Environmental Assessment Statement

East Fordham Road Rezoning

May 17, 2013
CEQR No.: 13DCP107X
ULURP No.: 130273ZMX
N130274ZRX

Rezoning Location: Bronx, New York

Lead Agency:
City Planning Commission
City of New York
Amanda M. Burden, FAICP, Chair

Lead Agency Contact:
Robert Dobruskin, AICP, Director
Environmental Assessment and Review Division
New York City Department of City Planning
22 Reade Street, Room 4E
New York, New York, 10007
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Prepared By:
New York City Department of City Planning

FOREWORD

An Environmental Assessment Statement (EAS) for the proposed action and a Draft Scope of Work for the Environmental Impact Statement (EIS) were issued on March 22, 2013, and a public scoping hearing on the proposed action was held on Tuesday, April 30, 2013 at 10AM at the New York City Department of City Planning-Bronx Office One Fordham Plaza 5th Floor, Bronx, New York, 10458. The EAS has been revised to include technical analyses completed since the March 2013 EAS was published. These technical analyses address subjects that, according to the original March 2013 Draft Scope of Work, were to be analyzed in the EIS. Specifically, the Open Space, Shadows, Air Quality, Noise, Neighborhood Character, and Public Health analyses are partially or entirely new to the final EAS.

City Environmental Quality Review
ENVIRONMENTAL ASSESSMENT STATEMENT FULL FORM

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

PART I: GENERAL INFORMATION

PROJECT NAME East Fordham Road Rezoning

1. *Reference Numbers*

CEQR REFERENCE NUMBER (To Be Assigned by Lead Agency)	BSA REFERENCE NUMBER (If Applicable)
13DCP107X	
ULURP REFERENCE NUMBER (If Applicable))	**OTHER REFERENCE NUMBER(S) (If Applicable) (e.g. Legislative Intro, CAPA, etc)**
130273ZMX; N 130274ZRX	

2a. *Lead Agency Information*

NAME OF LEAD AGENCY: New York City Department of City Planning

NAME OF LEAD AGENCY CONTACT PERSON: Robert Dobruskin

ADDRESS: 22 Reade Street 4th Floor

CITY: New York | STATE: NY | ZIP: 10007

TELEPHONE: 212-720-3423 | FAX: 212-720-3495

EMAIL ADDRESS: rdobrus@planning.nyc.gov

2b. *Applicant Information*

NAME OF APPLICANT: New York City Department of City Planning

NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON: Carol Samol, Bronx Office

ADDRESS: 1 Fordham Plaza, Suite 502

CITY: Bronx | STATE: NY | ZIP: 10458

TELEPHONE: 718-220-8500 | FAX: 718-584-8628

EMAIL ADDRESS: csamol@planning.nyc.gov

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 Chapter 2, "Establishing the Analysis Framework" for guidance)*

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

4. *Project Description:*

The proposed actions would rezone portions of 12 blocks in Belmont, Bronx Community District 6 from C8-1, R6, R6/C2-3, R6/C2-4 to C4-5D, R6B and R6 to create opportunities for growth and development, incentivize permanently affordable housing, preserve neighborhood character and ensure predictability for future development. A zoning text amendment would make the Inclusionary Housing Program applicable in the proposed C4-5D zoning district. These actions would allow new residential development where it is not permitted today, incentivize permanently affordable housing and increase the density for both commercial and community facility uses. The proposal also includes establishing new C2-4 commercial overlays to reinforce the established commercial fabric.

4a. *Project Location: Single Site* *(for a project at a single site, complete all the information below)*

ADDRESS	NEIGHBORHOOD NAME	
TAX BLOCK AND LOT	BOROUGH: Bronx	COMMUNITY DISTRICT: 6
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION IF ANY: C8-1, R6/C2-3,R6/C2-4, R6		ZONING SECTIONAL MAP NO: 3C

4b. *Project Location: Multiple Sites* *(Provide a description of the size of the project area in both City Blocks and Lots. If the project would apply to the entire city or to areas that are so extensive that a site-specific description is not appropriate or practicable, describe the area of the project, including bounding streets, etc.)*

The rezoning area includes portions of 12 blocks (157 lots) in Belmont, Bronx, Community District 6 an area generally bounded by Southern Boulevard to the west, Bathgate Avenue to the east, East 191st Street to the north and East 187th Street to the south.

5. *REQUIRED ACTIONS OR APPROVALS* *(check all that apply)*

City Planning Commission: YES ☑ NO ☐

- ☐ CITY MAP AMENDMENT
- ☑ ZONING MAP AMENDMENT
- ☑ ZONING TEXT AMENDMENT
- ☑ UNIFORM LAND USE REVIEW PROCEDURE (ULURP)
- ☐ CONCESSION
- ☐ UDAAP
- ☐ REVOCABLE CONSENT
- ☐ ZONING CERTIFICATION
- ☐ ZONING AUTHORIZATION
- ☐ HOUSING PLAN & PROJECT
- ☐ SITE SELECTION — PUBLIC FACILITY
- ☐ FRANCHISE
- ☐ DISPOSITION — REAL PROPERTY

ZONING SPECIAL PERMIT, SPECIFY TYPE:

- ☐ MODIFICATION OF
- ☐ RENEWAL OF
- ☐ OTHER

Board of Standards and Appeals: YES ☐ NO ☑

- ☐ SPECIAL PERMIT

EXPIRATION DATE MONTH DAY YEAR

- ☐ VARIANCE (USE)
- ☐ VARIANCE (BULK)

SPECIFY AFFECTED SECTION(S) OF THE ZONING RESOLUTION

Department of Environmental Protection: YES ☐ NO ☑

Other City Approvals: YES ☐ NO ☑

- ☐ LEGISLATION
- ☐ FUNDING OF CONSTRUCTION; SPECIFY
- ☐ POLICY OR PLAN; SPECIFY
- ☐ LANDMARKS PRESERVATION COMMISSION APPROVAL *(not subject to CEQR)*
- ☐ 384(b)(4) APPROVAL
- ☐ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC) *(not subject to CEQR)*
- ☐ RULEMAKING
- ☐ CONSTRUCTION OF PUBLIC FACILITIES
- ☐ FUNDING OF PROGRAMS; SPECIFY
- ☐ PERMITS; SPECIFY:
- ☐ OTHER; EXPLAIN

6. *State or Federal Actions/Approvals/Funding:* YES ☐ NO ☑ IF "YES," IDENTIFY

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

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 11×17 inches in size and must be folded to 8.5 ×11 inches for submission.*

☑ Site location map ☑ Zoning map ☑ Photographs of the project site taken within 6 months of EAS submission and keyed to the site location map

☑ Sanborn or other land use map ☑ Tax map ☑ For large areas or multiple sites, a GIS shape file that defines the project sites

PHYSICAL SETTING *(both developed and undeveloped areas)*

Total directly affected area (sq. ft.):	Type of waterbody and surface area (sq. ft.):	Roads, building and other paved surfaces (sq. ft.)

Other, describe (sq. ft.):

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

Size of project to be developed: SEE ATTACHMENT 1: PROJECT DESCRIPTION (gross sq. ft.)

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

If 'Yes,' identify the total square feet owned or controlled by the applicant : N/A Total square feet of non-applicant owned development: N/A

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: sq. ft. (width × length) Volume: cubic feet (width × length × depth)

Does the proposed project increase the population of residents and/or on-site workers? YES ☑ NO ☐ Number of additional residents? 1035 Number of additional workers? 605

Provide a brief explanation of how these numbers were determined:

2010 Census data for the census tracts within the rezoning area were used.

Does the project create new open space? YES ☐ NO ☑ If Yes: (sq. ft)

Using Table 14-1, estimate the project's projected operational solid waste generation, if applicable: (pounds per week)

Using energy modeling or Table 15-1, estimate the project's projected energy use: (annual BTUs)

9. *Analysis Year* *CEQR Technical Manual Chapter 2*

ANTICIPATED BUILD YEAR (DATE THE PROJECT WOULD BE COMPLETED AND OPERATIONAL): 2023	ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS:
WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? YES ☐ NO ☑	IF MULTIPLE PHASES, HOW MANY PHASES:

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE:

10. *What is the Predominant Land Use in Vicinity of Project?* *(Check all that apply)*

☑ RESIDENTIAL ☐ MANUFACTURING ☑ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ☑ OTHER, Describe: Auto-related uses

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.

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Land Use				
Residential	YES ☑ NO ☐	YES ☑ NO ☐	YES ☑ NO ☐	
If yes, specify the following				
No. of dwelling units	12	-12	364	352
No. of low- to moderate income units	0	0	73	73
No. of stories	3	0	10	
Gross Floor Area (sq.ft.)	11,688	-11,688	364,155	352,467
Describe Type of Residential Structures	low-rise	N/A	Mid-Denisty	
Commercial	YES ☑ NO ☐	YES ☑ NO ☐	YES ☑ NO ☐	
If yes, specify the following:				
Describe type (retail, office, other)	Retail, office, auto-related	Retail, office, auto-related	Retail, Restaurant, Office,	Retail, Restaurant,Office,
No. of bldgs	8	8	9	9
GFA of each bldg (sq.ft.)	79,500	104,595	304,	157,299
Manufacturing/Industrial	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☑	
If yes, specify the following:				
Type of use		N/A	N/A	N/A
No. of bldgs			0	
GFA of each bldg (sq.ft.)			0	
No. of stories of each bldg			N/A	
Height of each bldg			N/A	
Open storage area (sq.ft.)			N/A	
If any unenclosed activities, specify			N/A	
Community Facility	YES ☑ NO ☐	YES ☑ NO ☐	YES ☑ NO ☐	
If yes, specify the following:				
Type	N/A	Education & Medical	Education & Medical	
No. of bldgs	0	2	3	1
GFA of each bldg (sq.ft.)	0	86,179	86,939	761
No. of stories of each bldg	0	8	10	2
Height of each bldg	0	80'	100'	20'
Vacant Land	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☑	
If yes, describe:				
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)				
Other Land Use	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☑	
If yes, describe				
Parking				
Garages	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☑	
If yes, specify the following:				
No. of public spaces				
No. of accessory spaces				
Operating hours				
Attended or non-attended				

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Parking *(continued)*				
Lots	YES ☑ NO ☐	YES ☑ NO ☐	YES ☑ NO ☐	
If yes, specify the following:				
No. of public spaces				
No. of accessory spaces				
Operating hours				
Other (includes street parking)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	
If yes, describe				
Storage Tanks				
Storage Tanks	YES ☑ NO ☐	YES ☐ NO ☐	YES ☐ NO ☑	
If yes, specify the following:				
Gas/Service stations	YES ☑ NO ☐	YES ☐ NO ☐	YES ☐ NO ☑	
Oil storage facility	YES ☑ NO ☐	YES ☐ NO ☐	YES ☐ NO ☑	
Other, identify:	YES ☑ NO ☐	YES ☐ NO ☐	YES ☐ NO ☑	
If yes to any of the above, describe:				
Number of tanks				
Size of tanks				
Location of tanks				
Depth of tanks				
Most recent FDNY inspection date				
Population				
Residents	YES ☑ NO ☐	YES ☑ NO ☐	YES ☑ NO ☐	
If any, specify number	55,612	58,559	59,594	
Briefly explain how the number of residents was calculated:	Census data for 2010 and 2000 for the census tracts within the rezoning area were used.			
Businesses	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☑	
If any, specify the following:				
No. and type				
No. and type of workers by business				
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated:				
Zoning*				
Zoning classification	Varies, See Attachment 2	Varies, See Attachment 2	Varies, See Attachment 2	Varies, See Attachment 2
Maximum amount of floor area that can be developed (in terms of bulk)	" "	" "	" "	" "
Predominant land use and zoning classifications within a 0.25 mile radius of proposed project	" "	" "	" "	" "
Attach any additional information as may be needed to describe the project. If your project involves changes in regulatory controls that affect one or more sites not associated with a specific development, it is generally appropriate to include the total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				

**This section should be completed for all projects, except for such projects that would apply to the entire city or to areas that are so extensive that site-specific zoning information is not appropriate or practicable.*

PART II: TECHNICAL ANALYSES

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, answer the subsequent questions for that technical area and consult the relevant chapter of the CEQR Technical Manual for guidance on providing additional analyses (and attach supporting information, if needed) 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 often only means that more information is required for the lead agency to make a determination of significance.
- The lead agency, upon reviewing Part II, may require an applicant to either 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 or zoning that is different from surrounding land uses and/or zoning? Is there the potential to affect an applicable public policy? If "Yes", complete a preliminary assessment and attach.	✔	
(b) Is the project a large, publicly sponsored project? If "Yes", complete a PlaNYC assessment and attach.		✔
(c) 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 200 or more residential units?	✔	
• Generate a net increase of 200,000 or more square feet of commercial space?		✔
• Directly displace more than 500 residents?		✔
• Directly displace more than 100 employees?		✔
• Affect conditions in a specific industry?		✔
(b) If 'Yes' to any of the above, attach supporting information to answer the following questions, as appropriate. If 'No' was checked for each category above, the remaining questions in this technical area do not need to be answered.		
(1) ***Direct Residential Displacement***		
• If more than 500 residents would be displaced, would these displaced residents represent more than 5% of the primary study area population?		✔
• 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?		✔
(2) ***Indirect Residential Displacement***		
• Would the expected average incomes of the new population exceed the average incomes of the study area populations?		✔
• If 'Yes,' would the population increase represent more than 5% of the primary study area population or otherwise potentially affect real estate market conditions?		✔
• If 'Yes,' would the study area have a significant number of unprotected rental units?		✔
Would more than 10 percent of all the housing units be renter-occupied and unprotected?		✔
Or, would more than 5 percent of all the housing units be renter-occupied and unprotected where no readily observable trend toward increasing rents and new market rate development exists within the study area?		✔

	YES	NO
(3) *Direct Business Displacement*		
• Do any of the displaced businesses provide goods or services that otherwise could not be found within the trade area, either under existing conditions or in the future with the proposed project?		✔
• Do any of the displaced businesses provide goods or services that otherwise could not be found within the trade area, either under existing conditions or in the future with the proposed project?		✔
• Or, is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it?		✔
(4) *Indirect Business Displacement*		
• Would the project potentially introduce trends that make it difficult for businesses to remain in the area?		✔
• Would the project capture the retail sales in a particular category of goods to the extent that the market for such goods would become saturated as a result, potentially resulting in vacancies and disinvestment on neighborhood commercial streets?		✔
(5) *Affects 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) Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations?		✔
(b) Would the project exceed any of the thresholds outlined in Table 6-1 in Chapter 6?		✔
(c) If 'No' was checked above, the remaining questions in this technical area do not need to be answered. If 'Yes' was checked, attach supporting information to answer the following, if applicable.		
(1) *Child Care Centers*		
• Would the project result in a collective utilization rate of the group child care/Head Start centers in the study area that is greater than 100 percent?		✔
• If Yes, would the project increase the collective utilization rate by 5 percent from the No-Action scenario?		✔
(2) *Libraries*		
• Would the project increase the study area population by 5 percent from the No-Action levels?		✔
• If Yes, would the additional population impair the delivery of library services in the study area?		✔
(3) *Public Schools*		
• Would the project result in a collective utilization rate of the elementary and/or intermediate schools in the study area that is equal to or greater than 105 percent?	✔	
• If Yes, would the project increase this collective utilization rate by 5 percent from the No-Action scenario?		✔
(4) *Health Care Facilities*		
• Would the project affect the operation of health care facilities in the area?		✔
(5) *Fire and Police Protection*		
• Would the project affect the operation of fire or police protection in the area?		✔
4. *OPEN SPACE*: *CEQR Technical Manual Chapter 7*		
(a) Would the project change or eliminate existing open space?		✔
(b) Is the project located within an underserved area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?		✔
(c) If 'Yes,' would the proposed project generate more than 50 additional residents or 125 additional employees?		✔
(d) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?		✔
(e) If 'Yes,' would the project generate more than 350 additional residents or 750 additional employees?		✔
(f) If the project is not located within an underserved or well-served area, would it generate more than 200 additional residents or 500 additional employees?	✔	
(g) If 'Yes' to any of the above questions, attach supporting information to answer the following: • Does the project result in a decrease in the open space ratio of more then 5%?		✔
• If the project is within an underserved area, is the decrease in open space between 1% and 5%?		✔
• If 'Yes," are there qualitative considerations, such as the quality of open space, that need to be considered?		

	YES	NO
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 reach any sunlight-sensitive resource at any time of the year.		
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; is listed or eligible for listing on the New York State or National Register of Historic Places; or is within a designated or eligible New York City, New York State, or National Register Historic District? If "Yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.		✔
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 that is not currently allowed by existing zoning?		✔
(c) If "Yes" to either of the above, please provide the information requested in Chapter 10.		
8. *NATURAL RESOURCES:* CEQR Technical Manual Chapter 11		
(a) Is any part of the directly affected area within the Jamaica Bay Watershed? If "Yes", complete the Jamaica Bay Watershed Form.		✔
(b) 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: Attach supporting information on whether the proposed project would affect any of these resources.		✔
9. *HAZARDOUS MATERIALS:* CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential use in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	✔	
(b) Does the proposed project site have existing institutional controls (e.g. (E) designations or a Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?		✔
(c) Does the project require soil disturbance in a manufacturing zone or any development on or near a manufacturing zone or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	✔	
(d) Does 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?	✔	
(e) Does the project result in development where underground and/or aboveground storage tanks (e.g. gas stations) are or were on or near the site?	✔	
(f) Does the project result in renovation of interior existing space on a site with potential compromised air quality, vapor intrusion from on-site or off-site sources, asbestos, PCBs or lead-based paint?	✔	
(g) Does the project result in development on or near a government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, municipal incinerators, coal gasification or gas storage sites, or railroad tracks and rights-of-way?		✔
(h) Has a Phase I Environmental Site Assessment been performed for the site? If 'Yes," were RECs identified? Briefly identify:		
(i) Based on a Phase I Assessment, is a Phase II Assessment 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) Is the proposed project located in a combined sewer area and result in at least 1,000 residential units or 250,000 SF or more of commercial space in Manhattan or at least 400 residential units or 150,000 SF or more of commercial space in the Bronx, Brooklyn, Staten Island or Queens?		✔
(c) Is the proposed project located in a separately sewered area and result in the same or greater development than that listed in Table 13-1 in Chapter 13?		✔
(d) Does the proposed project involve development on a site five acres or larger where the amount of impervious surface would increase?		✔
(e) Would the proposed project involve development on a site one acre or larger where the amount of impervious surface would increase and 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?		✔
(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 WWTP and/or generate contaminated stormwater in 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 appopriate preliminary analyses and attach supporting documentation.		✔
11. *SOLID WASTE AND SANITATION SERVICES:* CEQR Technical Manual Chapter 14		
(a) Would the proposed project have the potential to generate 1000,000 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?		✔

	YES	NO
12. *ENERGY*: *CEQR Technical Manual Chapter 15*		
(a) 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 screening analyses, attach appropriate back up data as needed for each stage, and answer the following questions:	✔	
(1) Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour? 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 peakhour. See Subsection 313 in Chapter 16 for more information.*	✔	
(2) Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour? If "Yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	✔	
(3) 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, or bus stop?	✔	
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 the Figure 17-3, Stationary Source Screen Graph? (attach graph as needed)	✔	
(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) designations or a Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?		✔
(f) If "Yes," conduct the appropriate analyses and attach any supporting documentation.	✔	
15. *GREENHOUSE GAS EMISSIONS*: *CEQR Technical Manual Chapter 18*		
(a) Is the proposed project a city capital project, a power plant, or would fundamentally change the City's solid waste management system?		✔
(b) If "Yes," would the proposed project require a GHG emissions assessment based on the guidance in Chapter 18?		✔
(c) If "Yes," attach supporting documentation to answer the following; Would the project be consistent with the City's GHG reduction goal?		✔
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 124 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-designations or a Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?		✔
(e) If "Yes," conduct the appropriate analyses and attach any supporting documentation.	✔	
17. *PUBLIC HEALTH*: *CEQR Technical Manual Chapter 20*		✔
(a) Would the proposed project warrant a public health assessment based upon the guidance in Chapter 20?		
18. *NEIGHBORHOOD CHARACTER*: *CEQR Technical Manual Chapter 21*		
(a) Based upon the analyses conducted for the following technical areas, check Yes if any of the following technical areas required 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 here why or why not an assessment of neighborhood character is warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary.	✔	

		YES	NO
19.	***CONSTRUCTION IMPACTS:*** *CEQR Technical Manual Chapter 22* Would the project's construction activities involve (check all that apply):		
	• Construction activities lasting longer than two years;	✓	
	• Construction activities within a Central Business District or along an arterial or major thoroughfare;	✓	
	• Require 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 community facilities or disruption in its service;	✓	
	• Activities within 400 feet of a historic or cultural resource; or		✓
	• Disturbance of a site containing natural resources.		✓

If any boxes are checked, explain why or why not a preliminary construction assessment is warranted based on the guidance of 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.

While the project's construction would be located along a major thoroughfare, the location is not likely to be sensitive to said construction or construction-related temporary closures, such as narrowing or otherwise impending vehicle lanes or pedestrian elements. Such activities are considered routine and are fully addressed by a permit and pedestrian access plan as required by the New York City Department of Transportation (DOT) Office of Construction Mitigation and Coordination (OCMC) at the time of the closure. This ensures that impacts are not expected to occur. Moreover, the construction is expected to occur over a 10-year period and is not expected to be concentrated during any particular two-year time frame or any specific location, which would diffuse any possible construction impact from the project.

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 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

Director, Bronx Office (APPLICANT/SPONSOR) of NYC Department of City Planning (NAME THE ENTITY OR OWNER)

the entity which seeks the permits, approvals, funding or other governmental action described in this EAS.

Check if prepared by: ☐ APPLICANT/REPRESENTATIVE or ☑ LEAD AGENCY REPRESENTATIVE (FOR CITY-SPONSORED PROJECTS)

NYC Department of City Planning	Carol Samol
APPLICANT/SPONSOR NAME:	LEAD AGENCY REPRESENTATIVE NAME:
Carol Samol	May 17, 2013
SIGNATURE:	DATE:

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 of 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 effect on the environment. 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.

	Potential Significant Adverse Impact	
IMPACT CATEGORY	**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 Impacts		✓

2. Are there any aspects of the project relevant to the determination 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? If there are such impacts, explain them and state where, as a result of them, the project may have a significant impact on the environment. ✓

3. ***LEAD AGENCY'S CERTIFICATION***

Deputy Director, Environmental Review and Assessment Division	NYC Department of City Planning
TITLE	LEAD AGENCY
Celeste Evans	Celeste Evans 5/17/2013
NAME	SIGNATURE

ATTACHMENT 1—PROJECT DESCRIPTION

East Fordham Road Rezoning
Environmental Assessment Statement
CEQR No. 13DCP107X

INTRODUCTION

The NYC Department of City Planning proposes to rezone portions of approximately 12 blocks along East Fordham Road in the Belmont neighborhood of the Bronx, Community District 6. The rezoning area is generally bounded by East 191st street, East 187th street, Southern Boulevard and Bathgate Avenue. Figure 1 illustrates the areas affected by the proposed actions.

The East Fordham Road rezoning was undertaken in response to concerns raised by Community Board 6, local elected officials and property owners that the existing zoning does not reflect or support prevailing land use trends in the area. The proposed actions, detailed further in the "Purpose and Need for the Proposed Actions" section of this chapter, seek to create new opportunities for growth and investment while reinforcing the established commercial character and preserving the existing built context in targeted locations.

The East Fordham Road rezoning area primarily consists of two existing zoning districts: C8-1 and R6. The C8-1 district is located along East Fordham Road between Bathgate Avenue and Southern Boulevard. While some of the auto-related uses remain, there has been a shift in focus to commercial and community facility uses. New uses include a bank, barber shop, a dermatologist office and most recently a 3-story 22,000 sf full service medical facility with ground floor retail. The R6 district encompasses a portion of the study area bounded by Bathgate Avenue and Crotona Avenue north of East Fordham Road and another portion along Arthur Avenue between East Fordham Road and East 187th Street. The area bounded by the Bathgate Avenue and Crotona Avenue is characterized predominantly by 2-3 story row houses. The area along Arthur Avenue between East Fordham Road and East 187th Street is characterized by multifamily walkup buildings many with ground floor retail as well as single-story retail establishments.

