. A summary of the results is presented on Tables 1 through 7 and the laboratory analytical results packages are included in Attachment 2.

Soil
Results for the 10 soil samples are provided on Tables 1 through 3. Based on the data collected from the soil samples, none of the 10 soil samples exceeded the UUSCOs or RRSCOs.

Groundwater
Results for the five groundwater samples can be found on Tables 4 through 6 and Figure 3. SVOCs were not detected at concentrations exceeding the AWQSGVs, except in the groundwater grab sample DWS-1. Groundwater sample DWS-1 contained several polycylic aromatic hydrocarbons (PAHs) that slightly exceeded their AWQSGV. Chlorinated VOCs (CVOCs) cis-1,2-dichloroethelene and vinyl chloride slightly exceeded their AWGSGVs (5 micrograms per liter [µg/L] and 2 µg/L, respectively) in temporary well point TW-1. Chloroform and tetrachloroethene (PCE) slightly exceeded their AWGSGVs (7 µg/L and 5 µg/L, respectively) in TW-2. Iron, manganese, and sodium were detected in concentrations exceeding the AWQSGVs in both the total and dissolved (filtered) samples.

Soil Vapor
Results for the soil vapor samples can be found on Table 7 and Figure 4. Each soil vapor sample contained detections of VOCs. Of the VOCs analyzed by the laboratory, only seven compounds have

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had guidance values assigned by NYSDOH for soil vapor and indoor air concentrations. The matrices provide guidance relative to carbon tetrachloride, cis-1,2-dichloroethene, 1,1-dichloroethene and trichloroethene (TCE), PCE, 1,1,1-trichloroethane, methylene chloride, and vinyl chloride.

Matrix A Compounds: carbon tetrachloride, cis-1,2-dichloroethene, 1,1-dichloroethene, TCE

- TCE was detected in all three soil vapor samples at concentrations ranging from 14.1 micrograms per cubic meter (µg/m^3) to 131 µg/m^3, with a maximum detection in soil vapor sample SV-3.
- Cis-1,2-dichloroethene was detected in one soil vapor sample (SV-2) at a concentration of 6.74 µg/m^3.
- 1,1- Dichloroethene and carbon tetrachloride were not detected in any of the three soil vapor samples.

Matrix B Compounds: PCE, 1,1,1-trichloroethane, methylene chloride

- PCE was detected in all three soil vapor samples at concentrations ranging from 114 µg/m^3 to 1,560 µg/m^3, with a maximum detection in soil vapor sample SV-3.
- 1,1,1-Trichloroethane was detected in one soil vapor sample (SV-3) at a concentration of 45.7 µg/m^3.
- Methylene chloride were not detected in any of the three soil vapor samples.

Matrix C Compound: vinyl chloride

- Vinyl chloride was not detected in any of the three soil vapor samples.

According to NYSDOH Guidance Soil Vapor Matrices, all three soil vapor locations warrant monitoring to determine whether concentrations in the sub-slab vapor are changing. The concentration of PCE and TCE detected in soil vapor sample SV-3 warrant mitigation to minimize potential exposures associated with soil vapor intrusion. Additional compounds detected besides those noted below are included in Table 7.

Conclusion and Recommendations
Soil analytical results for the samples collected at the Site are below the UUSCOs.

The groundwater sample results contain elevated CVOC concentrations. PCE and two of its daughter products, cis-1,2-dichloroethelene and TCE were each detected at concentrations slightly exceeding their AWQSGVs in at least one of the four on-site temporary wells. The exceedances of PAHs in groundwater sample DWS-1 are not considered to be indicative of groundwater quality at the Site, and are likely due to sediments in the groundwater grab sample. The exceedances of metals are not considered to be indicative of groundwater quality at the Site, but are likely sample naturally occurring.

The soil vapor samples collected at the Site show detections for VOCs at each of the sampling locations, with the highest detection being at soil vapor point SV-3. SV-3 is located in the southeast corner of the Site. The source of the VOCs is unknown. Based on NYSDOH guidance, remediation and/or mitigation measures will be required to address CVOC-affect soil vapor beneath the existing foundation slab.

If you have any questions about the sampling results at the Site, please do not hesitate to contact either of the undersigned.

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Sincerely,

ROUX ENVIRONMENTAL ENGINEERING AND GEOLOGY, D.P.C.

Rachel Henke
Project Scientist

Sin Senh, P.G.
Principal Hydrogeologist/
Vice President

Attachments

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