The proposal reflects the department's on-going consultation with Community Board 6, local elected officials and local property owners seeks to achieve the following objectives:

- Create a new gateway to the Central Bronx
- Establish height and bulk limits to establish a unified look and feel of the corridor
- Stimulate revitalization through private investment
- Incentivize permanently affordable housing
- Protect neighborhood character and ensure predictable future development
- Reinforce existing commercial character

BACKGROUND

Belmont is a diverse and vibrant community in the central Bronx, generally surrounded by Fordham University to the north, East Tremont to the south, the Bronx Zoo, Bronx Park and the Bronx Botanical Gardens to the east and Bathgate neighborhood to the west. Belmont was once home to the Lorillard family, for whom a street is named. In the late 18th century after relocating their tobacco operations from Lower Manhattan to the Central Bronx, the family greatly expanded their property holdings in the area and its land came to be known as the Belmont estate. After the Lorillards left for New Jersey in 1870, the city acquired part of their land for Bronx Park; another section was divided into the streets that form Belmont today.

Belmont is today known as the Little Italy of the Bronx and in the early part of the 20th century home to a large Italian population and Arthur Avenue; the neighborhood's main commercial area continues to thrive with eateries and markets some of which have been in business for decades. Presently, the population of Belmont continues to grow, with an influx of Albanian immigrants and Puerto Ricans. From 2000-2010 the population grew by more than 5%. Comparatively the population in the Bronx as a whole only grew by 3.9% and City of New York grew by 2.1%. [1] Students from Fordham University just north of Belmont across East Fordham Road make up a sizeable part of the population. A majority of the off-campus housing for students is located in the Belmont neighborhood. University students live, eat, work and shop in Belmont and the surrounding area. As the university student body and the neighborhood population grows so does the need for housing and new retail.

The study area contains approximately 19 full or partial blocks and 471 lots. The area is well served by mass transit. Fordham Plaza located just west of the study area is the multi-modal transit nexus at the heart of the Bronx and is the terminal destination for three local bus routes, three regional bus lines, and New York City's first bus rapid transit line, the Bx12 Select Bus Service and also provides connections to the B, D, 2, 4 and 5 subway lines and the Fordham Metro-North regional rail station. The Fordham Metro North station with 11,000 daily riders is the third busiest station system-wide for Metro-North Railroad and has the highest ridership of any station in the Bronx with 4,509 outbound riders daily.

Historically East Fordham Road was characterized by auto-related uses including car dealerships, gas stations and auto repair shops. The section of East Fordham Road from Bathgate Avenue to Southern Boulevard, which is the focal point of the rezoning study, differs greatly from Fordham Road to the west. The western section of Fordham Road is lined with commercial businesses and bustles with activity on a day-to-day basis. In comparison there is a lack of activity at the street level on East Fordham Road and while commercial enterprises exist, they are not at the same scale as the western section. In addition, these businesses produce a vastly different pedestrian experience and in the evenings and weekends the area feels somewhat desolate.

The surrounding area has seen significant improvements and economic investment in recent years. In 2009, a new 14-story commercial/office building was completed at the intersection of Webster Avenue and East Fordham Road just west of the study area. Fordham Plaza is scheduled to undergo a $26 million redesign and reconstruction later this year. The redesign will significantly improve traffic circulation in and around the plaza and access to mass transit, while creating new space for events and bringing in new retailers and amenities. Fordham Road is one of the busiest shopping centers seeing an

[1] Source: 2000 and 2010 Census

average of more than 80,000-plus pedestrians walk the corridor between Jerome Avenue and Webster Avenue.

EXISTING ZONING

The East Fordham Road rezoning area is predominantly zoned with either C8-1 or R6 districts. The zoning in this area has virtually remained unchanged since its inception in 1961.

The **C8-1 district** is located along East Fordham Road between Bathgate Avenue and Southern Boulevard. C8-1 districts are general service districts that allow commercial and community facility uses in Use Groups 4 through 14 and 16. The most prevalent uses in C8 districts are automotive and heavy commercial uses such as auto repair and showrooms, warehouses, gas stations and car washes. Residential uses are not permitted. The maximum commercial (FAR) is 1.0. The maximum building height is determined by its sky exposure plane, which begins 30 feet above the street line. Community facilities are permitted at an FAR of 2.4. Off-street parking requirements vary with the use, but generally most uses require one accessory parking space per 300 square feet of commercial space.

An **R6 district** currently encompasses a portion of the study area bounded by Bathgate Avenue and Crotona Avenue north of East Fordham Road and another portion along Arthur Avenue between East Fordham Road and East 187th Street. R6 is a height factor district where residential and community facility uses are regulated by a sky exposure plane. R6 districts result in developments usually between three and twelve stories. Residential FAR ranges from 0.78 to 2.43, with the higher ratio applicable to buildings that provide more open space. Community facility FAR is 4.8 and the parking requirement is set at 70% of dwelling units. Residential development under the Quality Housing Program within an R6 District has a maximum FAR of 2.2 on narrow streets (defined as less than 75 feet wide) with a 55-foot building height limit and a maximum of 3.0 FAR on wide streets (defined as 75 feet wide or greater) with a height limit of 70 feet. Off-street parking is required for 70% of the dwelling units. This requirement is lowered to 50% of the units if the lot area is less than 10,000 square feet or if Quality Housing provisions are used. If fewer than five spaces are required, then the off-street parking requirement is waived.

C2-3 and C2-4 commercial overlay districts permit Use Groups 1 through 9 and 14; this includes a wide range of commercial uses frequently used by neighborhood residents including grocery stores, dry cleaners and restaurants with a maximum FAR is 2.0. Commercial uses are limited to the first two floors in a mixed use building and always located below residential uses. C2-3 districts require one accessory parking space per 400 square feet of commercial floor space. C2-4 districts require one parking space per 1,000 square feet of floor area.

PURPOSE AND NEED FOR THE PROPOSED ACTIONS

The East Fordham Road rezoning seeks to create a new gateway for the Bronx by stimulating growth, protecting neighborhood character and reinforcing the existing commercial character. Existing zoning does not reflect the current land use patterns. The area has transitioned from auto-related uses to commercial and community facility uses; however existing capacity is limited for these uses. There is also no fixed height limit and no street wall requirement under the existing zoning. Recent development has been limited to 1-3 stories.

The proposed rezoning will facilitate new development opportunities through the use of a medium density commercial district (C4-5D). The C4-5D zoning district will maximize development potential along the corridor, promote an active, vibrant streetscape and support the existing commercial character. The proposed commercial district will increase the capacity for commercial and community facility development; introduce residential development which is not permitted today and incentivize permanently affordable housing. It will also mandate a fixed street wall and building height while promoting active ground floor uses which will provide a unified look and feel to the corridor.

The proposed rezoning also protects neighborhood character. The proposed R6B district along East 191st Street reflects the predominant built context of the area and provides predictability for future development on narrow streets.

The proposed R6 zoning district between Cambreleng Avenue and Crotona Boulevard reflects the residential character of the area.

In addition, new commercial overlay districts will reinforce the existing commercial character and create retail continuity along Arthur Avenue between the commercial core of Belmont and East Fordham Road.

PROPOSED ACTION

The proposed actions would affect approximately 157 lots on 12 blocks. The rezoning area covers a portion of zoning map 3c. The proposed rezoning replaces all or portions of existing C8-1 and R6 zoning districts with C4-5D, R6 and R6B zoning districts, eliminates an existing C2-4 overlay, eliminates a portion of an existing C2-3 overlay and establishes new C2-4 overlays.

<u>Proposed C4-5D (from C8-1, R6, R6/C2-3, R6/C2-4)</u>

A C4-5D zoning district is proposed for portions of 12 blocks along East Fordham Road from Bathgate Avenue to Southern Boulevard. This area is characterized by a variety of building types and uses including single-story auto-related uses, two-story commercial and community facility buildings and gas stations. There is currently no street wall requirement and the streetscape is haphazard. The proposed C4-5D district would allow residential, community facility and commercial uses. It will also impose mandatory street wall requirements, active ground floor uses and glazing requirements.

C4-5D zoning permits residential, commercial and community facility development with a maximum FAR of 4.2. The proposed C4-5D would be subject to the Inclusionary Housing program, where developer could receive a 33% floor area bonus permitting a maximum FAR of 5.6 in exchange for a minimum of 20% of the floor area being developed as affordable housing. . New development require a 60 to 85 foot street wall before an allowable setback of 10 feet on a wide street and 15 feet on a narrow street before rising to the maximum building height of 100 feet. The proposed C4-5D requires mandatory active ground floor uses and glazing for fifty percent of the building frontage on the ground floor

between a height of 2 and 12 feet above curb level with transparent materials. Parking must be provided for fifty percent of the dwelling units. Affordable dwelling units require parking for twenty percent of the units. One parking space is required for every 1,000 square feet of commercial floor area.

Proposed R6B (from R6)

An R6B district is proposed for 4 partial blocks along 191st Street between Bathgate Avenue and Belmont Avenue. This area is predominantly characterized by 2-3 story row houses.

R6B is a typical row house district that includes height limits and street wall lineup provisions to ensure that new buildings are consistent with the scale of the existing built context. R6B permits residential and community facility uses to a maximum FAR of 2.0. Building base heights must be between 30 and 40 feet, with a 50 foot maximum building height after a setback (10 feet on a wide street, 15 feet on a narrow street). New development in the proposed R6B district would be required to line up with adjacent structures to maintain the continuous street wall character. New multifamily residences must provide one off-street parking space for 50% of dwelling units, which may be waived if 5 or fewer spaces would be required.

Proposed R6 (from C8-1)

An R6 district is proposed for a partial block on East 189th Street between Cambreleng Avenue and Beaumont Avenue. This area is characterized by a mix of 4-6 story apartment buildings and row houses.

R6 is a height factor district where residential and community facility uses are regulated by the sky exposure plane. R6 districts typically result in developments between three and twelve stories. Residential FAR ranges from 0.78 to 2.43, with the higher ratio applicable to buildings that provide more open space. Community facility FAR is 4.8. . Residential development under the Quality Housing Program within an R6 District has a maximum FAR of 2.2 on narrow streets (defined as less than 75 feet wide) with a 55-foot building height limit and a maximum of 3.0 FAR on wide streets (defined as 75 feet wide or greater) with a height limit of 70 feet. Off-street parking is required for 70% of the dwelling units. This requirement is lowered to 50% of the units if the lot area is less than 10,000 square feet or if Quality Housing provisions are used. If fewer than five spaces are required, then the off-street parking requirement is waived.

Proposed Commercial Overlays

New C2-4 commercial overlays are proposed along Arthur Avenue East 187th Street to East Fordham Road. No commercial overlays are mapped along at this location. The commercial overlays will recognize the existing commercial character, facilitate expansion of existing businesses where appropriate and provide retail continuity from the Belmont neighborhood to East Fordham Road.

Parking requirements vary by use, however most retail uses require one accessory parking space per 1,000 square feet of commercial floor area.

Zoning Text Amendment

Zoning text amendment to establish the Inclusionary Housing program in the C4-5D districts within the proposed rezoning area in Community District 6, the Bronx.

The Inclusionary Housing Program (IHP) would be made applicable to the entire proposed C4-5D zoning district to encourage and to establish incentives for the creation and preservation of affordable housing in conjunction with new development.

In the proposed C4-5D where the IHP would be applicable, new residential developments that provide on- or off- site housing that will remain permanently affordable for low- and moderate-income families would receive increased floor area. The IHP provides 33% bonus in exchange for 20% of floor area set aside as affordable units. The additional floor area must be accommodated within the bulk regulations of the underlying zoning district. Affordable units could be financed through city, state, and federal affordable housing subsidy programs. Within the proposed rezoning area, portions of approximately five blocks would be subject to the IHP.

The affordable housing requirement of the Inclusionary Housing zoning bonus could be met through the development of affordable units, on-site, or off-site either through new construction or preservation of existing affordable units. Off-site affordable units must be located within the same community district, within a half-mile of the bonused development or anywhere within Community District 6. The availability of on-site and off-site options provides maximum flexibility to ensure the broadest possible utilization of the program under various market conditions.

Figure 1: Rezoning Area

East Fordham Road Rezoning



ATTACHMENT 2 – REASONSBLE WORST CASE DEVELOPMENT SCENARIO

SOFT SITE SELECTION METHODOLOGY

In order to assess the possible impacts of the components of the proposed action, a reasonable worst-case development scenario (RWCDS) was established for both the current (Future No-Action) and proposed zoning (Future With-Action) conditions, assuming a 2023 build year. The incremental difference between the Future No-Action and Future With-Action conditions will serve as the basis for the impact analyses of the Environmental Assessment Statement. A ten-year period typically represents the amount of time developers would act on the proposed action for an area-wide rezoning not associated with a specific development.

To determine the With-Action and No-Action conditions, standard methodologies have been used following the *CEQR Technical Manual* guidelines employing reasonable assumptions. These methodologies have been used to identify the amount and location of future development. In projecting the amount and location of new residential development, several factors have been considered in identifying likely development sites. These include known development proposals, past development trends, and the development site criteria described below. Generally, for area-wide rezonings which create a broad range of development opportunities, new development can be expected to occur on selected, rather than all, sites within the rezoning area. The first step in establishing the development scenario was to identify those sites where new development could be reasonably expected to occur.

Development sites were identified based on the following criteria:

- Lots utilizing less than half in permitted Floor Area Ratio (FAR) is proposed
- Lots with a total size greater than or equal to 5,000 square feet (including potential assemblages totaling 5,000 square feet or more if assemblage seems probable*)
- Underutilized lots – defined as vacant lots or surface parking lots
- Properties with existing auto-related uses

***Assemblages** are defined as a combination of adjacent lots, which satisfy one of the following conditions:*

- *the lots share common ownership and, when combined, meet the aforementioned soft site criteria*
- *or at least one of the lots, or combination of lots, meets the aforementioned soft site criteria, and ownership of the assemblage is shared by no more than two distinct owners*

The development scenario's universe of "soft" sites was further refined by eliminating lots with any of the following uses or buildings that are very unlikely to be redeveloped:

- New York City parkland
- New York City- or New York State-owned or -leased properties
- Schools (public and private), municipal libraries, government offices, and houses of worship
- Lots containing active businesses which have recently undergone extensive investment within the last 5 years
- Lots with proposed buildings or buildings currently undergoing construction that conform to the proposed zoning district use standards

- Lots utilized for public transportation and/or public utilities
- Lots containing multi-family (6 or more dwelling unit) residential buildings; due to required relocation of rent-stabilized units

PROJECTED AND POTENTIAL DEVELOPMENT SITES

To produce a reasonable, conservative estimate of future growth, the development sites were further divided into two categories: projected development sites and potential development sites. The projected development sites are considered more likely to be developed within the ten-year analysis period. Potential sites are considered less likely to be developed over the approximately ten-year analysis period:

- Lots upon which the majority of floor area is occupied by active businesses
- Lots that contain businesses that provide valuable and/or unique services to the community
- Highly irregular lots or otherwise encumbered parcels that would make development difficult
- Sites in need of extensive environmental remediation

In the future without the proposed action, the identified projected and potential development sites are assumed to either remain unchanged from existing conditions, or become occupied by uses that are as of-right under existing zoning and reflect current trends if they are vacant, occupied by vacant buildings, or occupied by low intensity uses that are deemed likely to support more active uses.

Based on the above criteria, 9 projected and 7 potential (16 total) sites have been identified. The incremental difference between the Future No-Action and Future With-Action for all projected development sites is:

- An increase of 352 dwelling units;
- An increase of 200,130 square feet of retail space; and
- An increase of 761 square feet of community facility space.

The incremental difference between the future with-action and the future no-action scenarios for all potential development sites is:

- An increase of 209 dwelling units;
- An increase of 5,578 square feet of retail space; and
- An increase of 57,536 square feet of community facility space.

DEVELOPMENT SCENARIO PARAMETERS

The East Fordham Road Rezoning will channel opportunities for growth and development along a major corridor with access to mass transit, particularly the creation of housing which is not permitted today. The Inclusionary Housing Program will be mapped here as well offering a floor area bonus for the creation or preservation of affordable housing on-site or off-site. In addition the rezoning will reinforce and strengthen the established commercial character and preserve the built context in specific locations.

Under the current zoning retail and community facility developments can waive out of the required parking (less than 15 spaces) by subdividing the lot or by developing less than 4,500 square feet. In rare cases establishments provide parking at-grade. Residential is currently not permitted in the majority of

the rezoning area. It is assumed that new mixed-use developments will locate most required accessory parking below grade. Furthermore, in new mixed-use buildings, ground floor commercial totals assume that 15 percent of the floor area is reserved for a lobby.

The number of projected dwelling units in apartment buildings is determined by dividing the total amount of residential floor area by 1,000 and rounding to the nearest whole number.

PROJECTED DEVELOPMENT SITES

Projected Site A
Block 3273, Lot 301
545 East Fordham Road
Existing C8-1/R6, Proposed C4-5D/R6B



Site A consists of a single tax lot of 19,954 sq ft. The site is has an auto parts business. Under the no action, the site could be expanded with additional retail for a total of 15,963 sq. ft. There are currently 18 at-grade parking spaces to accommodate the existing commercial use.

Under the with action, Site A would be developed with 15,026 sq ft of ground floor commercial and 89 dwelling units. A below-grade parking garage would contain 38 parking spaces accessory to the residential units.

Projected Site B
Block 3273, Lots 261
591 East Fordham Road
Existing C8-1/R6, Proposed C4-5D/R6B



Site B is currently an auto repair shop with 13,750 sq ft and 15 at-grade accessory parking spaces. Under the no action, the site would retain its current use.

Under the with action, Site B would be developed with 6,891 sq ft of ground floor retail and 50 dwelling units. A below-grade parking garage would contain 21 parking spaces accessory to the residential units.

Projected Site C
Block 3273, Lots 203, 204, 205, 206, 207
2533-2541 Cambreleng Avenue
Existing R6, Proposed C4-5D



Site C is an assemblage of five tax lots with two separate owners and a size of 14,808 sq ft. The site currently contains 2-story row houses with a total of 12 residential units. Under the no action, Site 3 would be developed with a new classroom/science center for Fordham University totaling 68,857 sq ft. The 34 required accessory parking spaces would be accommodated at the adjacent Fordham garage.

Under the with action, Site C would be developed with a new classroom/science center for Fordham University totaling 62,194 sq ft. No parking would be required.

Projected Site D
Block 3059, Lots 32, 36
528-540 East Fordham Road
Existing C8-1, Proposed C4-5D



Site D is comprised of two tax lots with one owner totaling 27,640 sq ft. The site has a variety of commercial uses including a check cashing store, auto parts and a deli. Under the no action, the site would retain its current use.

Under the with action, Site D would be developed with a mixed-use building containing 15,373 sq ft of ground floor retail, 18,086 sq ft of office space and 68 dwelling units. A below-grade parking garage would contain 29 parking spaces accessory to the residential units.

Projected Site E
Block 3091, Lots 17, 20, 22, 24 26
660-668 East Fordham Road
Existing C8-1, Proposed C4-5D



Site E consists of 5 tax lots with 4 of 5 having the same owner for a total of 24,745 sq ft. Three of the lots are currently surface parking facilities. The other lots contain insurance services and a tattoo parlor. Under the no action, the site would be developed with 21,033 sq ft of commercial and 17,322 sq ft of community facility (medical). 58 parking spaces accessory to the community facility use would be provided below grade.

Under the with action, Site E would be developed with 45,778 sq ft of commercial, 24,745 sq ft of office, 24,745 sq ft of community facility (medical) and 43 dwelling units. 18 parking spaces, accessory to the residential would be provided below grade.

Projected Site F
Block 3091, Lot 87
711 East 189th Street
Existing C8-1, Proposed C4-5D



Site F consists of a single tax lot totaling 11,160 sq ft. The site is currently used as a surface parking lot with a small commercial building. Under the no action, the site would be developed with additional commercial totaling 9,486 sq ft. The parking lot would remain.

Under the with action, Site F would be developed as a commercial/office building with a total of 46,872 sq ft.

Projected Site G
Block 3115, Lot 25
2500 Crotona Avenue
Existing C8-1, Proposed C4-5D



Site G is a single tax lot of 23,581 sq ft. The site currently contains a motel with 28 at-grade accessory parking spaces. Under the no action, the site would retain its current use.

Under the with action, Site G would be developed with a mixed-use building containing 73,101 sq ft of commercial including a FRESH grocery store with 79 dwelling units. 34 parking spaces, accessory to the residential would be provided below grade.

Projected Site H
Block 3115, Lot 28
730 East Fordham Road
Existing C8-1, Proposed C4-5D



Site H is single tax lot of 14,900 sq ft. The site currently contains a gas station with a mini mart. Under the no action, the mini mart would expand to 1,863 sq ft and the gas station would remain.

Under the with action, Site H would be developed with a 47,680 sq ft of commercial including a restaurant and regional retail and 36 dwelling units.

Projected Site I
Block 3066, Lots 53, 54
2465 Arthur Avenue
Existing R6, Proposed R6/C2-4





Site I is an assemblage of two tax lots under single ownership that totals 5,586 sq ft. The site currently contains a print shop and real estate/property management office. Under the no action, the site would retain its current use.

Under the with action, Site I would be expanded to 11, 172 sq ft of commercial.

POTENTIAL DEVELOPMENT SITES

Potential Site 1
Block 3273, Lot 40
561 East Fordham Road
Existing C8-1, Proposed C4-5D





Site 1 consists of one tax lot totaling 13,450 sq ft under single ownership. The lot is currently used for parking, and maintenance and repair of vehicles for Fordham University. Under the no action, the site would retain its current use.

Under the with action, Site 1 would be developed with a new 36,960 sq ft classroom/office building for Fordham University.

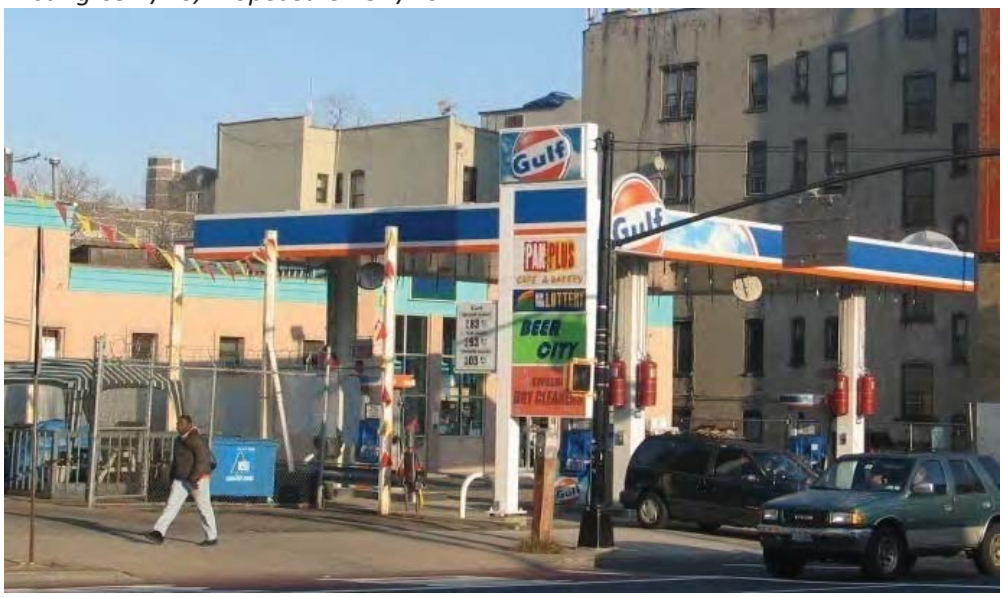
Potential Site 2
Block 3273, Lots 265
585 East Fordham Road
Existing C8-1, Proposed C4-5D



Site 2 consists of a single tax lot totaling of 14,483 sq ft. The site currently used as an office and storage facility for Fordham University. Under the no action, the site would retain its current use.

Under the with action, Site 2 would be developed with a new 27,195 sq ft office building for Fordham University.

Potential Site 3
Block 3273, Lots 257
609 East Fordham Road
Existing C8-1/R6, Proposed C4-5D/R6B



Site 3 consists of a single tax lot with a total area of 12,200 sq ft. The site currently contains a gas station with a small deli and dry cleaner. Under the no action, the site would retain its current use.

Under the with action, Site 3 would be developed with a mixed-use building containing 28,392 sq ft of local commercial and 31 dwelling units.

Potential Site 4
Block 3273, Lot 252
619 East Fordham Road
Existing C8-1/R6, Proposed C4-5D/R6B



Site 4 consists of a single tax lot of 6,758 sq ft with a single story car rental facility. Under the no action, the site would retain its current use and expand with a 3,379 sq ft community facility.

Under the with action, Site 4 would be developed with a new building containing 4,666 sq ft of ground floor retail and 29 dwelling units.

Potential Site 5
Block 3067, Lots 52
580 East Fordham Road
Existing C8-1, Proposed C8-1/C4-5D



Site 5 consists of a single tax lot of 5,400 sq ft. The site currently contains a coffee shop. Under the no action, the site would retain its current use and expand with 3,240 sq ft community facility.

Under the with action, Site 5 would be developed with a new building containing 4,590 sq ft of local retail and 26 dwelling units.

Potential Site 6
Block 3067, Lot 54
588-590 East Fordham Road
Existing C8-1, Proposed C4-5D



Site 6 is a single tax lot of 9,000 sq ft. The site currently contains a gas station and a 7-eleven convenience store. Under the no action, the site would retain its current use.

Under the with action, Site 6 would be developed with 7,650 sq ft of ground floor retail and 43 dwelling units. 19 parking spaces accessory to the residential would be provided below grade.

Potential Site 7
Block 3078, Lot 14, 16
602-608 East Fordham Road
Existing C8-1, Proposed C4-5D



Site 7 consists of two tax lots of 17,156 sq ft with a single owner. The site currently contains a carwash and restaurant. Under the no action, the site would retain its current use.

Under the with action, Site 7 would be developed 14,583 sq ft of retail including a restaurant, 81 dwelling units and 36 parking spaces accessory to the residential would be provided below grade.

A. **REQUIRED APPROVALS**

The following proposed action requires City Planning Commission (CPC) and City Council approvals through the Uniform Land Use Review Procedure (ULURP):

- A **Zoning Map amendment** to change portions of approximately 12 blocks currently zoned C8-1 R6, R6/C2-3 and R6/C2-4 to C4-5D, R6 and R6B to create opportunities for growth and development and reinforce established development patterns. This action would result in a moderate increase in commercial and community facility density. It would also permit residential use along a portion of East Fordham Road which is not permitted under existing conditions
- A **Zoning Map amendment** to establish new C2-4 overlay districts to reinforce and support existing commercial uses
- A **Zoning Text amendment** to establish the Inclusionary Zoning Program within the proposed rezoning area (ZR Section 23-144 and Appendix F)

The proposed action would affect approximately 471 tax lots on 12 full or partial blocks. The rezoning area affects portions of Zoning Map sections 3c. The proposed zoning changes provide new opportunities for growth and development, providing incentives for the creation of affordable housing, reinforcing the existing commercial character in certain areas area while providing preserving the neighborhood character in targeted locations.

The proposed Zoning Map amendments will replace all or portions of existing C8-1, R6, R6/C2-3 and R6/C2-4 zoning districts with C4-5D, R6 and R6B zoning districts and map new C2-4 commercial overlays. These amendments are illustrated in Figure 2A.

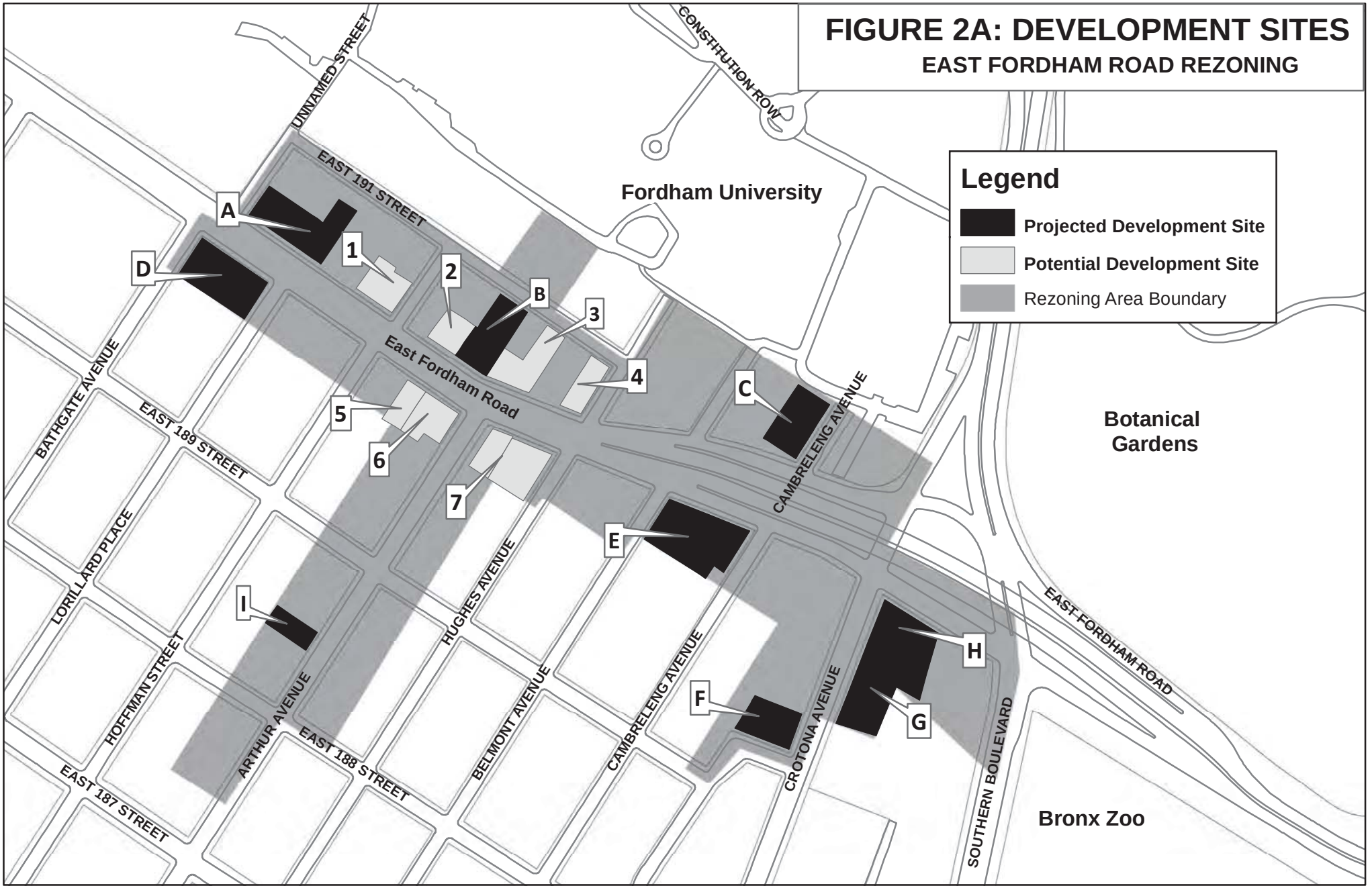


FIGURE 2A: DEVELOPMENT SITES
EAST FORDHAM ROAD REZONING
Legend
Projected Development Site
Potential Development Site
Rezoning Area Boundary
Fordham University
Botanical Gardens
Bronx Zoo
UNNAMED STREET
CONSTITUTION ROW
EAST 191 STREET
East Fordham Road
BATHGATE AVENUE
EAST 189 STREET
LORILLARD PLACE
HOFFMAN STREET
ARTHUR AVENUE
EAST 188 STREET
EAST 187 STREET
HUGHES AVENUE
BELMONT AVENUE
CAMBRELENG AVENUE
CROTONA AVENUE
SOUTHERN BOULEVARD
EAST FORDHAM ROAD
A
B
C
D
E
F
G
H
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7

Figure 2B: Projected Development Sites Summary

Site Data						***Existing Condition***			***Future Without-Action Condition***			***Future With-Action Condition***			***Increment***		
Site #	**Block**	**Lot**	**Lot Area**	**Ex Zon**	**Prop Zoning**	**Com Area**	**C.f. Area**	**Units Res**	**Com Sf.**	**C.F. SF.**	**Total DU's**	**Com Sf.**	**C.F. SF.**	**Total DU's**	**COM SF**	**CF SF**	**DUs**
A	3273	301	19,954	C8-1	C4-5D/R6B	8,300	0	0	15,963	0	0	15,026	0	89	(937)	0	89
B	3273	261	13,750	C8-1	C4-5D/R6B	5,280	0	0	5,280	0	0	6,891	0	50	1,611	0	50
C	3273	203, 204, 205, 206, 207	14,808	R6	C4-5D	-	0	12	-	68,857	(12)	-	62,194	0	-	(6,663)	(12)
D	3059	32,36	18,086	C8-1	C4-5D	27,640	0	0	27,640	0	0	33,459	0	68	5,819	0	68
E	3091	17,20,22,24,26	24,745	C8-1	C4-5D	11,400	0	0	21,033	17,322	0	70,523	24,745	43	49,490	7,423	43
F	3091	87	11,160	C8-1	C4-5D	2,800	0	0	9,486	0	0	46,872	0	0	37,386	0	0
G	3115	25	23,581	C8-1	C4-5D	20,000	0	0	20,000	0	0	73,101	0	79	53,101	0	79
H	3115	28	14,900	C8-1	C4-5D	750	0	0	1,863	0	0	47,680	0	36	45,818	0	36
I	3066	53,54	5,586	R6	R6/C2-4	3,330	0	0	3,330	0	0	11,172	0	0	7,842	0	0
						79,500	0	12	104,595	86,179	(12)	261,894	86,939	364	200,130	761	352

Figure 2C: Potential Development Sites Summary

Site Data						***Existing Condition***			***Future Without-Action Condition***				***Future With-Action Condition***				***Increment***			
Site #	**Block**	**Lot**	**Lot Area**	**Ex Zon**	**Prop Zoning**	**Com Area**	**C.f. Area**	**Units Res**	**Com Sf.**	**C.F. SF.**	**Total DU's**	**IH**	**Com Sf.**	**C.F. SF.**	**Total DU's**	**IH**	**COM SF**	**CF SF**	**DUs**	**IH**
1	3273	293	8,800	C8-1	C4-5D	13,450	0	0	13,450	0	0	0	-	36,960	0	0	(13,450)	36,960	0	0
2	3273	265	6,475	C8-1	C4-5D	14,483	0	0	14,483	0	0	0	-	27,195	0	0	(14,483)	27,195	0	0
3	3273	257	12,200	C8-1	C4-5D	2,400	0	0	2,400	0	0	0	28,392	0	31	6	25,992	0	31	6
4	3273	252	6,758	C8-1	C4-5D	5000	0	0	5,000	3,379	0	0	4,666	0	29	6	(334)	(3,379)	29	6
5	3067	52	5,400	C8-1	C4-5D	3,001	0	0	3,001	3,240	0	0	4,590	0	26	5	1,589	(3,240)	26	5
6	3067	54	9,000	C8-1	C4-5D	1,352	0	0	1,352	0	0	0	7,650	0	43	9	6,298	0	43	9
7	3078	14,16	17,156	C8-1	C4-5D	14,617	0	0	14,617	0	0	0	14,583	0	81	16	(34)	0	81	16
						54,303	0	0	54,303	6,619	-	-	59,881	64,155	210	42	5,577	57,536	209	42

ATTACHMENTS 3—LAND USE, ZONING, AND PUBLIC POLICY

INTRODUCTION

Under *CEQR Technical Manual* guidelines, an assessment of zoning is performed in conjunction with a land use analysis when an action would change the zoning on the site or result in the loss of a particular use. Similar to zoning, assessment of public policy typically accompanies an assessment of land use. Under CEQR, a land use analysis characterizes the uses and development trends in the study area that may be affected by a proposed action, and determines whether the action is compatible with or may affect those conditions. The analysis considers the proposed action's compliance with, and effect on, the area's zoning and any applicable public policies.

This section will describe the diversity and concentration of activities and services in the area, the zoning regulations that govern them and other relevant data regarding the future of the affected area. Specifically, the section will describe the existing built conditions, land use trends and the anticipated changes likely to occur by the year 2023 due to the proposed action.

As mentioned in Attachment 1, Project Description, the East Fordham Road Rezoning consists of a zoning map amendment with four components: a medium-density commercial district mapped along a wide corridor with good access to mass transit, which will increase densities for commercial and community facility as well as permit residential, a contextual preservation district intended to reflect existing conditions and ensure predictable development in the future, a residential district that reflects the existing context and new commercial overlays to reinforce the existing commercial character. In addition to the zoning map amendment, a zoning text amendment is proposed to establish the Inclusionary Zoning Program within the proposed rezoning area.

In order to study the effects of the proposed action on land use, zoning and public policy, a primary study area that includes the area within 400 feet of the area affected by the proposed zoning map changes was established. The study area is depicted in Figure 3A, East Fordham Road-Land Use.

No significant adverse impacts related to land use, zoning, or public policy are anticipated. The proposed actions are expected to result in changes that are compatible with and supportive of the current land use trends, zoning, and public policies.

LAND USE

Existing Conditions

The assessment of existing conditions focuses on the land uses occupying the rezoning area. Tables 3A and 3B shows the proportion of tax lots and the proportion of land devoted to various uses within the land use study area. A broad mix of uses is represented including residential, institutional, commercial, auto-related, recreation, and transportation.

Table 3A: Land Use Within 400 feet of Rezoning Area

Use	Lots	Percent of Total Lots	Area (sq ft)	Percent of Land Area
Residential				
One-and Two Family Detached	42	8.92%	127,580	2.15%
One-and Two Semi-Detached	56	11.89%	124,456	2.09%
One-and Two Family Attached	41	8.70%	69,965	1.18%
Multi-Family Walkup	163	34.61%	510,997	8.59%
Multi-Family Elevator	2	0.42%	23,564	0.40%
Mixed Residential and Commercial	66	14.01%	219,881	3.70%
Commercial and Office	26	5.52%	276,158	4.64%
Industrial and Manufacturing	8	1.70%	75,693	1.27%
Auto-Related Uses	20	4.25%	149,698	2.52%
Public Facilities and Institutions	17	3.61%	4,026,907	67.72%
Open Space and Recreation	2	0.42%	96,631	1.63%
Parking Facilities	13	2.76%	195,304	3.28%
Vacant	15	3.18%	49,284	0.83%
TOTAL	471	100.00%	5,946,118	100.00%

Table 3B: Building Type within Rezoning Area (Residential Buildings Only)

Building Type	Lots	Percent of Residential Lots
Detached One-and-Two Family	42	13.82%
Semi-Detached One-and-Two Family	56	18.42%
Attached One-and-Two Family	41	13.49%
Multi-Family Walkup Buildings	163	53.62%
Multi-Family Elevator Buildings	2	0.66%
TOTAL	304	100.00%

The land use study area consists of 471 tax lots covering approximately 136 acres; 65% of these tax lots contain residential buildings. Of the lots developed with residential uses approximately 53% are multi-family walkup buildings, 18% are semi-detached, 13% are detached and 13% are attached.

Among non-residential uses mixed residential and commercial uses constitute approximately 14% of the lots within the study area. These uses are concentrated along Arthur Avenue and East Fordham Road. Auto-related uses comprise approximately 4% of the study area's tax lots and are concentrated on East Fordham Road. Public facilities and institutions account for less than 4% of the tax lots but represent more than 67% of the land area. This is largely attributed to Fordham University.

Open space and recreational uses account for less than 1% of the study area's tax lots and is primarily attributed to Bronx Park, which contains the Bronx Zoo and the Botanical Gardens.

Future No-Action

In order to assess the incremental difference in land use that would result from the proposed actions, a Reasonable Worst-Case Development Scenario (RWCDS) was prepared. The RWCDS is contained in Attachment 2 of this Environmental Assessment Statement. A summary of land use scenarios for the projected and potential development sites can be found in Tables 2B and 2C.

Absent the proposed actions, land use trends in the study area would continue to be a product of 1961 zoning districts. Intended primarily for auto-related uses, today the C8-1 zoning district along East Fordham Road primarily produces limited types of commercial and community facility uses at a restricted FAR. Without the proposed action the land use in the study area will retain many of the current trends found in the area, which produces development that is not reflective of highest and best use of underutilized land in a major business HUB in the central Bronx. The projected development sites are expected to experience small growth in commercial and community facility uses. Due to high parking requirements (1 space per 300 square feet) and close to 100% lot coverage, the anticipated growth is limited.

Future With-Action

The proposed zoning's intent is to create growth opportunities for new residential and retail development on underutilized sites along a major thoroughfare with good transit access. A significant increase in residential is expected in the Future With Action condition for two reasons: residential development is not permitted under the existing conditions in much of the rezoning area, and the Future With Action includes a text amendment for Inclusionary Zoning providing a zoning bonus in exchange for the creation or preservation of affordable housing units. Moderate increases in commercial and community facility uses are expected on projected development sites in the Future With-Action condition as well.

In the Future With-Action, mixed-use development is expected to occur. The total development expected to occur on the projected development sites under the W*ith-Action* conditions consist of 352 dwelling units, 200,130 square feet of commercial space, and 761 square feet of community facility space. The commercial space is expected to include 40,000 square feet of grocery store development, 11,318 square feet of restaurant development and 81,179 square feet of office space. A greater diversity of commercial uses is also expected to take place.

Compared to the *No-Action condition*, the *With-Action* is expected to produce an increase in dwelling units relative to the No-Action scenario. The study area is dominated by residential and mixed use development therefore the increases would not represent an introduction of incompatible land uses.

In total, the incremental differences would not result in adverse changes in land use in the study area. The changes would be consistent and compatible with current land uses in and around the rezoning area. The new residential development, incremental retail and community facility uses will reflect existing uses and support prevailing land use trends in the area.

ZONING

The proposed actions would not result in significant adverse impacts on zoning.

Existing Conditions/Future No-Action

There are no concurrent plans by any city agency for area-wide zoning changes in the study area. Therefore, in the No-Action scenario, it is assumed that the zoning would not change from the existing conditions, discussed below.

Figure 3B depicts the existing zoning. The rezoning area consists of C8-1, and R6 zoning districts. East Fordham Road from Bathgate Avenue to Southern Boulevard is primarily zoned C8-1. Two sections are currently zoned R6: between Bathgate Avenue and Crotona Avenue and along Arthur Avenue from East 187th Street to East Fordham Road. C2-3 and C2-4 commercial overlays are mapped along East Fordham Road from Hughes Avenue to Crotona Avenue.

C8-1

A C8-1 district encompasses portions of East Fordham Road from Bathgate Avenue to Crotona Avenue. C8-1 districts are general service districts that allow commercial and community facility uses in Use Groups 4 through 14 and 16. The most prevalent uses in C8 districts are automotive and heavy commercial uses such as auto repair and showrooms, warehouses, gas stations and car washes. Residential uses are not permitted. The maximum commercial FAR in C8-1 districts is 1.0. The maximum building height is determined by its sky exposure plane, which begins 30’ above the street line. Community facilities are permitted at an FAR of 2.4. Off-street parking requirements vary with the use, but generally most uses require one accessory parking space per 300 square feet of commercial space.

R6

An R6 District currently encompasses portions of the study area bounded by Bathgate Avenue and Crotona Avenue. R6 is a height factor district where in residential and community facility uses are permitted with no fixed height limits and building envelopes are regulated by a sky exposure plane. A maximum FAR of up to 2.43 is allowed for residential uses and up to 4.8 FAR is allowed for buildings containing community facility uses. Residential development under the Quality Housing Program within an R6 District has a maximum FAR of 2.2 on narrow streets (defined as less than 75 feet wide) with a 55-foot building height limit and a maximum of 3.0 FAR on wide streets (defined as 75 feet wide or greater) with a height limit of 70 feet. Off-street parking is required for 70 percent of the dwelling units. This

requirement is lowered to 50 percent of the units if the lot area is less than 10,000 square feet or if Quality Housing provisions are used. If fewer than five spaces are required, then the off-street parking requirement is waived.

Commercial Overlays

C2-3 and C2-4 commercial overlays are mapped along the north side of East Fordham Road from Hughes Avenue to Crotona Boulevard. C2- districts are mapped within residential districts and serve the local retail needs (e.g., grocery stores, restaurants) of the surrounding residential neighborhood. C2- districts permit Use Groups 1 through 9 and 14.

The maximum commercial FAR permitted is 2.0. When mapped within an R6 zoning district and commercial uses are limited to one or two floors and must always be located below residential uses. C2-3 requires one accessory parking space per 400 square feet of commercial floor space. C2-4 requires one parking space per 1,000 square feet of floor area.

Future With-Action

The proposed actions would affect approximately 147 lots on 12 blocks. The rezoning area covers a portion of zoning map 3C. The proposed rezoning replaces all or portions of existing C8-1, and R6 zoning districts with C4-5D,R6 and R6B, eliminates an existing C2-3 overlay and portions of a C2-4 overlay and establishes new C2-4 overlays. The zoning map and text amendments would:

- Preserve neighborhood character and ensure predictability by reinforcing existing development patterns;
- Create opportunities for growth and affordable housing along a major corridor; and
- Promote predictable and appropriate commercial development and reinforce existing patterns of commercial uses along Arthur Avenue.

Proposed zoning districts are described in detail below and illustrated in Figure 3C.

PROPOSED C4-5D
Existing: C8-1, R6, R6/C2-3, R6/C2-4

A C4-5D zoning district is proposed for properties with frontage along East Fordham Road from Bathgate Avenue to Southern Boulevard. This area is characterized by a variety of building types and uses including single-story auto-related uses, two-story commercial and community facility buildings and gas stations. There is currently no consistent street wall and the streetscape is haphazard.

The proposed C4-5D district would allow commercial and residential development, but will limit the commercial use types, precluding the auto-related uses that currently exist along the corridor. The proposed C4-5D district would allow new residential development with a maximum FAR of 4.2, commercial development with a maximum FAR of 4.2, and community facility development with a maximum FAR of 4.2. With the inclusionary housing bonus, the maximum residential FAR in the C4-5D district can be increased to a maximum of 5.6 provided that the affordable housing requirements are

met. New development must be built within a contextual envelope, requiring a 60 to 85 foot street wall before an allowable setback and having a maximum building height of 100 feet. Parking is required for 50% of the residential units. This requirement is waived if less than 15 spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 40 spaces are required. Active ground floor uses and street trees are required. Fifty percent of the building frontage on the ground floor between a height of 2 and 12 feet above curb level are required to be glazed with transparent materials. The requirements of the proposed zone will facilitate a consistent streetscape that is inviting, more active and pedestrian friendly.

PROPOSED R6B

Existing: R6

An R6B district is proposed for 4 partial blocks along 191st Street between Bathgate Avenue and Belmont Avenue. This area is predominantly characterized by 2-3 story row houses.

R6B districts allow a maximum FAR of 2.0 for all permitted uses and limit overall building heights to 50 feet and street wall heights to 40 feet. New development in the proposed R6B district would be required to line up with adjacent structures to maintain the existing street wall characteristics. New multifamily residences in R6B districts must provide one off-street parking space for 50 percent of the dwelling units. This parking requirement is waived if five or fewer spaces are required. Non-residential parking requirements of one space per 1,000 square feet of commercial area are waived when fewer than 25 spaces are required. The proposed R6B would reflect the existing built context in this location and ensure that future development is appropriately scaled.

PROPOSED R6

Existing: C8-1

An R6 district is proposed for a partial block on East 189th Street between Cambreleng Avenue and Beaumont Avenue. This area is characterized by a mix of 4-6 story apartment buildings and row houses.

R6 is a height factor district where residential and community facility uses are regulated by the sky exposure plane. R6 districts typically result in developments between three and twelve stories. Residential FAR ranges from 0.78 to 2.43, with the higher ratio applicable to buildings that provide more open space. Community facility FAR is 4.8. Residential development under the Quality Housing Program within an R6 District has a maximum FAR of 2.2 on narrow streets (defined as less than 75 feet wide) with a 55-foot building height limit and a maximum of 3.0 FAR on wide streets (defined as 75 feet wide or greater) with a height limit of 70 feet. Off-street parking is required for 70% of the dwelling units. This requirement is lowered to 50% of the units if the lot area is less than 10,000 square feet or if Quality Housing provisions are used. If fewer than five spaces are required, then the off-street parking requirement is waived.

PROPOSED COMMERCIAL OVERLAYS

Existing C2-3 and C2-4 are mapped along East Fordham Road between Hughes Avenue and Crotona Avenue. C2- districts are mapped within residential districts and serve the local retail needs (e.g., grocery stores, restaurants) of the surrounding residential neighborhood. C2- districts permit Use Groups 1 through 9 and 14.

C2-3 requires one accessory parking space per 400 square feet of commercial floor space. C2-4 requires one parking space per 1,000 square feet of floor area.

The proposed updates would eliminate the existing C2-3 and reduce the depth of the existing C2-4 overlay.

New C2-4 commercial overlays are proposed along Arthur Avenue to reinforce the existing commercial character and create retail continuity. The proposed C2-4 overlays, which allow Use Groups 1-9 and 14, would require one accessory space per 1,000 square feet for all types of commercial uses and are waived when the total number of spaces required is less than 40.

Changing the existing C2-3 and C2-4 commercial overlays with the C4-5D zoning district will allow commercial uses at a higher bulk.

PUBLIC POLICY

There are no other known public policies that govern the rezoning area under the existing conditions. Sans the proposed action, it is not expected that any new public policies would be put in place in the rezoning area.

The proposed actions are based on a fine-grained rezoning approach that has been employed in the neighborhood rezonings that Department of City Planning's Bronx Office has led since 2002. The proposed rezoning creates opportunities for growth and development and creates opportunities for residential development, in particular affordable housing and allows for moderate increases in commercial and community facility which supports prevailing land use trends in the area. These changes are consistent with the city-wide policy of promoting growth and density on wide streets and near mass transit resources. In addition, the proposed rezoning identifies and supports the existing built character.

Given the consistency of the proposed actions with established policies of DCP and the City of New York, it is anticipated that the proposed actions would not result in a significant adverse impact on public policy.

SUSTAINABILITY AND PLANYC

PlaNYC, the City's long-term sustainability plan, was adopted in 2007 and updated in April 2011. It contains policy initiatives that relate to the city's land use, open space, brownfields, energy use and infrastructure, transportation systems, water quality and infrastructure, and air quality, and aim to prepare the city for projected climate change impacts. Its structure sets broadbased targets to be reached by 2030. To execute the strategic vision, PlaNYC adopts 10 goals to be achieved through 132

separate initiatives and a number of subsidiary plans. Many of these goals are to be realized through public sector projects, local laws or the City's regulatory frameworks governing both private and public actions. The *2012 CEQR Technical Manual* requires the evaluation of large publicly sponsored zonings to ensure the proposed action(s) align with the broad priorities espoused by the PlaNYC initiatives.

While the proposed action is not directly implementing a PlaNYC initiative, such as replacing aging infrastructure, the rezoning, as aforementioned, is intended to promote medium density mixed-use development along a major corridor in the Bronx and around mass-transit while protecting the existing neighborhood character of targeted residential areas. Shifting population growth to mass-transit nodes and providing new development opportunities are in line with the purpose of PlaNYC's many initiatives' and the goal to provide adequate housing for New Yorkers around sustainable forms of transportation. Moreover, as discussed below and elsewhere in the EAS, the proposed action will not adversely affect Open Space, Natural Resources, Infrastructure, Energy, Construction, Transportation, Greenhouse Gas Emissions, and Air Quality, which are areas that relate to PlaNYC initiatives. Therefore, the proposed action is consistent with the overall strategy of PlaNYC's initiatives.

CONCLUSION

The proposed rezoning would establish a mid density commercial district in the Belmont neighborhood intended to promote growth and spur economic development on one of the most prominent thoroughfares in the Bronx. The proposal would also establish a contextual district along 191st Street to preserve the existing built character and ensure predictable future development and new commercial overlays would reinforce the existing commercial character. Accordingly, the proposed actions would result in changes that would be compatible with and supportive of land use trends, zoning, and public policy. In effect, the proposed actions would encourage redevelopment of vacant and underutilized properties on wide streets and bear a positive effect on preserving neighborhood character. Consequently, no significant adverse impacts related to land use, zoning or public policy are anticipated.

FIGURE 3A: EAST FORDHAM ROAD LAND USE

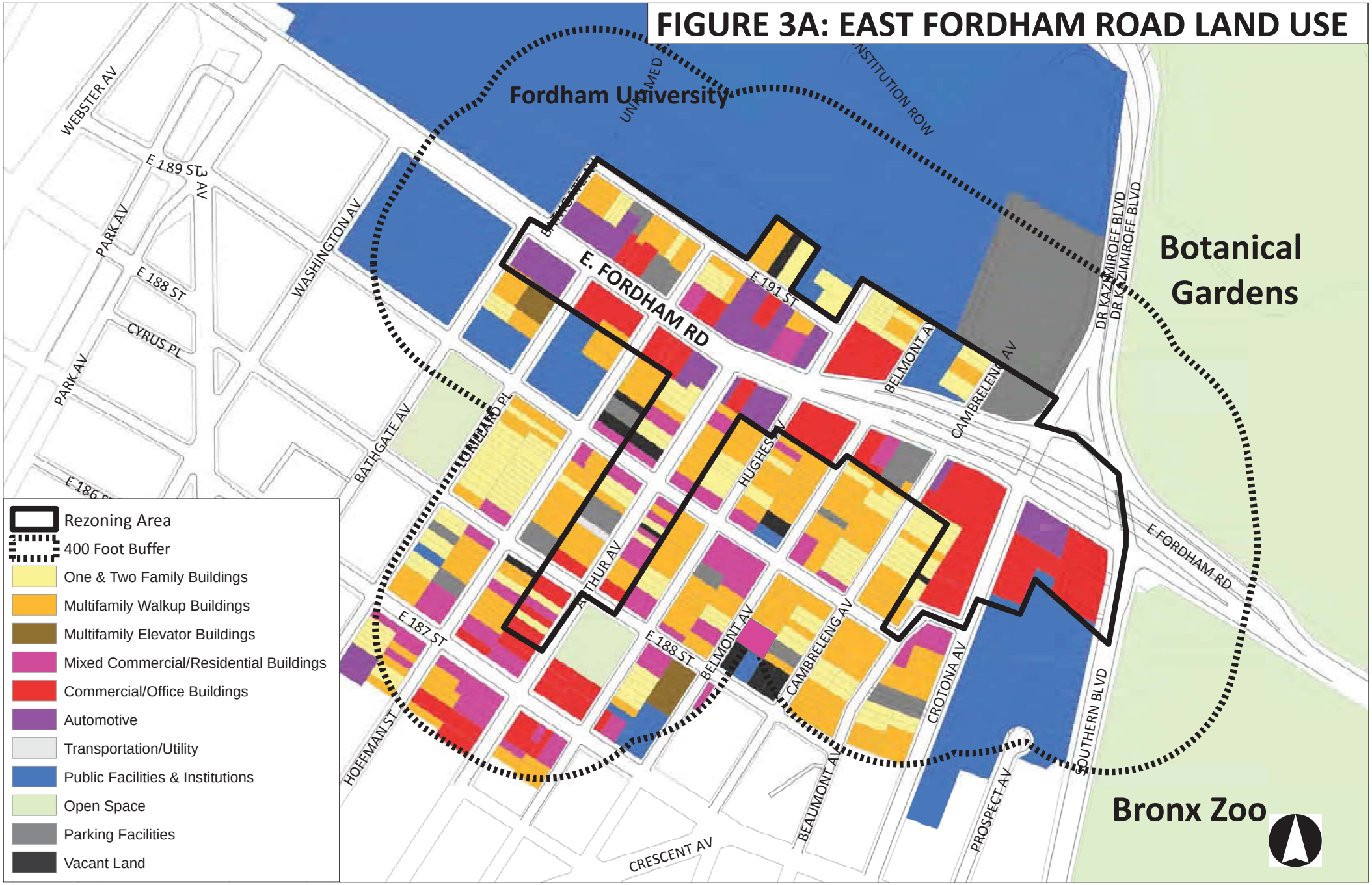


FIGURE 3B: EXISTING ZONING

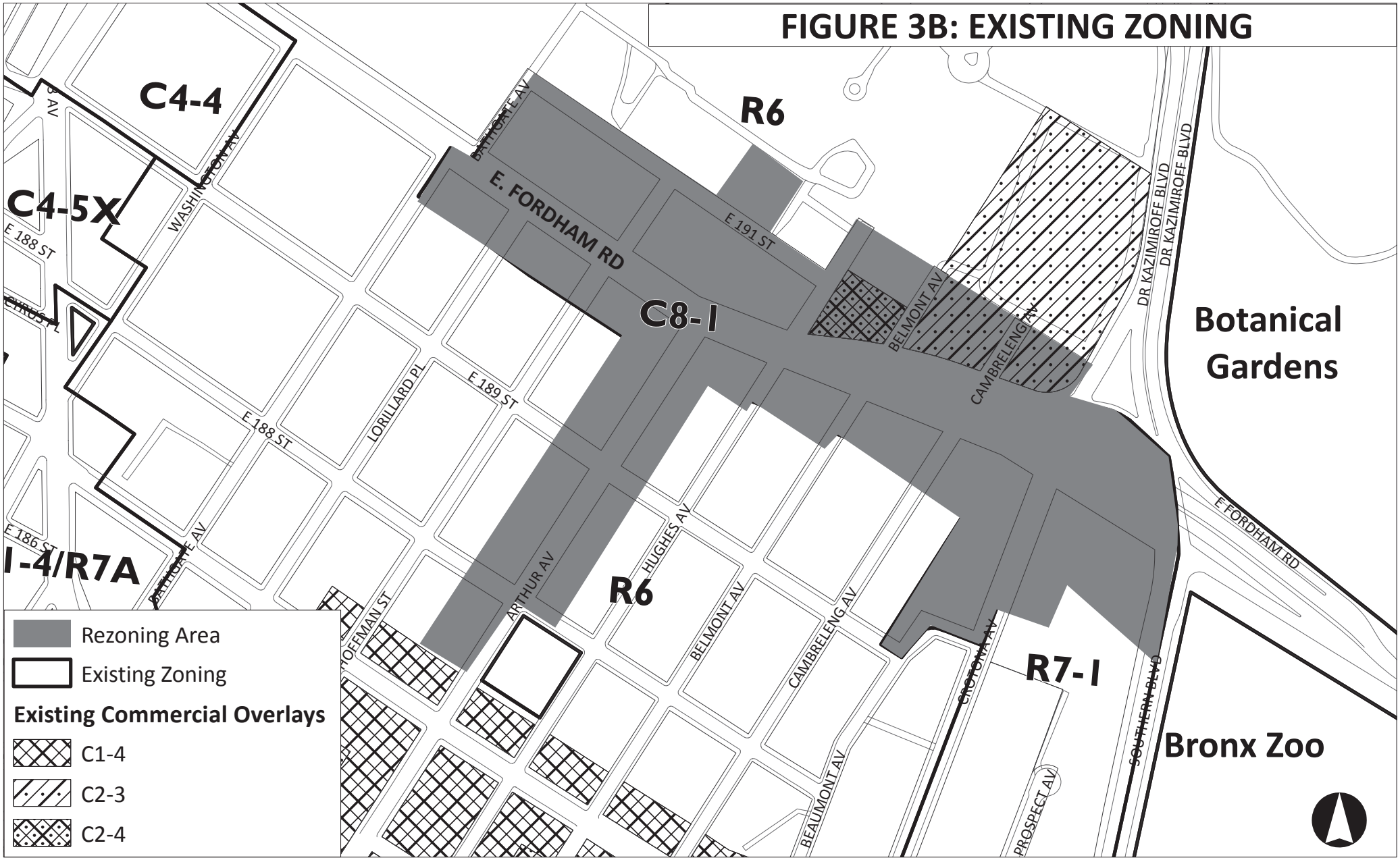


Figure 3C: Proposed Zoning

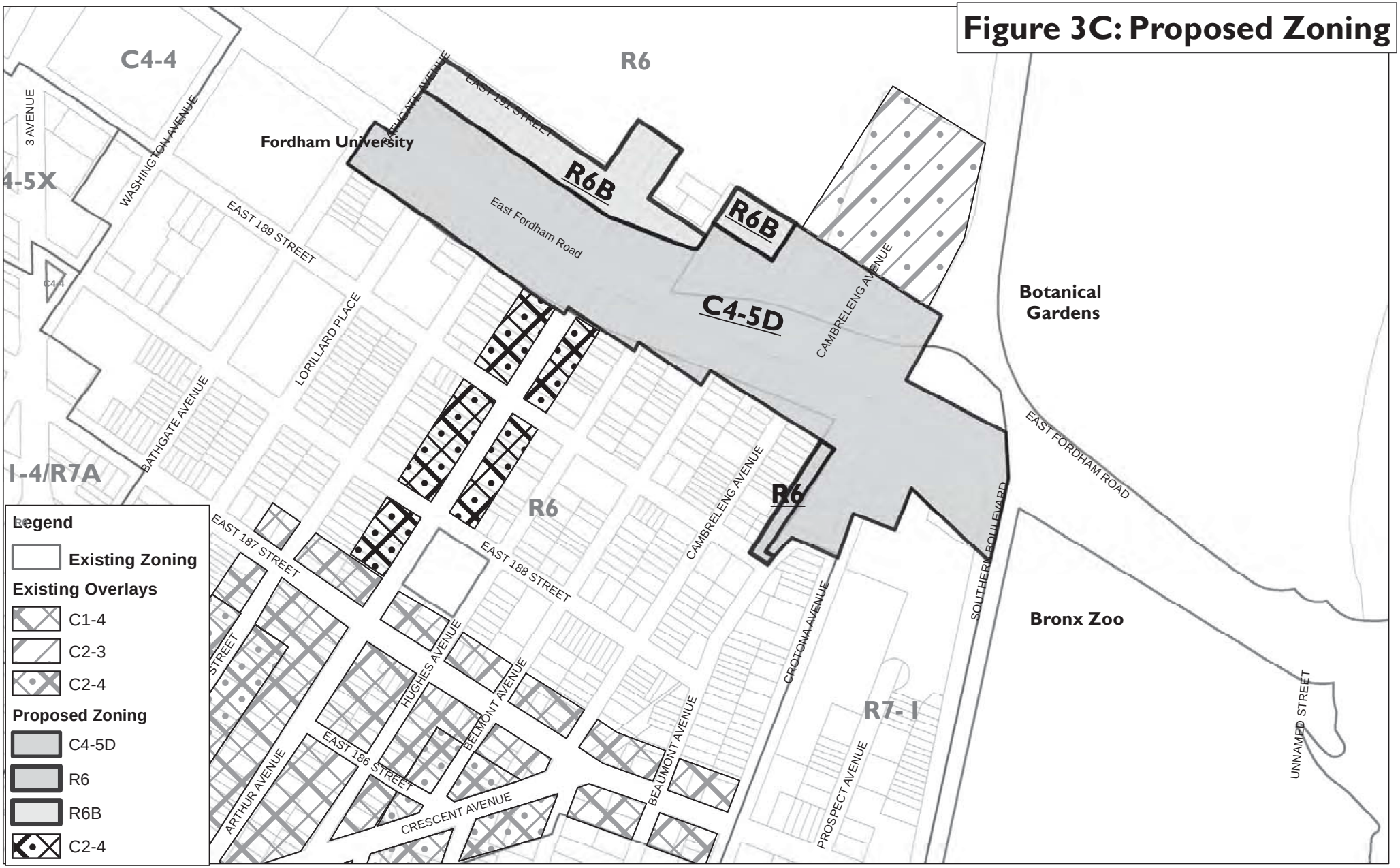


FIGURE 3D: ZONING REFERENCE CHART

Zoning District	Use Groups Allowed	Maximum FAR			Base Height	Max Bldg Ht	Off-Street Parking
		Residential	Commercial	Community Facility	Min to Max		
EXISTING ZONING							
R6 Height Factor	1-4	2.43	N/A	4.8	Sky Exposure Plane	None	70%
R6 Quality Housing Narrow Street	1-4	2.2	N/A	4.8	30-45ft	55ft	50%
R6 Quality Housing Wide Street	1-4	3.0	N/A	4.8	40-60ft	70ft	50%
C8-1	4-13, 16	Not permitted	1.0	2.4	Sky Exposure Plane	None	Varies by use
C1-4	1-6	N/A	2.0	N/A	N/A	N/A	1 space per 1,000 sf of floor area
C2-3	1-9, 14	N/A	2.0	N/A	N/A	N/A	1 space per 400 sf of floor area
PROPOSED ZONING							
C4-5D	1-6, 8-10, 12	4.2 (base) 5.6 (with IH bonus)	4.2	4.2	60-85ft	100ft	1 per 1000sf for retail 50% of the residential units
R6B	1-4	2.0	N/A	2.0	30-40ft	50ft	50%
R6 Quality Housing Narrow Street	1-4	2.2	N/A	4.8	30-45ft	55ft	50%
C2-4	1-9, 14	N/A	2.0	N/A	N/A	N/A	1 per 1000sf

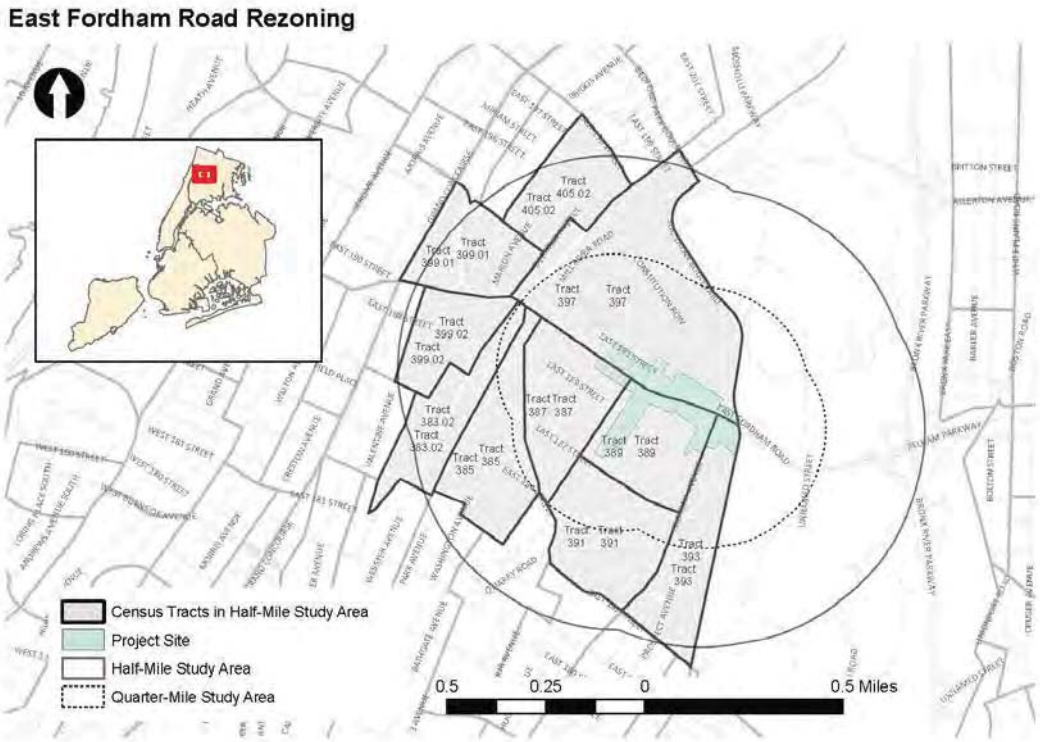
ATTACHMENT 4- SOCIOECONOMICS

INTRODUCTION

The socioeconomic chapter of the *City Environmental Quality Review (CEQR)* analysis discloses changes in socioeconomic conditions resulting from the Proposed Action and evaluates whether such changes would result in significant adverse impacts. According to the *CEQR Technical Manual*, an assessment is appropriate if the project would result in significant adverse impacts due to 1) direct displacement of residential population on the Project Site; 2) direct displacement of existing businesses on the Project Site; 3) indirect displacement of residential population in the study area; 4) indirect displacement of businesses in the study area; or 5)adverse effects on specific industries not necessarily tied to the project or the study area.

Based on the CEQR Environmental Assessment form, four of the five sections for socioeconomic analysis do not trigger an environmental review. However, an analysis on the effects the proposal will have on indirect residential displacement follows below, because the proposed project would generate a net increase of 200 or more residential units—a threshold at which a preliminary analysis of this type of displacement is required.

Quarter- and half-mile study areas were identified in order to complete the analysis. These areas are defined by the Census Tracts, which have a majority of land area falling within each of these radii. The tracts are shown and listed below:



2010 Census Tracts in Half-Mile Primary Study Area:

383.02	385	387	389	391
393	397	399.01	399.02	405.02

INDIRECT RESIDENTIAL DISPLACEMENT

The *CEQR Technical Manual* requires the assessment of indirect residential displacement, which considers the following questions:

- Would the expected average incomes of the new population exceed the average incomes of the study area populations?
- If yes, would the population increase represent more than 5% of the primary study area population or otherwise potentially affect real estate market conditions?
- If yes, would the study area have a significant number of unprotected rental units?

A preliminary study area was defined to include Census Tracts with land area falling at least 50 percent within a quarter-mile of the project area. According to the 2010 Census, the quarter-mile study area contains the majority of Census Tracts 387, 389 and 397. These tracts have a population of 12,243 in 3,515 total households, with an average household size of 2.77. The population for this same study area in 2000 was 11,864 residents, illustrating a growth rate of 3.2%. Assuming the same rate of growth, the quarter-mile study area population would be expected to reach 12,635 by 2020 in the future without the proposed action.

The proposed rezoning is expected to result in the development of 352 dwelling units, 73 of which are affordable. Assuming the average household size for the study area does not change, the 352 new dwelling units are expected result in an increase of 975 residents. This number represents an 8% increase to the projected population of the quarter-mile study area in 2020 in the future without the proposed action, resulting in a total expected population of 13,610 in the future with the proposed action.

A comparison of the Existing, Future No-Action, and Future With-Action conditions in the quarter-mile study area follows:

Quarter-Mile Study Area	Existing Conditions (2010)	Future No-Action (2020)	Future With-Action (2020)	Increment between No- and With-Action
Population	12,243	12,635	13,610	975
Dwelling Units	3,515	3,768	4,120	352

Since the anticipated population increase within the quarter-mile study area is greater than 5%, the *CEQR Technical Manual* suggests that the study area be expanded to a half-mile radius to include tracts

383.02, 385, 387, 389, 391, 393, 397, 399.01, 399.02, and 405.02. According to the 2010 Census, the total population of this area is 55,612 in 3,515 households, with an average household size of 2.94. The total population in 2000 was 52,820 indicating a population growth rate of 5.3% between 2000 and 2010. Based on this growth rate, the expected population in 2020 in the future without the proposed action is 58,559. Based on the existing average household size of 2.94, the proposed action is expected to result in a population increase of 1035 residents. These expected residents represent less than a 2% increase to the half-mile study area's total population.

A comparison of the Existing, Future No-Action, and Future With-Action conditions in the half-mile study area follows:

Half-Mile Study Area	Existing Conditions (2010)	Future No-Action (2020)	Future With-Action (2020)	Increment between No- and With-Action
Population	55,612	58,559	59,594	1035
Dwelling Units	17,860	19,110	19,462	352

Since the expected population under the future with the proposed action represents less than 5 percent of the half-mile study area population, and since the average household income of new residents is expected to be similar to the average incomes of existing residents, no further analysis is necessary. The proposed action is unlikely to introduce or accelerate socioeconomic trends resulting in indirect residential displacement, which would, in turn, alter the area's socioeconomic character.

CONCLUSION

The proposed action would provide opportunities for new residential development but is not expected to result in the indirect displacement of existing residents.

Detailed socioeconomic analysis is not warranted based on the above preliminary analyses. The proposed action would not displace existing residents or businesses. The proposed action would also not affect real estate market conditions in a way that would result in indirect displacement of residents or businesses. As the proposed action does not have the potential to result in direct or indirect residential or business impacts or impacts on specific industries, no significant impacts are anticipated. Further analysis is not warranted.

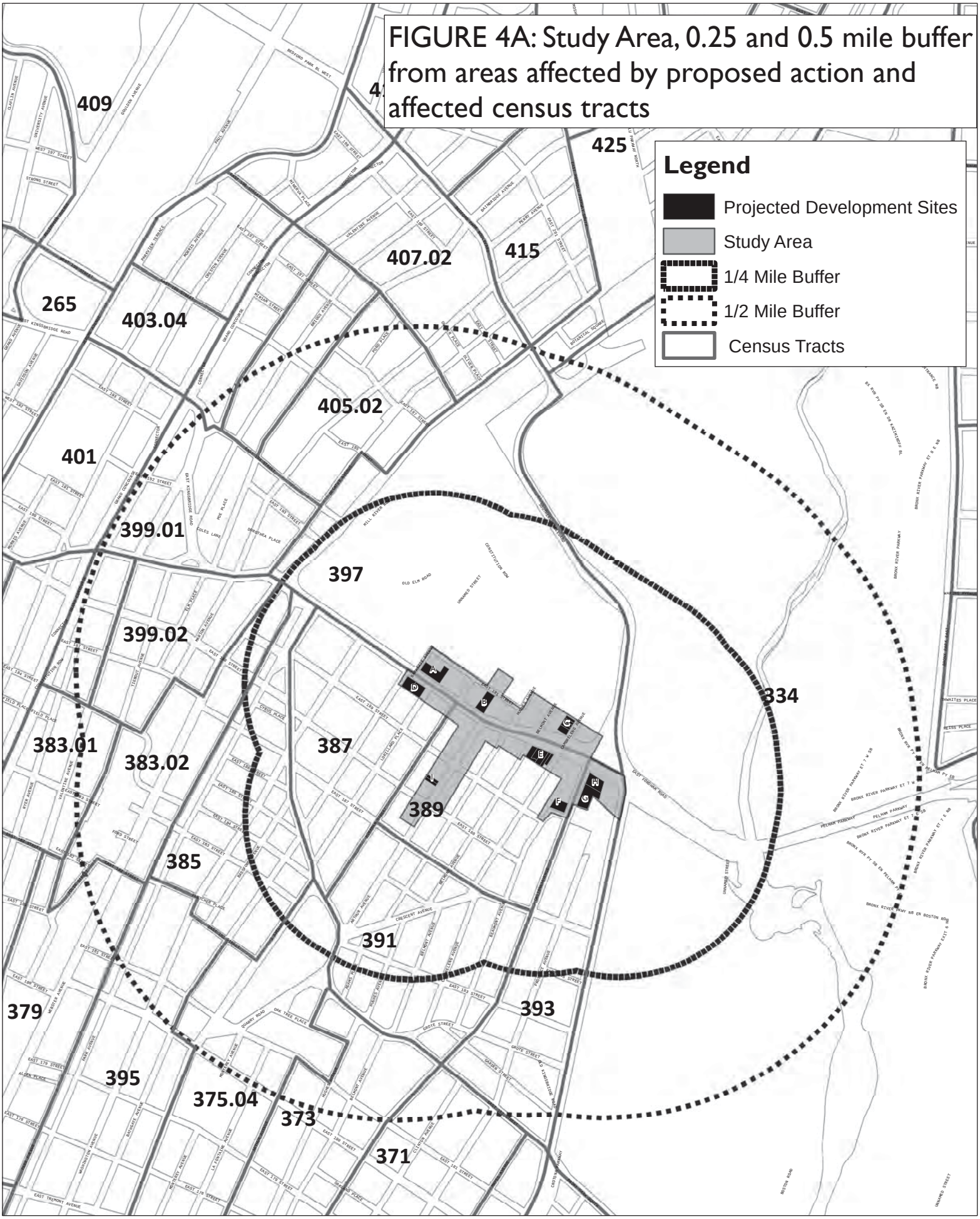


FIGURE 4A: Study Area, 0.25 and 0.5 mile buffer from areas affected by proposed action and affected census tracts
Legend
Projected Development Sites
Study Area
1/4 Mile Buffer
1/2 Mile Buffer
Census Tracts
409
425
407.02
415
265
403.04
405.02
401
399.01
397
399.02
334
383.01
383.02
387
389
385
391
379
393
395
375.04
373
371

ATTACHMENT 5-COMMUNITY FACILITIES AND SERVICES

Introduction

The proposed East Fordham Road Rezoning would preserve neighborhood scale and character by replacing non-contextual zoning with contextual zoning districts with height limits; allow for modest residential growth with incentives for affordable housing along the East Fordham Road corridor; reinforce commercial character by establishing regulations that promote pedestrian friendly ground floor use and design and tailor commercial overlays in the area to better reflect commercial activity.

DCP has identified 9 development sites suitable for residential and commercial development in the Future-With Action condition. Under the existing zoning (Future-Without Action) no residential uses are permitted. Under the proposal (Future-With Action), an additional 352 dwelling units are projected to be developed by 2023, of which 73 dwelling units could be created or preserved as affordable housing through the Inclusionary Housing Program.

Need for Further Analysis

The *CEQR Technical Manual* defines community facilities and services as public or publicly funded schools, hospitals, libraries, day care centers and police and fire services. A community facilities analysis examines a proposed action's potential effect on the provision of services by those community facilities. Direct effects occur when a particular action physically alters or displaces a community facility; indirect effects result from increases in population which creates additional demand on service delivery. The proposed action would not result in physical alteration or displacement of any community facilities, therefore no directs effect to existing community facilities are expected as a result of the proposed action.

The *CEQR Technical Manual's* Table 6-1: *Community Facility Thresholds for Detailed Analysis* provides thresholds for analyses of indirect effects. Based on these thresholds, the addition of 352 dwelling units does not require detailed analyses of hospitals, libraries, publicly funded day care centers or police and fire services. However, the *CEQR Technical Manual* directs that if a proposed action could generate more than 50 public elementary and intermediate school students, a more detailed analysis is required. The East Fordham Road Rezoning action is expected to generate 194 public elementary and intermediate school students. Further analysis of the impacts caused by the proposed rezoning on public elementary and intermediate schools is warranted.

PUBLIC SCHOOLS

Existing Conditions

Elementary and intermediate schools are located in geographically defined school districts, each divided into Sub-districts for capital planning purposes. The East Fordham Road Rezoning Area falls within Community School District (CSD) 10 Sub-district 3 (Figure 1).

Table 1
Public Elementary Schools within CSD 10 Sub-district 3
Enrollment, Capacity, and Utilization in 2011-2012

Key	Facility Name	Facility Address	CSD/Sub-district	Enrollment	Target Capacity	Available Seats	Utilization (Percent)
1	P.S. 3*	2100 La Fontaine Av.	10/3	227	289	62	78.55%
2	P.S. 9	230 E 183 St.	10/3	734	996	262	73.69%
	P.S. 9		10/3	580	848	268	68.40%
	P.S. 9 Temp		10/3	154	148	-6	104.05%
3	P.S. 23	2151 Washington Av.	10/3	520	414	-106	125.60%
4	P.S. 32	690 E 183 St.	10/3	751	765	14	98.17%
	P.S. 32		10/3	598	643	45	93.00%
	P.S. 32 Minischool		10/3	153	122	-31	125.41%
5	P. S. 51	695 E. 182nd Street	10/3	225	264	39	85.23%
6	P.S. 59	2185 Bathgate Av.	10/3	575	662	87	86.86%
	P.S. 59		10/3	480	591	111	81.22%
	P.S. 59 Annex		10/3	95	71	-24	133.80%
7	P.S. 85	2400 Marion Av.	10/3	1087	1049	-38	103.62%
	P.S. 85		10/3	812	853	41	95.19%
	P.S. 85 Minischool		10/3	275	196	-79	140.31%
8	P.S. 159	2315 Washington Av.	10/3	205	186	-19	110.22%
9	P.S 205A	2475 Southern Blvd.	10/3	666	497	-169	134.00%
10	P.S 205B	2380 Prospect Av.	10/3	360	273	-87	131.87%
11	P.S 209	313 E 183 St.	10/3	268	154	-114	174.03%
Total for CSD 10 Sub-district 3				5,618	5,549	-69	101.24%

Source: NYC Department of Education, Enrollment/Capacity/Utilization Report 2011-2012 School Year
*P.S./I.S. schools

Table 2
Public Intermediate Schools within CSD 10 Sub-district 3
Enrollment, Capacity, and Utilization in 2011-2012

Key	Facility Name	Facility Address	CSD/Sub-district	Enrollment	Target Capacity	Available Seats	Utilization (Percent)
12	P.S. 3*	2100 La Fontaine Av.	10/3	178	227	49	78.41%
13	I.S. 45	2502 Lorillard Pl.	10/3	978	1352	374	72.34%
	I.S. 45		10/3	894	1244	350	71.86%
	I.S. 45 Annex		10/3	84	108	24	77.78%
14	I.S. 118	577 E 179 St.	10/3	1163	1212	49	95.96%
	I.S. 118		10/3	971	1047	76	92.74%
	I.S. 118 Temp		10/3	192	165	-27	116.36%
15	M.S. 225**	2225 Webster Av.	10/3	220	424	204	51.89%
16	I.S. 228	400 E Fordham Rd.	10/3	251	269	18	93.31%
17	I.S. 254	2452 Washington Av.	10/3	421	525	104	80.19%
18	I.S. 391	2225 Webster Av.	10/3	625	729	104	85.73%
19	I.S. 243**	500 E Fordham Rd.	10/3	267	262	-5	101.91%
		Total for CSD 10 Sub-district 3		4,103	5,000	897	82.06%

Source: NYC Department of Education, Enrollment/Capacity/Utilization Report 2012-2013 School Year
*P.S./I.S. schools
**I.S./H.S. schools

As shown in Tables 1 and 2, in the 2011-2012 school year, the public elementary schools in this sub-district were collectively operating slightly above capacity with a shortage of 69 seats and intermediate schools were collectively operating well below capacity with a surplus of 897 seats.

Future-No Action Condition

The Department of Education's 2010-2014 does not include any planned new capacity for CSD 10's Sub-district 3. The DOE is actively engaged in evaluating underutilized school buildings and repurposing underutilized space for new school organizations. A review of the DOE's latest available Underutilized Memorandum indicates that CSD 10/Sub-district 3's PS 9 and IS 45 have been flagged as underutilized and could be candidates for proposals for significant changes in space utilization for the 2013-2014 school year.[1] However, a review of current proposals for significant changes in school utilization for CSD 10 does not include any proposals for these schools at the time of this analysis.

[1] DOE, Revised Under-Utilized Space Memorandum (as of November 20, 2012): http://schools.nyc.gov/community/planning/changes/default.htm ; DOE, Bronx Portfolio Planning: http://schools.nyc.gov/community/planning/changes/bronx/portfolio.htm

Under the future without the proposed action, the projected development sites are not expected to generate any elementary or intermediate students by 2023. However, fourteen projected development sites anticipated as a result of the Webster Avenue and Third Avenue/East Tremont Rezonings fall within the study areas and are expected to be completed by 2023. These sites would add an additional background growth increase of 293 dwelling units, 6,224 sf of general retail space, 2,166 sf of restaurant space, and 53,994 sf of office space and a decrease of 46,715 sf of auto related space. The SCA's Housing Pipeline analysis projects that 111 PS and 47 IS students will be added to the sub-district through new planned housing units (Table 3).

Table 3
Future- No Action: Number of Public School Students
Generated without the Proposed Zoning
(Based on SCA's Housing Pipeline)

School District	SCA Housing Pipeline		Future-With No Action			Grand Total	
	PS Students	IS Students	# of Dus	PS Students	IS Students	PS Students	IS Students
CSD 10 Sub-district 3	111	47	293	114	46	225	93

Source: CEQR Technical Manual 2012, Table 6-1a
School Construction Authority, Capital Planning Division, Housing Pipeline.

According to DOE's latest available enrollment projections, elementary school enrollment in CSD 10 is expected to increase and intermediate school enrollment in CSD 10 is expected to decrease by 2023 (Tables 4 and 5).

Table 4
Projected Public Elementary School Enrollment, Capacity and Utilization in 2023
Without the Proposed Action

School District	DOE Projected Enrollment 2023[1]	Students Generated by New Development[2]	Total Projected Enrollment 2023	Capacity[3]	Seats Available	Utilization
CSD 10 Sub-district 3	6,330	225	6,555	5,231	-1,324	125%

[1] DOE Enrollment Projections 2007-2018. The last year for which projections were calculated (2018) has been used to project elementary school enrollments to the 2023 analysis year. Enrollment projections sub-district study areas were calculated based on CEQR TM Methodolgy.
[2]Calculations based on Dus indentified in the SCA's Housing Pipeline that could be constructed in the sub-district absent the Proposed Action.
[3]Capacity Numbers: NYC Dept. of Education, Enrollment/Capacity/Utilization Report 2011-2012 School Year. Excludes PS 32 and PS 85 Minischools capacity per CEQR TM methodology.

Table 5
Projected Public Intermediate School Enrollment, Capacity and Utilization in 2023 Without the Proposed Action

School District	DOE Projected Enrollment 2023[1]	Students Generated by New Development[2]	Total Projected Enrollment 2023	Capacity[3]	Seats Available	Utilization
CSD 10 Sub-district 3	3,622	93	3,715	5,000	1,285	74%

[1] DOE Enrollment Projections 2007-2018. The last year for which projections were calculated (2018) has been used to project elementary school enrollments to the 2020 analysis year. Enrollment projections sub-district study areas were calculated based on CEQR TM Methodolgy.
[2]Calculations based on Dus indentified in the RWCDS that could be constructed in each sub-district absent the Proposed Action, and SCA's Housing Pipeline.
[3]Capacity Numbers: NYC Dept. of Education, Enrollment/Capacity/Utilization Report 2011-2012 School Year. Capacity per CEQR TM Methodology.

Future-With Action Condition

Under the proposed action, an additional 352 dwelling units could be developed on the projected development sites by 2023. This would generate 137 elementary and 56 intermediate school students by 2023 (Table 6).

Table 6
Future-With Action: Number of Public School Students Generated with the Proposed Zoning

School District	# of Dus Increment	PS Students	IS Students	Total PS/IS Students
CSD 10 Sub-district 3	352	137	56	194
CEQR Technical Manual 2012, Table 6-1a				

As shown in Table 7 and Table 8, the addition of 137 elementary and 56 intermediate school students generated under the Future-With Action scenario by 2023 will only slightly increase school enrollment over the DOE's projected enrollment within the Sub-district study area over the Future-No Action by 2023.

Table 7
Projected Public Elementary School Enrollment, Capacity and Utilization in 2023
With the Proposed Action

School District	Future No-Action Projected Enrollment 2023[1]	Students Generated by Proposed Action	Total Projected Enrollment 2020	Capacity[2]	Seats Available	Utilization
CSD 10 Sub-district 3	6,441	137	6,578	5,231	-1,347	126%

[1] See Table 4
[2]Capacity numbers: NYC Department of Education, Enrollment/Capacity/Utilization Report 2011-2012 School Year

Table 8
Projected Public Intermediate School Enrollment, Capacity and Utilization in 2023
With the Proposed Action

School District	Future No-Action Projected Enrollment 2023[1]	Students Generated by Proposed Action	Total Projected Enrollment 2023	Capacity[2]	Seats Available	Utilization
CSD 10 Sub-district 3	3,669	56	3,725	5,000	1,275	75%

[1] See Table 5
[2]Capacity numbers: NYC Department of Education, Enrollment/Capacity/Utilization Report 2011-2012 School Year

Conclusion

Based on this analysis, the collective utilization rate for elementary schools in the Sub-district study area is expected to increase by three percent between the Future-No Action and Future-With Action scenarios, less than the CEQR TM threshold of a five percent increase for a determination of significant adverse impacts. The collective utilization rate for intermediate schools in the sub-district will remain well below 100 percent capacity. Therefore, the proposed East Fordham Road Rezoning is not expected to result in a significant adverse impact on public schools in the affected Sub-district study area.

ATTACMENT 6 - OPEN SPACE

INTRODUCTION

Open space is defined as publicly or privately owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment. According to the *CEQR Technical Manual*, a public open space is accessible to the public on a constant and regular basis, including for designated daily periods. Public open spaces may be under public (government) or private ownership. Examples include resources such as parks managed by the City, State, or Federal governments; public plazas; outdoor schoolyards that are accessible to the public outside of school hours; landscaped medians with seating; public housing grounds; gardens; and nature preserves, if publicly accessible.

According to the *CEQR Technical Manual*, an analysis of open space is conducted to determine whether or not a proposed action would have a direct impact resulting from the elimination or alteration of open space and/or an indirect impact resulting from overtaxing available open space. According to the *New York City Environmental Quality Review Technical Manual* (*CEQR Technical Manual*), a direct open space impact 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 project would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population.

An open space analysis is generally conducted if a proposed project would generate more than 200 residents or 500 employees. However, the need for an analysis varies in certain areas of the city that have been identified as either underserved or well-served by open space. If a project is located in an underserved area, the threshold for an open space analysis is 50 residents or 125 workers. If a project is located in a well-served area, the threshold for an open space analysis is 350 residents or 750 workers. Maps in the Open Space Appendix of the *CEQR Technical Manual* identify the proposed rezoning area as neither a well-served or underserved area. Because the affected area is within an undefined area in the Bronx and the rezoning area is projected to increase the population by 1,035 residents and 420 workers a preliminary analysis was performed. As discussed below, the proposed action requires a detailed assessment. This chapter assesses existing conditions (both users and resources) and compares conditions in the Future with and without the Proposed Actions to determine potential impacts.

METHODOLOGY

The open space analysis has been conducted in accordance with the methodology presented in the CEQR Technical Manual.

Indirect Effects Analysis

An indirect impact occurs if the Proposed Actions would overtax available open space. As

described in Chapter 1, "Project Description," the Proposed Actions would result in an incremental increase of 352 dwelling units of which 73 would be affordable under the inclusionary housing program, 200,130 square feet (sf) of retail/commercial space, and 761 square feet of community facility space.

The methodology for assessing the potential for open space impacts in the study area is described below.

STUDY AREA

Establishing open space study areas that encompass the likely open space resources that new populations added by the Proposed Action would use is the first step in assessing potential open space impacts. The study area is based on the distance a person is assumed to walk to reach a neighborhood open space. Workers typically use passive open spaces and are assumed to walk up to approximately ¼-mile from their workplaces. Residents are more likely to travel farther to reach parks and recreational facilities; they are assumed to walk up to about ½-mile to reach both passive and active neighborhood open spaces.

Residential (½-Mile) Study Area

As mentioned above, residents typically walk up to ½-mile to access recreational spaces. While they may also visit certain regional parks (like Central Park), such open spaces were not included in the quantitative analysis but are described qualitatively. Therefore, the residential study area includes all census tracts that have at least 50 percent of their area located within ½- mile of a projected development site. All open spaces and the residents and employees of the census tracts that fall within the study area were included in this analysis (see Figure 6.1). The residential study area includes Census Tracts 383.02, 385, 387, 389, 391, 393, 397, 399.01, 399.02, and 405.02.

Non-Residential (¼-Mile) Study Area

As recommended in the *CEQR Technical Manual*, the non-residential open space study area comprises all census tracts that have at least 50 percent of their area located within ¼-mile of a projected development site. All open spaces, as well as all residents and employees within census tracts that fall at least 50 percent within the ¼-mile radius, were included in the non-residential study area. As shown in Figure 6.1, the non-residential study area only includes Census Tracts 387, 389 and 397.

OPEN SPACE USER POPULATIONS

Demographic data were used to identify potential open space users (residents and workers) within the non-residential and residential study areas. To determine the number of residents, 2010 U.S. Census Bureau population data were compiled for the tracts in each study area. The age distribution of the residential population was noted, as children and elderly residents are typically more dependent on local open space resources. To determine the number of employees, data was first compiled from the 2000 Census Journey to Work data compiled by

NYCDCP. Based on the population difference between the 2000 and 2010 Census an annual background growth rate of 5.3 percent per year was applied to the existing population of the study area for the ten years.

In addition, population and employment projections have been made for the 2023 analysis years in the Future without the Proposed Actions. These estimates are based partly on the projected development sites anticipated as a result of the Webster Avenue and Third Avenue/East Tremont Rezonings that fall within the study areas and are expected to be completed by 2023.

INVENTORY OF OPEN SPACE RESOURCES

All publicly accessible open spaces and recreational facilities within Study Areas were inventoried to determine their size, character, and condition (**Table 6.4**). The information used for this analysis was gathered through field studies conducted in the Fall of 2012 on weekdays and from the New York City Department of Parks and Recreation (DPR). At each open space, active and passive recreational spaces were noted. Active open space facilities are characterized by activities such as jogging, field sports, and children's active play. Such open space features might include basketball courts, baseball fields, or play equipment. Passive open space facilities are characterized by such activities as strolling, reading, sunbathing, and people-watching.

In addition to the open spaces located within the Study Areas, open spaces outside the study areas or nearby open spaces that charge a fee (such as portions of Bronx Park, Botanical Garden and Bronx Zoo, were considered qualitatively.

ANALYSIS YEARS

As described in Chapter 1, "Project Description," the analysis of the Proposed Action is performed for 2023.

ADEQUACY OF OPEN SPACE RESOURCES

Criteria for Quantified Analysis and Impact Assessment

Open space resources are divided into two categories for analysis: active use resources and passive use resources. Active open space is used for sports, exercise, or active play, and can consist of facilities such as playgrounds with play equipment, playing fields, beach areas (swimming, running), greenways and esplanades, and multi-purpose play areas. Passive open space is used for relaxation, such as sitting or strolling, and can consist of facilities such as plazas or medians with seating, a percentage of beach areas (sunbathing), picnicking areas, greenways and esplanades (sitting, strolling), restricted-use lawns, and gardens. Often, an open space can be used for both active and passive uses. The residential population of an area uses active and passive open spaces, while the worker population tends to place demands on passive open space.

The *CEQR Technical Manual* presents standards by which the adequacy of open space in a community may be measured. According to the *CEQR Technical Manual*, an area with a ratio of 2.5 acres of open space per 1,000 residents is well-served by open spaces, and is consequently used as a benchmark for large-scale plans and proposals. Open space analyses involve estimating an area's open space ratio and projecting the effect of a proposed action on that ratio. In addition to the benchmark noted above, an open space analysis also considers the City's median community district open space ratio of 1.5 acres per 1,000 residents when determining impact significance. The City also seeks to attain a planning goal of a balance of 20 percent passive open space and 80 percent active open space.

According to the *CEQR Technical Manual,* a significant adverse open space impact may occur if a proposed action would result in the direct displacement or alteration of existing open space, unless the proposed action would provide a comparable replacement within the study area and there is no net loss of publicly accessible open space. A significant adverse impact may also occur if a proposed action would reduce the open space ratio by more than 5 percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. These reductions may result in overburdening existing facilities or further exacerbating a deficiency in open space.

A screening process was conducted for the Proposed Action to determine whether or not there would be an indirect impact resulting from overtaxing available open space.

Impact Assessment

The impact assessment is based on how the Proposed Action would change the open space ratios in the open space study areas combined with a qualitative assessment of such factors as the availability of nearby destination resources and the comparison of projected open space ratios with established City guidelines. A significant impact on open space may result if the action would substantially reduce the open space ratio and consequently result in overburdening existing facilities or further exacerbate a deficiency in open space.

PRELIMINARY SCREENING

According to the *CEQR Technical Manual*, a preliminary quantitative open space assessment may be useful to determine if a detailed open space analysis is necessary, or whether the open space assessment can be targeted to a particular user group. This initial assessment calculates an open space ratio by relating the existing residential and nonresidential populations to the total open space in the study area. It then compares that ratio with the open space ratio in the future with the proposed action. If there is a decrease in the open space ratio that would approach or exceed 5 percent, or if the study area exhibits a low open space ratio from the onset (indicating a shortfall of open spaces), a detailed analysis is warranted. The detailed analysis examines passive and active open space resources available to both residents and nonresidents (e.g., daily workers and visitors) within study areas delineated in accordance with

the *CEQR Technical Manual*.

The proposed actions would result in an incremental increase of 352 dwelling units of which 73 would be affordable under the inclusionary housing program, 200,130 square feet (sf) of retail/commercial space, and 761 square feet of community facility space.

Based on 2010 Census Data for a half mile radius around the rezoning area, it is projected that the average household size for the projected residential development would be approximately 2.94[1] persons per dwelling unit. With the projected developments combined, the proposed actions would add approximately 1,035 new residents.

To estimate the projected number of future employees the Proposed Action would create, employment generation numbers were based on the following rates:

- General Retail - an average of three employees per 1,000 square feet of floor area.
- Commercial Office - an average of one employee per 250 square feet of floor area.
- Medical Office - an average of one employee per 450 square feet of floor area.
- Auto-Related Uses - an average of one employee per 800 square feet of area.
- Residential - an average of 0.04 employees per dwelling unit of residential use.

Using these ratios, the Proposed Action are estimated to generate a net increase of approximately 605 workers over the Future No-Action Scenario. Because the affected area is within an undefined open space area in the Bronx the threshold for conducting an analysis is 200 residents or 500 employees. As both the number of residents and workers is above the *CEQR Technical Manual* screening threshold of 500 new workers, further analysis is warranted for this action.

The preliminary assessment found that the proposed action would result in a 1.55% decrease the study area's open space ratio. According to the *CEQR Technical Manual,* a detailed analysis of open space is generally unnecessary if the open space ratio decreases by less than 1 percent. However, the existing open space ratio may be so low that even an open space ratio change of less than 1 percent may result in potential significant open space impacts. In such a case, the potential for open space impacts should be further assessed. Since the open space study area has a current open space ratio of .136 and an open space ratio of .129 and .127 in the Future No-Action and With-Action scenarios, respectively, a detailed assessment is warranted.

EXISTING CONDITION

As stated in the *CEQR Technical Manual*, the first step in an open space analysis is to define and map a study area. In accordance with the guidelines established in the *CEQR Technical Manual*, an open space study area is generally defined by a reasonable walking distance that users would travel to reach local open space and recreational resources. That distance is typically a

half-mile radius for residential users. For rezoning actions, a half-mile radius is drawn around the proposed rezoning area boundary to determine the reasonable distance residential users are expected to walk to open space resources. A quarter mile radius is typically the study area for the non-residential population.

Following *CEQR Technical Manual* guidelines, census tracts with approximately 50 percent or more of their area located within the half-mile radius of the projected development sites were included in the calculation of population and open space, while those census tracts with less than approximately 50 percent of their area in the half-mile radius were excluded. The open space study area includes 10 census tracts that have an area of approximately 50 percent or more in the half-mile residential open space study area. The census tracts included in the analysis are: 383.02, 385, 387, 389, 391, 393, 397, 399.01, 399.02, and 405.02. The open space study areas are shown in **Figure 6.1**.

Residential Demographics under the Existing Condition

To determine the existing residential population served in the open space study area, census data were compiled for the census tracts included in the area. According to the 2010 census data, the open space study area had an overall population of 55,612 persons, as shown in **Table 6.1**. The census tracts that comprise the open space study area and the proposed rezoning area are located within Bronx CD 6, which contain a population of 83,268 according to 2010 census data.

Table 6.1 summarizes the population of the open space study area by age group. In the study area approximately 24.3 percent of residents were under the age of 15 (including approximately
8.4 percent under the age of five years old, approximately 8.2 percent between the ages of five and nine years old, and approximately 7.7 percent between the ages of ten to 14 years old), approximately 10.9 percent were adolescents aged 15 to 19, approximately 58.1 percent were adults from 20 to 64 years old, and approximately 6.7 percent were 65 years of age or older.

The age distribution of a study area's population affects the way open spaces are used and the need for a variety of recreational facilities. Typically, children four years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages five through nine typically use traditional playgrounds, as well as grassy and hard-surfaced open spaces, which are important for such activities as ball playing, running, and skipping rope. Children ages 10 through 14 use playground equipment, court spaces, and ball fields. Teenagers' and young adults' needs tend toward court game facilities (e.g. basketball) and toward field sports (e.g. baseball). Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, as well as more individualized recreational activities such as rollerblading, biking, and jogging, which require bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, pick-

up active sports such as frisbee, and recreational activities in which all ages can participate. Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

Table 6.1
Open Space Study Area Existing Population, by Census Tract

Census Tract	Under 5 Years	5-9 Years	10-14 Years	15-19 Years	20-64 Years	65 Years and Over	Total
383.02	570	596	550	612	3,412	366	6,106
385	475	480	447	447	2,594	315	4,758
387	263	229	241	275	2,012	196	3,216
389	427	402	395	408	3,384	309	5,325
391	637	639	583	619	4,060	454	6,992
393	675	729	682	736	4,574	747	8,143
397	74	74	68	1,420	1,824	242	3,702
399.01	405	405	402	472	3,221	323	5,228
399.02	506	456	436	435	3,115	331	5,279
405.02	619	549	520	623	4,127	425	6,863
Total	**4,651**	**4,559**	**4,324**	**6,047**	**32,323**	**3,708**	**55,612**

Source: U.S. Bureau of the Census, 2012 census of Population and Housing. New York City Department of City Planning

Table 6.2
Open Space Study Area Existing Population, by Age Group

Age Category	Study Area		Bronx	New York City
	Population	Percent	Percent	Percent
<5 years	4,651	8.4%	7.4%	6.3%
5-9 years	4,559	8.2%	7.1%	5.8%
10-14 years	4,324	7.7%	7.2%	5.7%
15-19 years	6,047	10.9%	8.4%	6.6%
20-64 years	32,323	58.1%	59.4%	63.4%
65+ years	3,708	6.7%	10.5%	12.1%
Total	**55,612**	**100%**	**100%**	**100%**

Source: U.S. Bureau of the Census, 2010 Census of Population and Housing. New York City Department of City Planning.

Non-residential Demographics under the Existing Conditions

As shown in **Table 6.3**, based on 2000 Census Journey to Work data compiled by NYCDCP, the 2000 worker population for the non-residential open space study area is estimated at

approximately 14,079 workers. 2010 Journey to Work data is not available so to calculate the 2010 worker population the 2000 Census Journey to Work Population was used as the base. NYCDCP Pluto Data was used to estimate the total square footage of new development to arrive at a total number of 1,796 non-residential workers during the ten-year period. The 2010 non-residential population in the open space study area was estimated to be approximately 15,875. The growth rate of 12.76 percent was estimated by calculating the increase in non-residential population from 2000-2010.

Table 6.3
Open Space Study Area Existing Population, 2000 and 2010

Total Population 2000	Total Population 2010
14,079[1]	15,875[2]

[1]U.S. Bureau of Census, 2000 Journey to Work
[2]NYCDCP Map Pluto Data new development 2000-2010 and U.S. Bureau of Census, 2000 Journey to Work

Open Space Resources/Inventory under the Existing Condition

There are 14 publicly-accessible open space resources within the study area, as shown in **Figure 6.2** and **Table 6.4**. Of the total 7.57 acres of open space in the study area, approximately 1.30 acres (17 percent) is considered active open space and the remaining 6.27 acres (83 percent) is considered passive open space. The most recent inspection report for the open space resources in the study area is also provided below in **Table 6.4**, as compiled by the New York City Department of Parks and Recreation (DPR). Also included in **Table 6.4** is the observed level of use for each reported open space. The utilization levels, as defined by the *CEQR Technical Manual*, are as follows:

- Light utilization - generally 25 percent capacity or less utilization at the peak hour with much of the space, facility, or equipment available for use.
- Moderate utilization - generally 25 to 75 percent capacity utilization at peak hour with some spaces and/or facilities available for use.
- Heavy utilization - generally 75 percent or greater capacity utilization at peak hours with few or none of the open space facilities available for use.

Table 6.4
Existing Open Space Resources in the Study Area

Map Key # (See Figure 6.2)	Name / Location	Amenities	Condition	Use Level	Acreage		
					Active	Passive	TOTAL
1	Thorpe Family Playground - E. 183rd St. between Park and Webster Ave.	Playground Equipment, Pathways, Benches	Acceptable	Light	0.2	0	0.2
2	Rose Hill Park – Webster Ave. between E. Fordham Rd.	Bathrooms, Landscaping, Water Fountains	Acceptable	Heavy	0	0.83	0.83
3	Washington Park – E. 183rd St between Washington Ave. and	Playgrounds, Spray Showers, Water Fountains	Acceptable	Light	0.1	0.42	0.52
4	Vincent Ciccarone Park - 188th St between Arthur Ave. and Hughes	Bathrooms, Bocce and Handball Courts, Water Fountains,	Acceptable	Moderate	0.44	0.11	0.55
5	Bryan Park – E. Kingsbridge Rd. at E Fordham Rd.	Landscaping, Benches	Acceptable	Light	0	0.15	0.15
6	Webster Playground – E. 188th St. between Webster Ave. and Park	Basketball and Handball Courts, Fitness Equipment,	Acceptable	Light	0.71	0.03	0.74
7	D' Auria Murphy Triangle – Adams Pl. between Crescent Ave. and E 183rd St.	Landscaping, Benches, Gazebo, Water Fountain	Acceptable	Moderate	0	0.31	0.31
8	Whalen Grove – Crotona Ave. at Grove and Garden St.	Landscaping, Pathway. Benches	Acceptable	Moderate	0	0.13	0.13
9	Fordham Plaza - E. Fordham Road between 3rd Ave. and Park Ave.	Transportation Hub, Plaza with Market Stalls, Stage	Acceptable*	Heavy	0	0.68	0.68
10	Poe Park – Grand Concourse between E. 192nd St. and E. Kingsbridge Rd.	Historic House, Playground, Spray Showers, Benches, Pathways, Water	Acceptable	Moderate	0.13	2.2	2.33
11	Sergeant Johnson Triangle – Dr. Kazimiroff Blvd and Crotona Ave. at E. Fordham Rd.	Landscaping, Benches	Acceptable*	Light	0	0.74	0.74
12	Flood Triangle - E. 188th St. between 3rd Ave. and Washington Ave.	Landscaping, Benches	Acceptable	Moderate	0	0.07	0.07
13	IS 254 – E 188th St. and Washington Ave.	Playground, Basketball court	Acceptable*	Light	0.2	0	0.2

14	IS 45- E 189th St. and Lorillard Place	Playground	Acceptable*	Light	0.12	0	0.12
15	Hutton Triangle - E. 182 St. at Quarry Rd. and Arthur Ave.	Landscaping, Pathways	Acceptable	Light	0.1	0	0.1
16	Murphy Triangle - E. 181 St. at Third Ave. and Quarry Rd.	Landscaping, Pathways, Benches	Acceptable	Light	0.1		0.1
17	Quarry Ballfields - E. 181 St., Oak Tree Pl. bet. Quarry Rd. and Hughes Ave.	Multipurpose athlectic fields, Landscaping	Acceptable	Light	0.81	3.6	4.41
18	Belmont Playground - E 182 St bet. Belmont Av and Croton Av	Multipurpose athlectic fields, Playground equipment, bathrooms, water fountains, handball, basketball, Landscaping	Acceptable	Light	0.34	1.87	2.21
19	Bathgate Playground - Washington to Bathgate Av bet. W 181 St and E 183 St	Track, playground equipment, two community gardens	Acceptable	Light	1.89	0.61	2.5
	Total				5.14	11.75	16.89

Open space resources within the identified study area are discussed in further detail below.

1. Thorpe Family Playground

Located between Park Avenue and Washington Avenue, in 2007 this state-of-the-art .2 acre playground was created on land donated to the DPR by the adjacent Thorpe Family Residence, a non-profit organization and residence for homeless mothers and children transitioning to permanent housing. Formerly an empty lot, the property contains colorful play and climbing equipment, swings, as well as safety surfacing, lighting, security fencing, seating, and floral gardens with large shade trees. At the time of its last inspection by DPR in March of 2012, the facility's condition was classified as acceptable. The observed use level was considered light.

2. Rose Hill Park

Rose Hill Park faces the Fordham Plaza transit hub overlooking the Metro-North Railroad tracks. Containing a .83 acre landscaped plaza with seating, this park is located three blocks west of the proposed rezoning area. It is a vestige of a far larger estate once called "Rose Hill" by its owner, Robert Watt. Renovation activity in the 1960s added benches and increased the park's recreational facilities. The park's comfort station was reconstructed, and new cobblestone paving was installed in 1991. At the time of its last inspection by DPR in July of 2012, the facility's

condition was classified as acceptable. The observed use level was considered heavy.

3. Washington Park

Washington Park is bounded by Washington Avenue, Park Avenue, East 183rd Street and East 184th Street in the Tremont neighborhood. This .52 acre park contains playground facilities for pre-teens including swings, a slide, sprinklers and a sealer-coated basketball court. The City assigned a section of this park bordering East 183rd Street to DPR in 1997. Named Washington Park in 1998 and renovated in 2001, this park contains artwork and play equipment with animal themes. At the time of its last inspection by DPR in May of 2012, the facility's condition was classified as acceptable. The observed use level was considered light.

4. Vincent Ciccarone Playground

Opened in 1934 and recently renovated, this .55 acre park is located just south of the rezoning area between Arthur Avenue and Hughes Avenue. This park is named after Italian émigré and New Yorker Vincent Ciccarone, who died in World War I. Ciccarone Playground is one of nine playgrounds that were funded by the War Memorial Fund, which was established in 1921 by the New York City Police Department. This Belmont neighborhood playground features new recreation and fitness facilities, enhanced security and lighting, extensive landscaping, and newly installed utilities in its comfort station. At the time of its last inspection by DPR in August of 2012, the facility's condition was classified as acceptable. The observed use level was considered moderate.

5. Bryan Park

Bryan Park is located along the East Fordham Road commercial corridor four blocks northwest of the proposed rezoning area. This .15 acre triangle park honors New York World War I veteran John Fraser Bryan (1885-1918). It is located on East Fordham Road. People frequently use the sitting area to wait for the bus on the Fordham Road side of the park. At the time of its last inspection by DPR in July of 2012, the facility's condition was classified as acceptable. The observed use level was considered light.

6. Webster Playground

Located between Webster Avenue and Park Avenue, this .74 acre park is slightly lower than street level. Webster Playground opened in 1952 and had improvements completed in 1999. The playground features swings, play equipment with safety surfacing, a slide, comfort station, and two full basketball courts. At the time of its last inspection by DPR in April of 2012, the facility's condition was classified as acceptable. The observed use level was considered light.

7. D'Auria Murphy Triangle

Named after John D'Auria (1889-1918) and Henry J. Murphy (1891-1918) who lost their lives in World War I, D'Auria Murphy Triangle is bordered by Crescent Avenue, Adams Place, East 183rd Street, and Arthur Avenue. This .31 acre park's centerpiece is a statue of Christopher Columbus sculpted by Attilio Piccirilli (1866-1945) whose world-renowned studios produced the Maine Monument at Columbus Circle, and the statue of Abraham Lincoln in the Lincoln Memorial. In addition to the statue, the park contains a gazebo, benches, lawns, and a variety of small trees. At the time of its last inspection by DPR in July of 2012, the facility's condition was classified as acceptable. The observed use level was considered moderate.

8. Whalen Grove

Located between Grove Street and Garden Street on Crotona Avenue, this .13 acre park was named after World War II veteran Henry A. Whalen (1917-1973). The park, renovated in 1998, features a landscaped sitting area with benches, a water fountain, hexagonal block pavers and Cobblestone borders surrounding its planted areas. At the time of its last inspection by DPR in February of 2012, the facility's condition was classified as acceptable. The observed use level was considered moderate.

9. Fordham Plaza

Fordham Plaza consists of approximately .68 acres of hardscape plaza area on the south side of Fordham Road between Park Avenue and Third Avenue. This plaza is set within a busy bus transit hub where ten bus lines converge. The plaza is distinguished by brick pavers and a series of columns that provide a marketplace theme. Numerous vendor stalls are located within the bus turnaround. A semi-covered performance area sits at the southern end of the plaza, which faces One Fordham Plaza to the east, a major office building built in the 1980's. At the time of its last inspection by DCP in August of 2012, the facility's condition was classified as acceptable. The observed use level was considered heavy.

10. Poe Park

Located on Grand Concourse between East 192nd Street and East Kingsbridge Road, this 2.33 acre park contains playgrounds, basketball courts and the Poe Cottage, a historic house built by John Wheeler in 1812 and the last home of Edgar Allan Poe (1809-1849). Poe Cottage is the only house left from the old village of Fordham. At the time of its last inspection by DCP in February of 2012, the facility's condition was classified as acceptable. The observed use level was considered moderate.

11. Sergeant Johnson Triangle

This .74 acre triangle park fronts onto the busy intersection of Fordham Road, Southern Boulevard and Crotona Avenue in the northeasterly corner of the Belmont neighborhood. It is

named in honor of Sergeant Charles J. Johnson (1894-1918), the only New York City fireman to be killed during World War I. It features benches and plantings. At the time of its last inspection by DCP in August of 2012, the facility's condition was classified as acceptable. The observed use level was considered light.

12. Flood Triangle

Bounded by Third Avenue, Washington Avenue, and 188th Street, this 0.07 acre triangle was once part of the Union Hill Farm that belonged to the Reverend William Powell. It contains a landscaped sitting area with benches. At the time of its last inspection by DPR in September of 2012, the facility's condition was classified as acceptable. The observed use level was considered moderate.

13. I.S. 254

Located between East 188th Street and Washington Avenue, this .20 acre school yard, owned by The Department of Education, contains a playground and a basketball court. At the time of its last inspection by DCP in August of 2012, the facility's condition was classified as acceptable. The observed use level was considered light.

14. I.S. 45

Located on East 189th Street and Lorillard Place, this .12 acre school yard, owned by The Department of Education, contains a concrete playground. At the time of its last inspection by DCP in November of 2012, the facility's condition was classified as acceptable. The observed use level was considered light.

15. Hutton Triangle

Located on East 182 Street and Arthur Avenue, this .10 acre is named after local Bronxite and World War I veteran Cecil F. Hutton. At the time of its last inspection by DPR, the facility's condition was classified as acceptable. The observed use level was considered light.

16. Murphy Triangle

Located on East 181 Street and Third Avenue, this .10 acre is named after Arthur H. Murphy (1868-1922) who was the first Democratic County Chairman in the Bronx. At the time of its last inspection by DPR, the facility's condition was classified as acceptable. The observed use level was considered light.

17. Quarry Ballfields

Located on East 181 Street and Oak Tree Place, this 4.41 acre is named for a nearby rock quarry that, according to local lore, became the cellar of the Lorillard Mansion. Quarry Ballfields is a lively center of activity for the surrounding neighborhood. The Urban Renewal Plan organizes activities for children in the park, and local Little League teams use the ballfields. At the time of its last inspection by DPR, the facility's condition was classified as acceptable. The observed use level was considered light.

18. Belmont Playground

Located on East 182 Street between Belmont and Crotona Avenues, this 2.21 acre playground includes play equipment, swings, safety surfacing, spray shower, benches, paving, curbs, north arrow rosette, drinking fountain, and water and drainage systems. At the time of its last inspection by DPR, the facility's condition was classified as acceptable. The observed use level was considered light.

19. Bathgate Playground

Located on Washington and Bathgate Avenues between W. 181 st and E 183rd Streets, this 2.5 acre includes play equipment. At the time of its last inspection by DPR, the facility's condition was classified as acceptable. The observed use level was considered light.

Quantitative Assessment of Open Space Adequacy under the Existing Condition

Based on the 2010 census study area population of 55,612 and the existing 16.89 acres of open space in the study area, the residential open space ratio in the study area is 0.304, which is substantially lower than the Citywide median community district open space ratio of 1.5 acres per 1,000 residents and the City's goal of 2.5 acres per 1,000 residents. The active open space ratio is 0.092 acres per 1,000 residents and the passive open space ratio is 0.211 acres per 1,000 residents. Overall, approximately 25 percent of open space in the study area is classified as active open space and the remaining 75 percent is classified as passive open space. The non-residential open space ratio is .197. The passive open space ratio per 1,000 non-residents is .149. This is slightly below the optimal ratio for worker populations, provided by the *CEQR technical manual*, of 0.15 acres of passive space per 1,000 non-residents.

Qualitative Assessment of Open Space Adequacy under the Existing Condition

In addition to the quantitative analysis, the *CEQR Technical Manual* also recommends a consideration of qualitative factors in an analysis of potential open space impacts. Qualitative factors include the availability of nearby destination resources, the beneficial effects of new open space resources provided by a project, the comparison of projected open space ratios with established City guidelines, and the characteristics of the user population.

A majority of open space resources in the study area are considered to be in acceptable condition, and most resources were observed to be lightly or moderately used. Although the amount of open space available does not meet CEQR guidelines, there are a variety of active and passive recreational resources in the study area that offer amenities that address the needs of the various age groups.

The age distribution of the open space study area shown previously in **Table 6.2** is discussed in further detail below. Approximately 8.4 percent of the residential open space study area population consists of children four years old and younger. This percentage is more than the percentage of residents within this age cohort in New York City (6.3 percent) and more than that of Bronx residents (7.4 percent). Typically, children four years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Numerous facilities in the study area offer amenities appropriate to this age group, including Washington Park and Thorpe Family Playground.

Approximately 8.2 percent of the open space study area population consists of children aged five to nine years old. This percentage is more than the percentage of residents within this age cohort in New York City (5.8 percent) and more than that of Bronx residents (7.1 percent). Children ages five through nine use traditional playgrounds with play equipment suitable for school-age children, as well as grassy and hard-surfaced open spaces, which are important for ball playing, running, and skipping rope. Numerous facilities in the study area offer amenities appropriate to this age group, including I.S. 254 and Poe Park.

Approximately 18.6 percent of the open space study area population consists of children, teenagers, and young adults aged ten to 19. This percentage is more than the percentage of residents within this age cohort in New York City (12.3 percent) and more than that of Bronx

Residents (15.6 percent). Children ages ten through 14 use playground equipment, court spaces, and ball fields. Teenagers and young adults (ages 15 to 19) tend to use court facilities such as basketball and field sports such as football or soccer. There is a wide variety of open spaces that serve this age group. Numerous facilities in the study area offer amenities appropriate to this age group, including Webster Playground, and Vincent Ciccarone Park.

Approximately 58.1 percent of the open space study area consists of adults and seniors aged 20 - 64. This age group includes students, university staff and faculty at Fordham University's Rose Hill Campus who live both off and on campus. This group has access to a wide range of active and passive recreational facilities on campus. In addition, most students do not live here year-round and many go home for winter and spring breaks and the majority of students and faculty leave for the summer. This percentage is less than the percentage of residents in New York City (63.4 percent) and less than that of Bronx residents (59.4 percent). This age group tends to use

basketball and tennis courts as well as field sports such as football or soccer. Numerous facilities outside the study area offer amenities appropriate to this age group including Rose Hill Park, and Whalen Grove.

Approximately 6.7 percent of the open space study area consists of seniors aged 65 years and older. This percentage is less than the percentage of residents within this cohort in New York City (12.1 percent) and less than that of Bronx residents (10.5 percent). Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational facilities that require passive facilities. Numerous facilities in the study area offer amenities appropriate to this age group, including Fordham Plaza, and D'Auria Murphy Triangle.

Approximately 6.6 percent of the open space study area includes Fordham University's Rose Hill Campus (Census Tract 397). This includes students, university staff and faculty. Fordham has several open space and recreational facilities located on campus including: Edwards Parade, Murphy Field, Martyrs' Lawn, Hawthorn/Rooney Tennis Courts, Lombardi Fieldhouse and Coffey Field. These facilities provide both active and passive recreation space. It should also be noted that many students, faculty and staff live off-campus within the open space study area and have access to these facilities as well.

According to the *CEQR Technical Manual* census tracts that have less than fifty percent of their area within the half mile study area should be excluded from the analysis. There are several open spaces resources available to open space users within a reasonable walking distance that fall within this category including: Quarry Ballfields (4.42 acres), Belmont Playground (2.21 acres), Bathgate Playground (2.50 acres), and P.S. 3 (.485 acres) are all available at no cost. These open space resources include basketball courts, baseball, soccer and football fields as well as playgrounds, and comfort stations. In addition, portions of Bronx Park located within the study area, which includes The Bronx Zoo and The New York Botanical Garden, are available to the study area open space users for a nominal fee.

FUTURE NO-ACTION SCENARIO

Under the Future No-Action Scenario, it is expected that the existing zoning, land uses and recent development patterns within the study area would continue. However, fourteen projected development sites anticipated as a result of the Webster Avenue and Third Avenue/East Tremont Rezonings fall within the study areas and are expected to be completed by 2023. These sites would add an additional background growth increase of 293 dwelling units, 6,224 sf of general retail space, 2,166 sf of restaurant space, and 53,994 sf of office space and a decrease of 46,715 sf of auto related space. Based on the 2010 Census average household size of 2.94 persons for the residential study area, these development sites would add 861 residents by 2023. Other residential developments are not expected to occur within the half-mile study area by the 2023 analysis year.

Residential Population under the Future No-Action Condition

As stated above, the 2010 census population of the half-mile open space study area was 55,612, which is used as the base for current conditions in the study area. In order to account for background population growth over the ten-year timeframe, an annual background growth rate of 5.3 percent per year was applied to the existing population of the study area for the ten years[3], bringing the population of the open space study area to 58,559 residents. With the addition of the 861 residents expected to occur form the known development sites, the No-Action population is 59,420.

The number of residents in each age group as seen in **Table 6.5**, is based on the percent share for that age group at the time of the 2010 census, which for the purposes of this analysis, is assumed to remain constant.

Table 6.5
Open Space Study Area Population by Age Group under the Future No-Action Scenario

Age Category	Estimated Population	Percent of Total Population
<5 years	4,991	8.4%
5-9 years	4,932	8.3%
10-14 years	4,635	7.8%
15-19 years	6,477	10.9%
20-64 years	34,345	57.8%
65+ years	3,981	6.7%
TOTAL	**59,420**	**100%**

Sources: U.S. Bureau of the Census, 2010 Census of Population and Housing, Webster Avenue FEIS, Third Avenue/East Tremont EAS.

Non-Residential Population under the Future No-Action Condition

Under the Future No-Action Scenario, development is expected to occur on six sites within the non-residential study area. These six sites are expected to generate 12 non-residential open space users from 113 dwelling units and 7,218 sf of office space. As discussed earlier, to account for the non-residential population the 2000 Census reverse journey to work data and the NYCDCP Pluto data were compiled to produce the 2010 population for the non-residential open space study area. With the addition of 12 employees to the study area, the non-residential population under the Future No-Action is expected to increase to 15,887.

Open Space Resources/Inventory under the Future No-Action Scenario

According to DPR, there are no new parks, playgrounds or other open space resources planned

for the study area. While improvements may occur within existing parks themselves, such park improvements would not expand the amount of publicly-accessible open space in the study area, but instead improve the quality of these facilities and access to the area's open space resources. Thus, the 16.89 acres under the Existing Condition would remain constant in the Future No- Action Scenario.

Quantitative Assessment of Open Space Adequacy under the Future No-Action Scenario

As discussed above, it is anticipated that new development would occur in the study area and would in increase the residential and non-residential study areas' populations to 59,420 and 15,887, respectively. Therefore, the residential open space ratio under the Future No-Action Scenario would be .284, or a 6.4% decrease from the existing conditions. The active open space ratio will be .087 acres per 1,000 residents under the Future No-Action scenario. The ratio of passive open space per 1,000 residents will be 0.198 in the Future No-Action. The total active and passive open space ratios within the residential study area would remain substantially below the guideline of adequacy in the future without the Proposed Action.

Under the Future No-Action scenario the non-residential open space ratio would remain essentially the same at .196 acres per 1,000 non-residents. Both the active and passive ratios for the non-residential population in the study area would remain the same with 0.048 acres of active open space per 1,000 residents and 0.149 acres of passive open space per 1,000 residents. This is slightly below the optimal ratio for worker populations, provided by the *CEQR technical manual*, of 0.15 acres of passive space per 1,000 non-residents.

FUTURE WITH-ACTION SCENARIO

As discussed in Attachment 2, "Reasonable Worst Case Development Scenario," it is expected that the proposed action would result in an incremental increase of 352 DUs, 200,130 square feet of retail/commercial space, 761 square feet of community facility space, over the Future No-Action Scenario.

Indirect Effects Analysis

Residential Population under the Future With-Action Scenario

The Proposed Actions are estimated to add 352 net new incremental DUs to the open space study area, compared to the Future No-Action Scenario. This would result in approximately 1,035 new incremental residents over the Future No-Action condition, based on the average of 2.94 persons per household in Bronx CD 6. The total population in the study area in the Future With-Action Scenario is expected to increase to 60,455 residents.

Substantial changes in the age group structure of the residential population are not expected in the Future With-Action Scenario. As previously noted, the number of residents in each age

group, as seen in **Table 6.6** for the Future With-Action Scenario, is based on the percent share for that age group at the time of the 2010 census, which for the purposes of this analysis, is assumed to remain constant.

Table 6.6
Open Space Study Area Population by Age Group under the Future With-Action Scenario

Age Category	Estimated Population	Percent of Total Population
<5 years	5,078	8.4%
5-9 years	5,018	8.3%
10-14 years	4,715	7.8%
15-19 years	6,590	10.9%
20-64 years	34,883	57.7%
65+ years	4,050	6.7%
Total	**60,455**	**100%**

Sources: U.S. Bureau of the Census, 2010 Census of Population and Housing

Non-residential Population under the Future With-Action Scenario

The Proposed Actions are estimated to add 118,951 square feet of retail space, 81,179 square feet of office space, and 761 square feet of community facility space over the Future No-Action Scenario. To estimate the projected number of future employees the Proposed Action would create, employment generation numbers were based on the following rates:

- General Retail - an average of three employees per 1,000 square feet of floor area.
- Commercial Office - an average of one employee per 250 square feet of floor area.
- Medical Office - an average of one employee per 450 square feet of floor area.
- Auto-Related Uses - an average of one employee per 800 square feet of area.
- Residential - an average of 0.04 employees per dwelling unit of residential use.

Using these ratios, the Proposed Actions are estimated to generate a net increase of approximately 420 workers over the Future No-Action Scenario, resulting in a non-residential population of 16,307.

Open Space Resources/Inventory under the Future With-Action Scenario

As previously noted, according to DPR, there are no new capital project parks, playgrounds or other open space resources planned for the study area by the 2023 analysis year. Furthermore, the Proposed Action does not include any proposed development of new open space. Thus, the
16.89 acres of open space resources found in the Existing Conditions, and continued under

the
Future No-Action Scenario would remain in the Future With-Action Scenario.

Quantitative Assessment of Open Space Adequacy under the Future With-Action Condition

Under the Future With-Action Scenario, the open space ratio for the residential open space study area would decrease from 0.284 acres per 1,000 residents under the Future No- Action Scenario to 0.279 acres per 1,000 residents under the Future With-Action Scenario, a decrease of approximately 1.71 percent. The open space ratio for the non-residential open space study area would decrease from 0.196 acres per 1,000 non-residents under the Future No-Action to 0.191 acres per 1,000 non- residents under the Future With-Action scenario, a decrease of approximately 2.58 percent.

The active open space ratio would decrease from 0.087 acres per 1,000 residents under the Future No-Action scenario to 0.085 acres per 1,000 residents under the Future With-Action Scenario. The active open space ratio would decrease from 0.048 acres per 1,000 non-residents under the Future No-Action to 0.045 acres per 1,000 residents under the Future With-Action scenario. This ratio continues to be below the DCP recommended guideline of 2.0 acres of active space per 1,000 residents, as it was under the Future No-Action Scenario.

The passive open space ratio would decrease from 0.149 acres per 1,000 residents under the Future No-Action Scenario to 0.145 acres per 1,000 residents under the Future With-Action Scenario. This ratio also continues to be below the DCP recommended guideline of 0.50 acres of passive space per 1,000 residents. The passive open space ratio would decrease from 0.740 per 1,000 non-residents under the Future No-Action to 0.721 per 1,000 non-residents under the Future With-Action. The ratio for non-residential workers continues to be slightly below the DCP recommended guideline of .15 acres of passive open space per 1,000 non-residents.

As discussed previously, given the range of age groups (specifically the 20-64 age range) present in the study area, the need exists for various kinds of active and passive recreation facilities, including those with amenities that can be used by a wide range of age groups. However, it is expected that no particular age group would be particularly affected as a result of the proposed actions.

Qualitative Assessment of Open Space Adequacy under the Future With-Action Condition

In the future with the Proposed Action, ratios of open space would continue to be lower than the measure of open space adequacy and the ideal citywide planning goals. The population to be generated by the Proposed Action is not expected to have any special characteristics, such as a disproportionately younger or older population, that would place heavy demand on facilities that cater to specific groups.

As aforementioned, there are several open spaces resources available to open space users within a reasonable walking distance that fall within this category including: Quarry Ballfields (4.42 acres), Belmont Playground (2.21 acres), Bathgate Playground (2.50 acres), and P.S. 3 (.485 acres) are all available at no cost. These open space resources include basketball courts, baseball, soccer and football fields as well as playgrounds, and comfort stations. In addition, portions of Bronx

Park located within the study area include The Bronx Zoo and The New York Botanical Garden is available to the study area open space users for a nominal fee. Moreover, there are a number of resources just outside the ¼ mile non-resident study area, including the .31 acre D' Auria Murphy Triangle, that could be utilized by the worker population.

Moreover, it is likely that the large percentage of 20-64 year olds stems from the proximity of Fordham University to the study area. Fordham University students, faculty, and staff have access to Fordham University's open spaces and recreational facilities on campus, and would not overly tax existing open spaces. Also, this population is not within the study area year round and they are more likely to heavily use these facilities during the academic calendar. Likewise, the young adult group is more likely to travel for active open spaces which there are many just outside the open space study area, including ballfields along the Bronx River Parkway. In addition, the Fordham University population that lives within the study area has been accounted for in the study area quantitative analysis. The elderly are served by parks with seating and a park with boche-ball along Arthur Avenue, while the younger population is served by the many playgrounds that exist within the study area.

CONCLUSION

The proposed action would result in an incremental a 1.71% decrease compared to the future no-action scenario. Additionally, the proposed action would result in an incremental decrease of 0.001 acres of active open space and 0.003 acres of passive open space per 1,000 non-residents (See **Table 6.7**).

The *CEQR Technical Manual* states that a project would generally not result in any significant adverse impacts if the project would reduce the open space ratio by less than five percent. However, in areas that are extremely lacking in open space, a reduction as small as one percent may be considered significant, depending on the area of the City. These reductions could result in overburdening existing facilities or further exacerbating a deficiency in open space.

Under the Future With-Action Scenario, available open space resources would continue to be below the open space ratio guideline set forth in the *CEQR Technical Manual* of 2.5 acres of open space per 1,000 residents, as well as the citywide community district median of 1.5 acres per 1,000 residents. However, it is recognized that these goals are not feasible for many areas of the City. As demonstrated above, the open space ratios in all conditions indicate a shortfall in the amount of open space located within the open space study area. Some of the lack of open space resources can be offset by the open space resources found nearby including Bronx Park and the various facilities available on Fordham's Rose Hill Campus.

The qualitative assessment indicates that while the decrease in open space is above 1 percent the lack of open space resources may be met with resources just outside the study area. In addition, the demographic analysis indicates that there may be less of a burden on active open space in the residential study area because of the large population of 20-64 year olds, which is likely due to the proximity of Fordham University to the study area, which has its own active

open spaces for students.

Table 6.7
Open Space Ratios, Residential and Non-Residential

	Existing Conditions (2010) Residential	Future No-Action (2023) Residential	Future With Action (2023) Residential	Existing Conditions (2010) Non-Residential	Future With-No Action (2023) Non-Residential	Future With Action (2023) Non-Residential
Study Area Population	55,612	59,420	60,455	15,875	15,887	16,307
Open Space Acres	16.89	16.89	16.89	16.89	16.89	16.89
Open Space Ratios	0.304	0.284	0.279	.197	.196	.196
Open Space Passive Ratios	0.211	.198	0.194	0.149	0.149	0.145
Open Space Active Ratios	0.092	0.087	0.085	0.048	0.048	0.047

Moreover, the Proposed Actions would not result in any direct effects on any open space resources, as the project would not result in a physical loss of any public open spaces either by encroaching on open space resources or displacing open space resources. The Proposed actions would not change the use of any open space so that it no longer serves the same user population, nor would the Proposed Actions limit public access to open space or result in significant amounts of increased noise, air pollutant emissions, odors, or shadows on any public open spaces that would affect their usefulness. Therefore, significant adverse impacts regarding open space resources are not expected as a result of the proposed action.

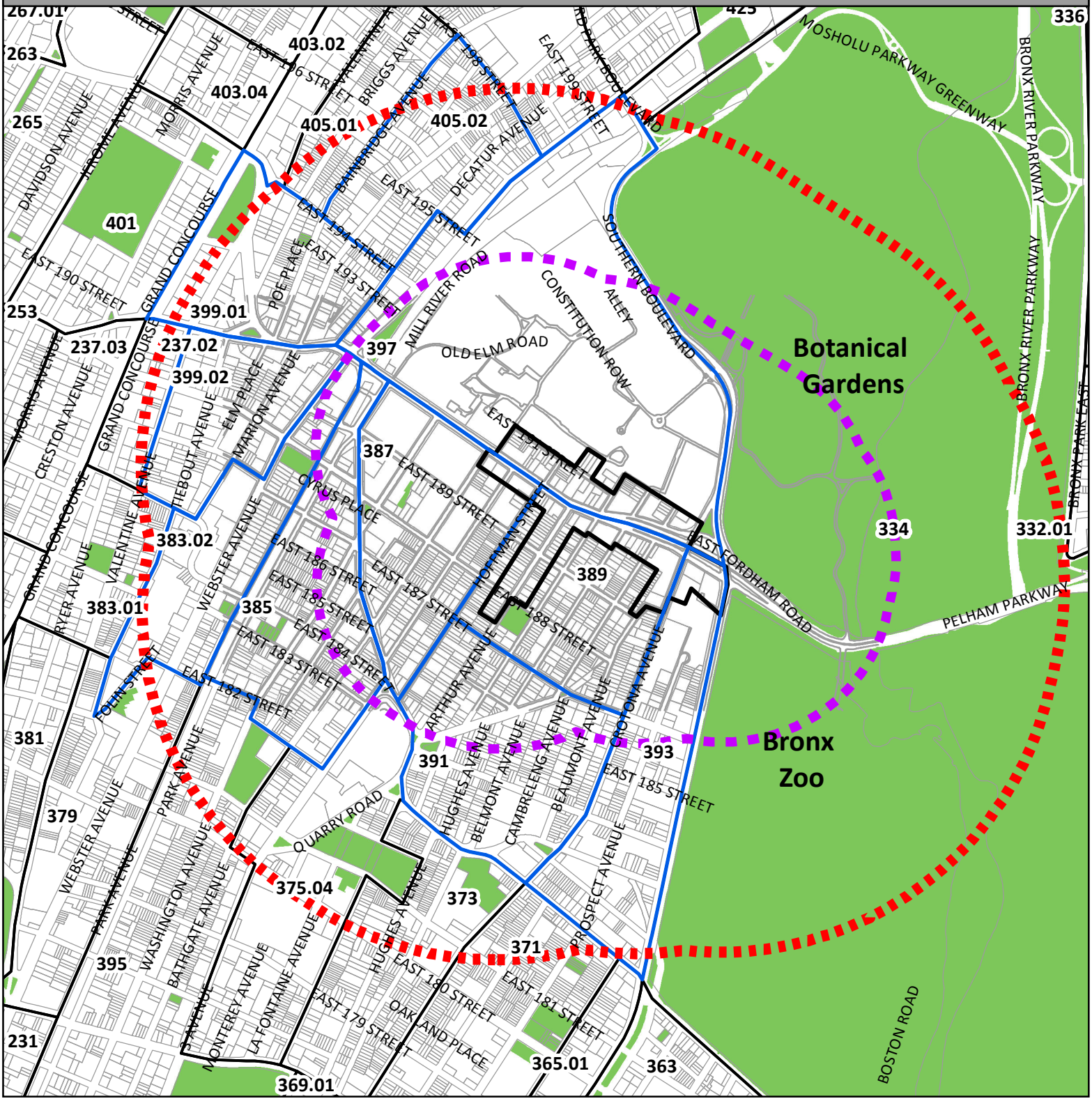


Public Schools in the Vicinity of the Proposed East Fordham Road Rezoning

● Elementary School ■ Intermediate School ★ Intermediate/High School ▲ K-8 School East Fordham Rd. Rezoning Area Community School District Sub-district Area in Analysis

Figure 6.1 : Open Space Study Area

East Fordham Road Rezoning



Legend

- East Fordham Road Rezoning Area
- 1/2 Mile Study Area
- 1/4 Mile Study Area
- 391 2010 Census Tracts

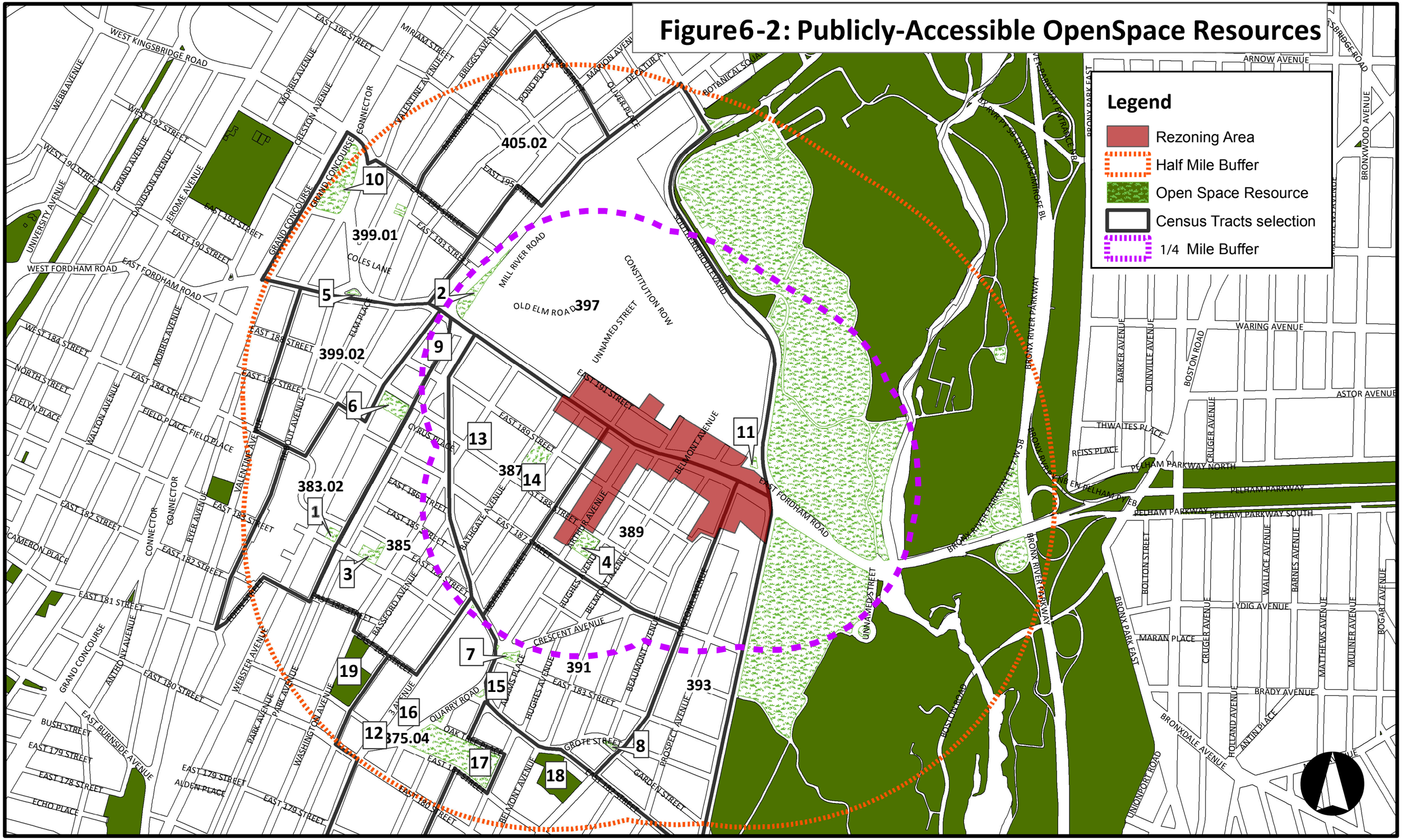
0 0.075 0.15 0.3 Miles

N

Source: US Census Bureau

NYC Department of City Planning

Figure6-2: Publicly-Accessible OpenSpace Resources



ATTACHMENT 7—URBAN DESIGN AND VISUAL RESOURCES

INTRODUCTION

This chapter considers the potential of the Proposed Action to affect urban design and visual resources. As defined in the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. A visual resource can include views of the waterfront, public parks, landmark structures or districts, otherwise distinct buildings, and natural resources. Since the Proposed Action could result in the potential for a pedestrian to observe, from the street level, a physical alteration beyond what is allowed by existing zoning, a preliminary assessment of urban design and visual resources is warranted.

Per the *2012 CEQR Technical Manual*, the following analysis focuses on where the Proposed Action would be most likely to influence land use patterns and the built environment. This analysis addresses the urban design and visual resources of the study area for existing conditions, the future without the Proposed Action (the No-Action condition) and the future with the Proposed Action (With-Action condition) in the 2022 analysis year when the full build-out pursuant to the Proposed Action is expected to be completed.

The proposed action is intended to reinforce the commercial character of East Fordham Road and Arthur Avenue while preserving the existing built context in targeted locations along 191st street. This will ensure that future development is predictable. The proposed rezoning would also permit moderate increases to the allowable commercial and community facility bulk and residential bulk would be introduced. These increases consist primarily of a medium-density commercial district which would be limited to the East Fordham Road corridor between Bathgate Avenue and Southern Boulevard.

METHODOLOGY

As defined in the *CEQR Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space and this analysis considers the effects of the Proposed Action on the experience of a pedestrian in the rezoning and study areas. The assessment focuses on those project elements that have the potential to alter the built environment, or urban design, of the Rezoning Area, which is collectively formed by the following components:

- Street Pattern and Streetscape—the arrangement and orientation of streets define location, flow of activity, street views, and create blocks on which buildings and open spaces are arranged. Other elements including sidewalks, plantings, street lights, curb cuts, and street furniture also contribute to an area's streetscape.
- Buildings—building size, shape, setbacks, pedestrian and vehicular entrances, lot coverage and orientation to the street are important urban design components that define the appearance of the built environment.
- Open Space—open space includes public and private areas that do not include structures, including parks and other landscaped areas, cemeteries, and parking lots.
- Natural Features—natural features include vegetation, and geologic and aquatic features that are natural to the area.
- View Corridors and Visual Resources—visual resources include significant natural or built features, including important views corridors, public parks, landmarks structures or districts, or otherwise distinct buildings.

The rezoning area does not have natural features, built or natural visual resources, according to the definitions in the *CEQR Technical Manual*. Moreover, the proposed action would not affect the street hierarchy or reconfigure blocks. Therefore, this chapter will analyze the urban design characteristics of the study areas, which include the streetscape, buildings, open spaces.

Study Areas

In accordance with the *2012 CEQR Technical Manual*, the analysis begins with a preliminary assessment to determine whether the changes to the pedestrian environment are sufficiently significant to require greater explanation and further study in the form of a detailed analysis. Examples include projects that would potentially obstruct view corridors, compete with icons in the skyline, or make substantial alterations to the streetscape of an area by noticeably changing the scale of buildings.

The proposed action would permit moderate increases to the allowable commercial and community facility bulk and residential bulk would be introduced. Since these increases consist primarily of a medium-density commercial district which would be limited to the East Fordham Road corridor between Bathgate Avenue and Southern Boulevard, the focus for the preliminary assessment was therefore limited to the East Fordham Road corridor. Four study areas along East Fordham Road were chosen in

order to examine the effects the proposed action would have on the urban design character of the area. Each study area was selected on the basis that the proposed action would allow an increase in density, which could have the potential for a pedestrian to observe, from the street level, a physical alteration beyond what is allowed by existing zoning.

Since the urban design and visual resources analysis is a site specific-based technical analysis, the anticipated development on both projected and potential development sites forms the basis for this preliminary assessment (See Figure 7A). As discussed in Attachment 2 a reasonable worst-case development scenario (RWCDS) has been developed to represent the potential development that could result from the proposed action.

EXISTING CONDITIONS

East Fordham Road between Bathgate Avenue and Southern Boulevard is a major, wide corridor in the Bronx that runs east to west. The roadway contains a travel lane in each direction for vehicles, limited curbside parking lanes in each direction, and the Bx9, Bx12, Bx22, and Bx12 Select Bus Service routes. Auto related uses including auto repair, gas stations, and car washes are common along this portion of East Fordham Road, although those types of uses have diminished over time. Additional types of development include 1-2 story commercial buildings and medical related facilities.

Bathgate Avenue Study Area

The first study area is a section between Bathgate Avenue and Lorillard Place along the East Fordham Road corridor. The existing development along this portion of East Fordham Road includes mixed use buildings, multi-story commercial uses and row houses. The existing buildings range from one story to four stories. Cattycorner to the study area is the Theodore Roosevelt High School, which rises to approximately 100 feet, and Fordham University classroom buildings, which are setback from the street behind an iron fence and trees.

This is the westernmost segment of the rezoning area. Moving west the topography slopes down toward the Fordham Metro North Station, while moving east along East Fordham Road it continues to rise steadily and plateaus around Lorrilard Place. Facing west on Lorrilard Place the southern streetscape consists of the aforementioned multi-story commercial establishments and Theodore Roosevelt High School. The commercial establishments are built to the lot line, while the high school is slightly setback.

The northern side of East Fordham Road looking west from Lorrillard Place features a surface parking lot that is accessory to a single story commercial establishment, which is adjacent to a number of three-story retail buildings. The streetscape is varied and no feature engages the pedestrian more than the setback on Fordham University's campus buildings, which sit within open space behind stone and metal fences. The uses are also varied with walkup residential buildings wrapping around Bathgate Avenue to the north.

Projected Development Site A is a corner lot located in the Bathgate Avenue Study Area at 545 East Fordham Road. The site is a single story auto parts retail establishment with 18 at- grade parking spaces, which abuts three-story row houses that wrap around the corner of Bathgate Avenue and E. 191st Street and sits across from Fordham University's campus.

Belmont Avenue Study Area

The second study area is between Belmont Avenue and Cambreleng Avenue on the north side of the East Fordham Road corridor. This section consists of five detached two-story row houses along Cambreleng Avenue and a five-story Faculty Memorial building on the rest of the block.

Development Site C is located at 2533 – 2541 Cambreleng Avenue. The site is an assemblage of five tax lots developed with five two-story row houses.

Cambreleng Avenue Study Area

The third study area is also between Belmont Avenue and Cambreleng Avenue on the south side of the East Fordham Road corridor. This section of the corridor is currently developed with surface parking and several single-story retail establishments, surrounded by a drive-up banking establishment two- and three-story row houses and five story apartment buildings.

Development Site E is located at 660 – 668 East Fordham Road. The site is an assemblage of five tax lots. Three of the lots are currently for parking. The other lots contain insurance services and a tattoo parlor.

Crotona Avenue Study Area

The fourth study area is between Crotona Avenue and Southern Boulevard. This section is developed with a variety of uses and building types including a drive-through restaurant with an outdoor play area,

and commercial buildings ranging in height from 1-4 stories. Surrounding the study area is a school with a height of 90 feet and a tall, 283 feet residential tower.

Two development sites are located in this study area. Development Site G is located at 2500 Crotona Avenue and Site H is located at 730 East Fordham Road. Development Site G is currently developed with a motel and Development Site H is developed with a gas station and small mini-mart.

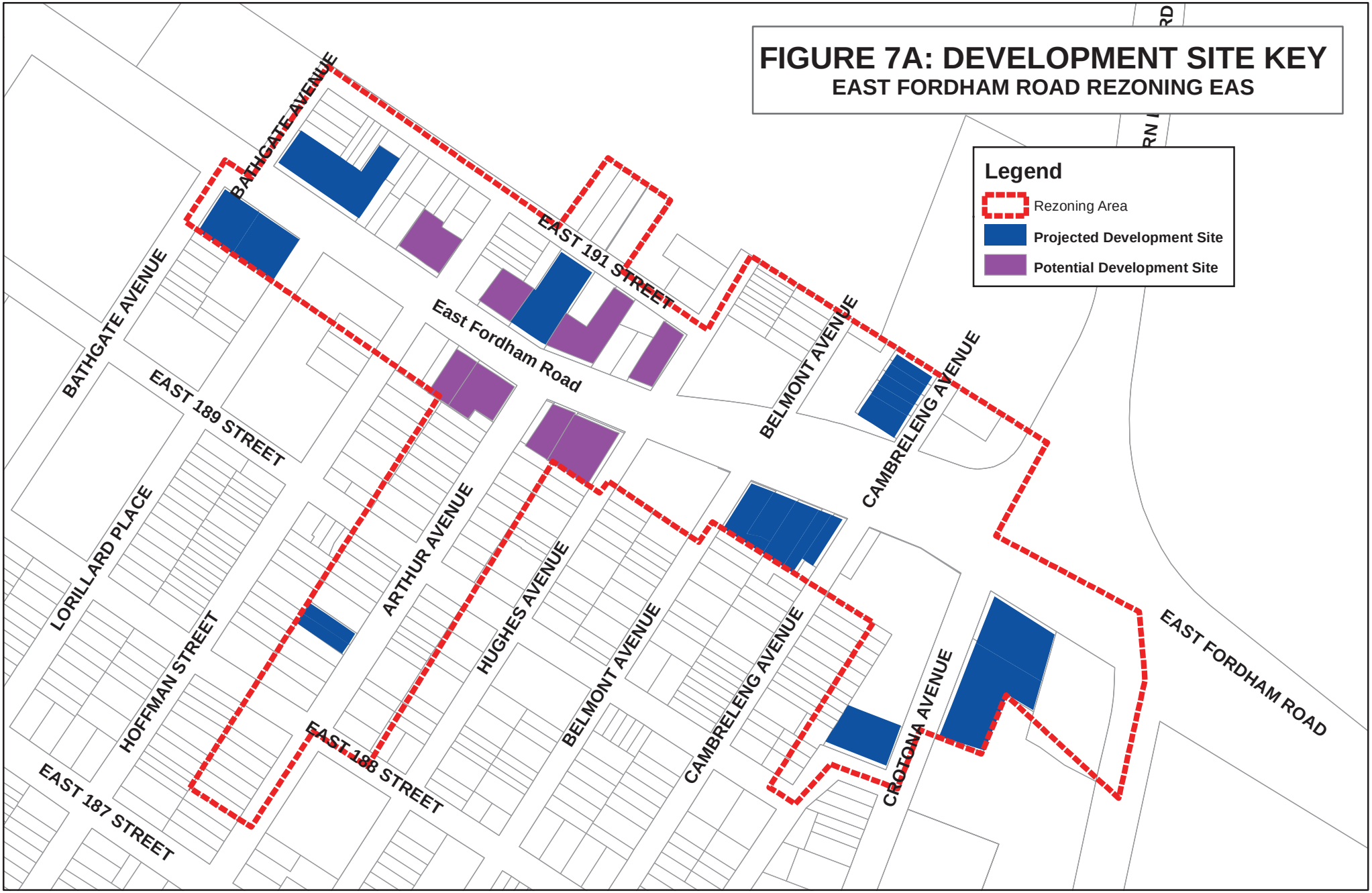


FIGURE 7A: DEVELOPMENT SITE KEY
EAST FORDHAM ROAD REZONING EAS
Legend
Rezoning Area
Projected Development Site
Potential Development Site
BATHGATE AVENUE
EAST 191 STREET
East Fordham Road
BELMONT AVENUE
CAMBRELENG AVENUE
EAST 189 STREET
LORILLARD PLACE
ARTHUR AVENUE
HUGHES AVENUE
BELMONT AVENUE
CAMBRELENG AVENUE
CROTONA AVENUE
EAST FORDHAM ROAD
HOFFMAN STREET
EAST 188 STREET
EAST 187 STREET

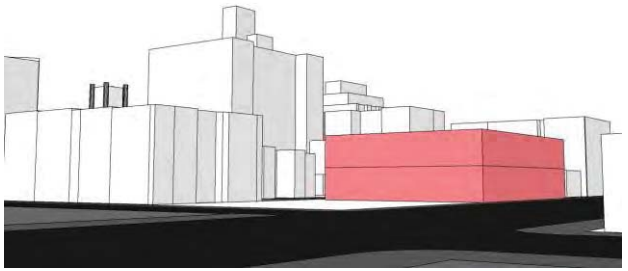
Figure A-1:

Site A



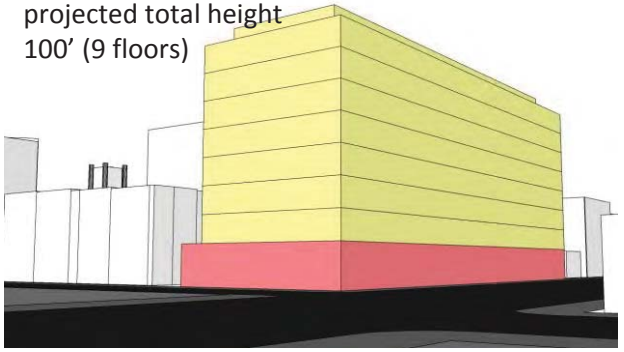
Site Photo

projected total height
30’ (2 floors)



No-Action Scenario: C8-1

projected total height
100’ (9 floors)



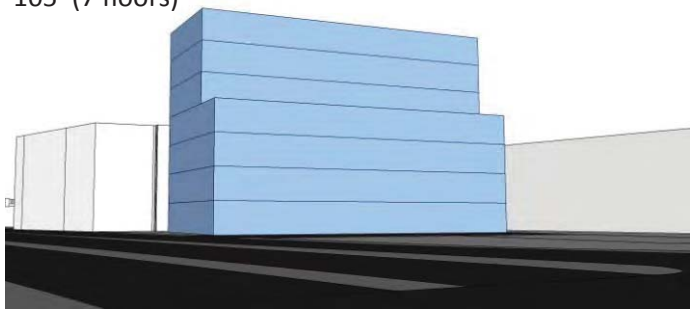
With-Action Scenario: C4-5D/R6B

Site C



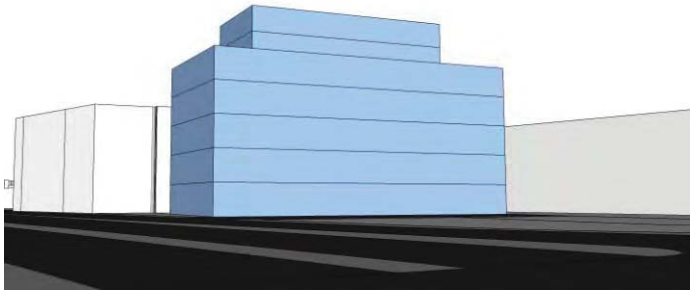
Site Photo

projected total height
105’ (7 floors)



No-Action Scenario: C8-1

projected total height
100’ (7 floors)



With-Action Scenario: C4-5D

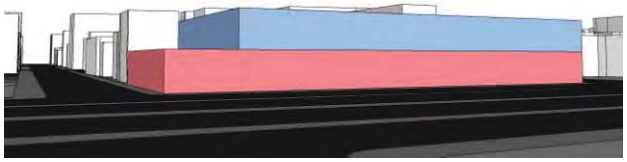
Figure A-2:

Site E

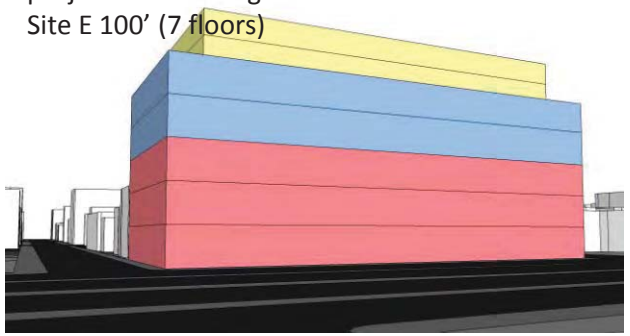


Site Photo

projected total height
Site E 30’ (2 floors)


No-Action Scenario: C8-1

projected total height
Site E 100’ (7 floors)

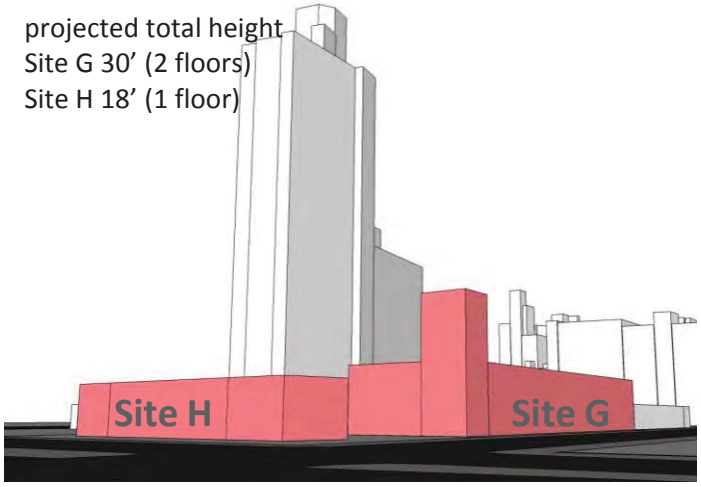

With-Action Scenario: C4-5D

Site G & H



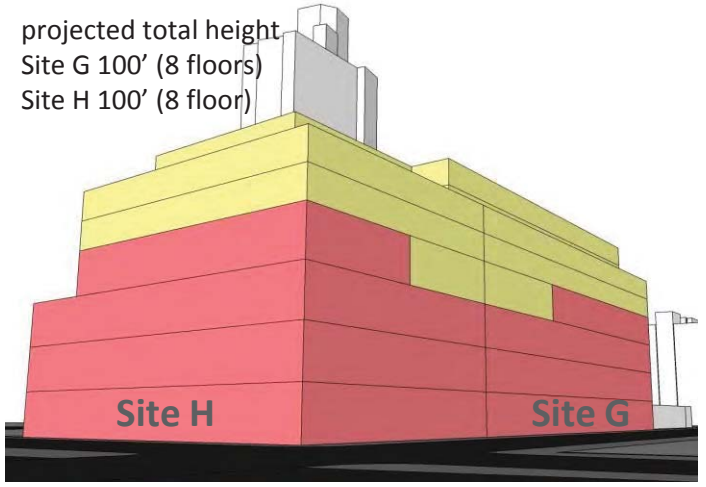
Site Photo

projected total height
Site G 30’ (2 floors)
Site H 18’ (1 floor)



No-Action Scenario: C8-1

projected total height
Site G 100’ (8 floors)
Site H 100’ (8 floor)



With-Action Scenario: C4-5D

FUTURE NO-ACTION SCENARIO

The existing zoning throughout the study area is predominantly C8-1. C8-1 is an auto-related zoning district with no street wall requirement and no fixed height limit. This has produced a range of building forms and heights including single-story retail establishments, 3-story medical facilities and drive-through restaurants. It should also be noted that the C8-1 zoning district has been in place since 1961 and auto-related uses have waned; recent developments have included varied medical related facilities and local retail. This has produced an inconsistent streetscape which lacks a consistent street wall and a variety of street level activity. These conditions are generally not expected to change in the future without the proposed action.

The rezoning area is also zoned R6. R6 districts do not have fixed height limits and building envelopes are regulated by a sky exposure plane and open space ratios. R6 districts are general housing districts that allow all housing types and multi-family buildings. Generally, the proposed R6 district encourages mid-rise multi-family buildings built to an expected height of 40 to 80 feet depending on lot area and other requirements. The R6 district that has been in place since 1961 has produced a variety of mixed building forms in the area, ranging from row houses to five- to six-story apartment buildings. It is expected that in the Future Without the Proposed Action building forms would continue to be unpredictable, creating an inconsistent streetscape.

Bathgate Avenue Study Area

The Bathgate Avenue study area is currently zoned C8-1. C8-1 zoning districts allow a wide range of commercial uses including automotive and heavy commercial uses including auto repair, gas stations and car washes at a maximum FAR of 1.0 and community facilities at a maximum FAR of 2.4. Residential use is prohibited. There is no street wall requirement and building height is governed by the sky exposure plane.

Under the Future No-Action scenario, Site A would be expanded with an additional story of commercial. No new spaces would be required as the new commercial development would include several separate establishments, which would not require additional parking spaces. The existing at-grade parking spaces would continue to be accessory to the auto parts establishment.

Cambreleng Avenue Study Area

The Cambreleng Avenue study area is currently zoned C8-1. Under the Future No-Action scenario, Site E would be developed with a two-story building that would include retail use on the first floor and medical office space on the second floor. Parking would be provided below grade.

Crotona Avenue Study Area

The Crotona Ave study area is also zoned C8-1. Under the Future No-Action scenario, Site G would retain its current use. Under the Future No-Action scenario, Site H would include a modest expansion to the existing mini-mart.

Belmont Avenue Study Area

The Belmont Avenue study area is currently zoned R6 with C2-3 and C2-4 commercial overlays. R6 has a maximum FAR of 2.43 for residential use for height factor buildings and up to 3.0 utilizing Quality Housing options on a wide street and 4.8 for community facility buildings. C2- 3 and C2-4 commercial overlays allow for a commercial FAR of 2.0. Building height is determined by the sky exposure plane.

Under the Future No-Action scenario, Site C would be developed into a seven-story classroom and science center for Fordham University. Parking would be accommodated by the nearby Fordham University parking facility.

FUTURE WITH ACTION SCENARIO

The portion of East Fordham Road between Bathgate Avenue and Southern Boulevard is proposed to be rezoned from C8-1 and R6 to C4-5D. C4-5D is a medium density commercial district which permits a maximum residential FAR of 4.2. Under the inclusionary housing regulations a maximum residential FAR of 5.6 is allowed. Commercial and community facility uses are permitted a maximum FAR of 4.2. New development within the C4-5D will have a maximum base height of 85 feet and maximum building height of 100 feet, after a setback of 10 feet on a wide street and 15 feet on a narrow street. In addition, the C4-5D zoning district requires that the ground floor must contain commercial or community facility uses and transparency is required for 50% of the area between 2 and 12 feet. These requirements ensure that there are active uses are on the ground floor creating a more a dynamic streetscape that will enhance the pedestrian experience. In contrast the existing C8-1 and R6 zoning

districts do not require a consistent street wall or active uses on the ground floor and neither ensures predictable development that would enhance or improve the corridor.

Bathgate Avenue Study Area

The Future With-Action scenario projects that Site A would be developed into a nine-story mixed used building containing local retail on the ground floor and residential on floors 2 thru 9, with 20% affordable units. The building would have a base height of 85 feet with a maximum building height of 100 feet, after a setback of 10 feet. Parking spaces accessory to the residential use would be provided below-grade. After setting back at 85 feet, the building would match the height of the school across the street while framing the western edge of the corridor.

Belmont Avenue Study Area

The Future With-Action scenario projects Site C would be developed into a seven-story classroom and science center for Fordham University. The base height would be 75 feet reaching a maximum 100 feet, after a setback of 15 feet. No parking would be required. The building would

Fordham University has several buildings on its campus of at least 100 feet. In addition, the adjacent medical facility on East Fordham Road between Hughes and Belmont Avenues is 60 feet tall and has a similar street wall condition as the proposed science building. Site C would also mark the beginning of the new commercial corridor by framing the western approach to the East Fordham Road along with the projected developments on the southern side of the street.

Cambreleng Avenue Study Area

The Future With-Action Scenario projects Site E would be developed into a seven-story mixed use building with commercial on the floors 1 thru 3, community medical facility on floors 2-4 and residential on floors 5 thru 7 with 20% affordable units. The building would have a base height of 75 feet reaching a maximum 100 feet, after a setback of 10 feet. Parking spaces accessory to the residential use would be provided below-grade.

Crotona Avenue Study Area

The Future With-Action scenario projects Site G would be developed into an eight-story mixed use building including a FRESH grocery store on the first two floors, retail establishments on floors 2 thru 4

and residential on floors 4 thru 8 with 20% affordable units. Parking spaces accessory to the residential use would be provided below-grade.

The Future With-Action scenario projects Site H would be developed into a eight-story mixed-use building with commercial including a restaurant and regional retail on floors 1 thru 4 and residential on floors 4 thru 8 with 20% affordable units.

Along with Site E and C, Sites G and H would bring a consistency to the western approach to East Fordham Road. The buildings would create an active and vibrant streetscape with the contextual street wall regulations and commercial space on the ground floor. These sites would also create an inviting and human scale to the area, which today is dominated by conflicting building sizes of one-story, setback commercial establishments and the large nearly 300 foot residential tower.

Figure A-3:

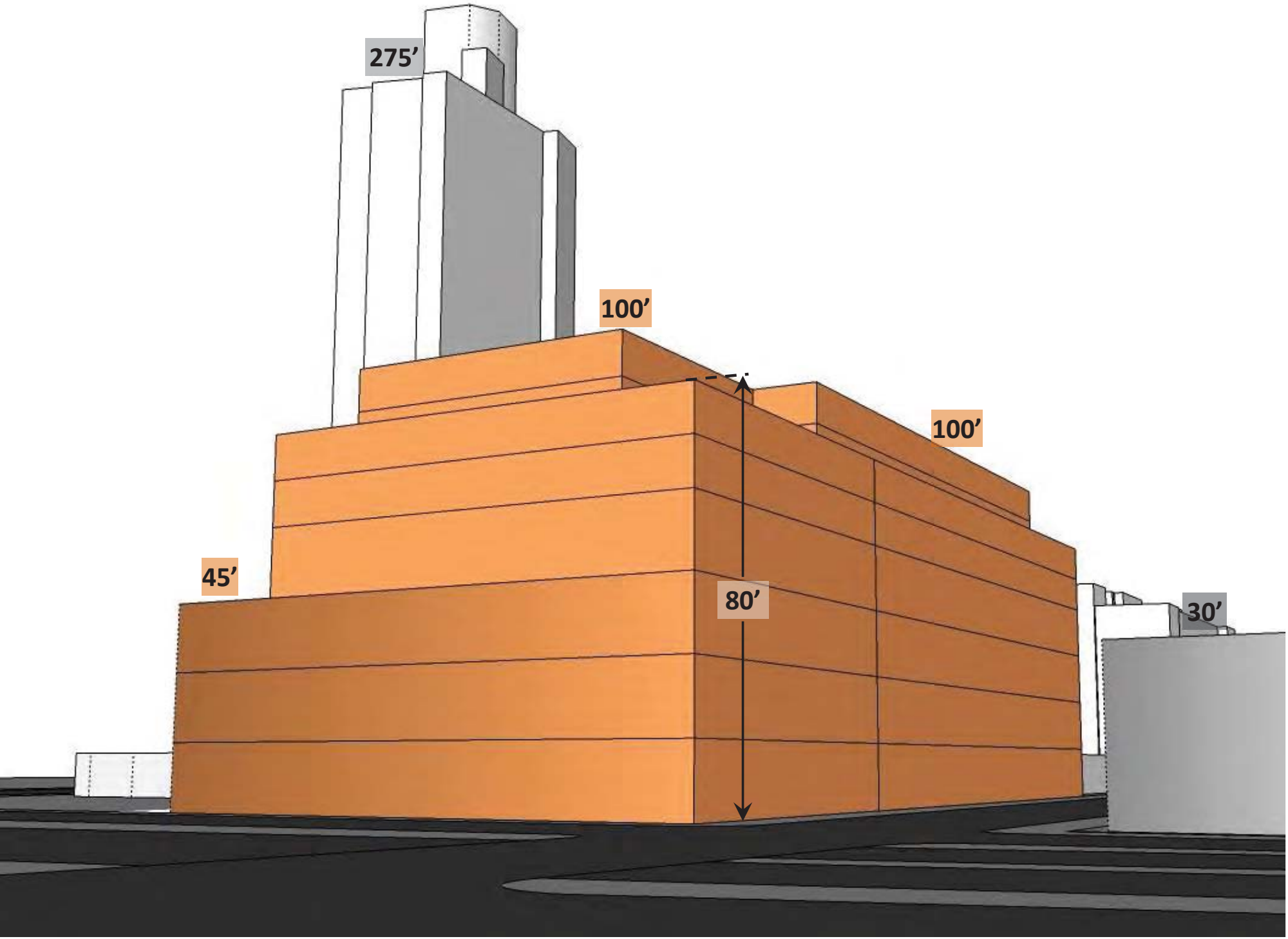


Figure A-4:


275’
100’
100’
100’
100’
50’
60’
45’
100’
35’
30’
50’
85’
120’
100’
100’
40’
100’
45’
54’

Figure A-5:

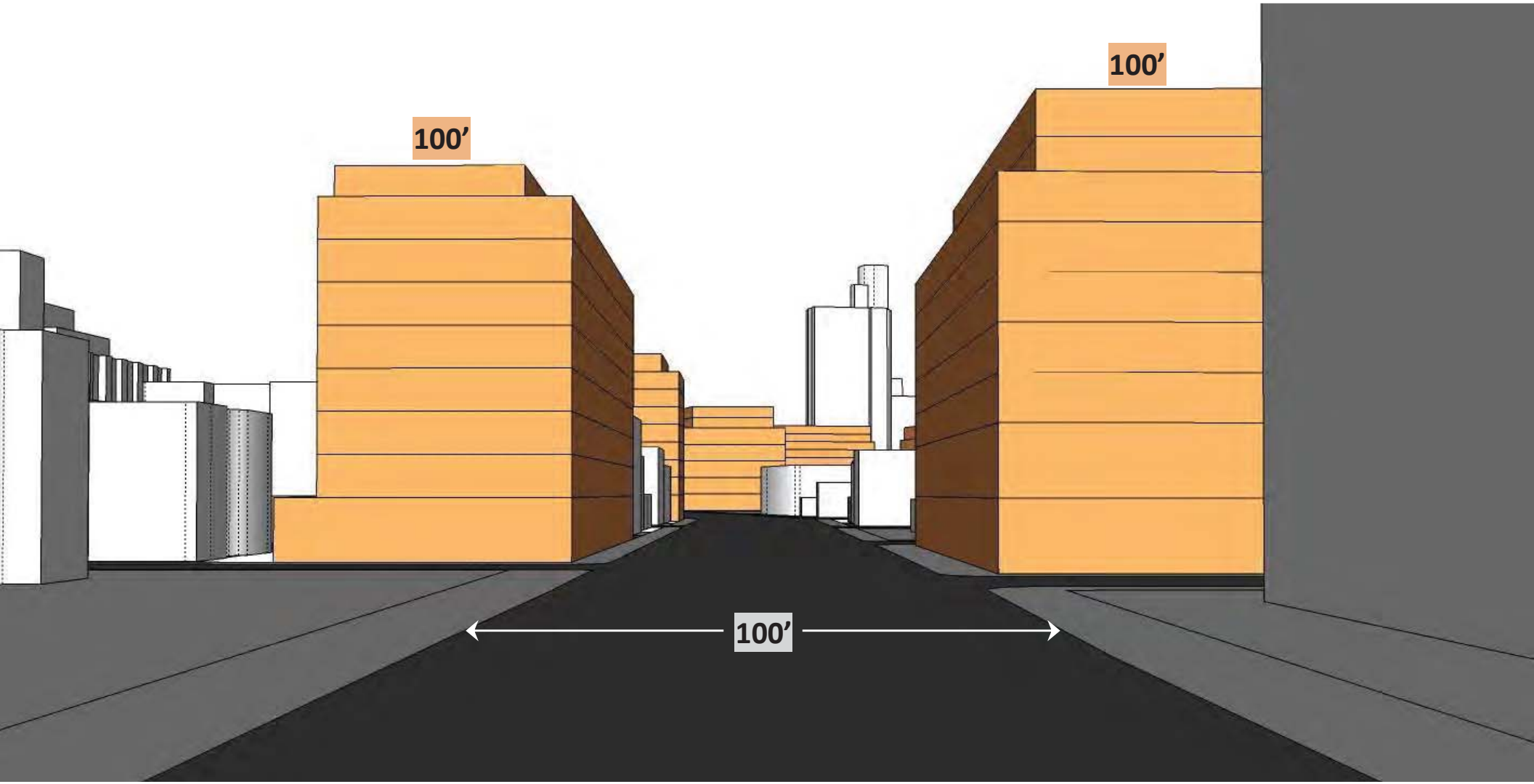
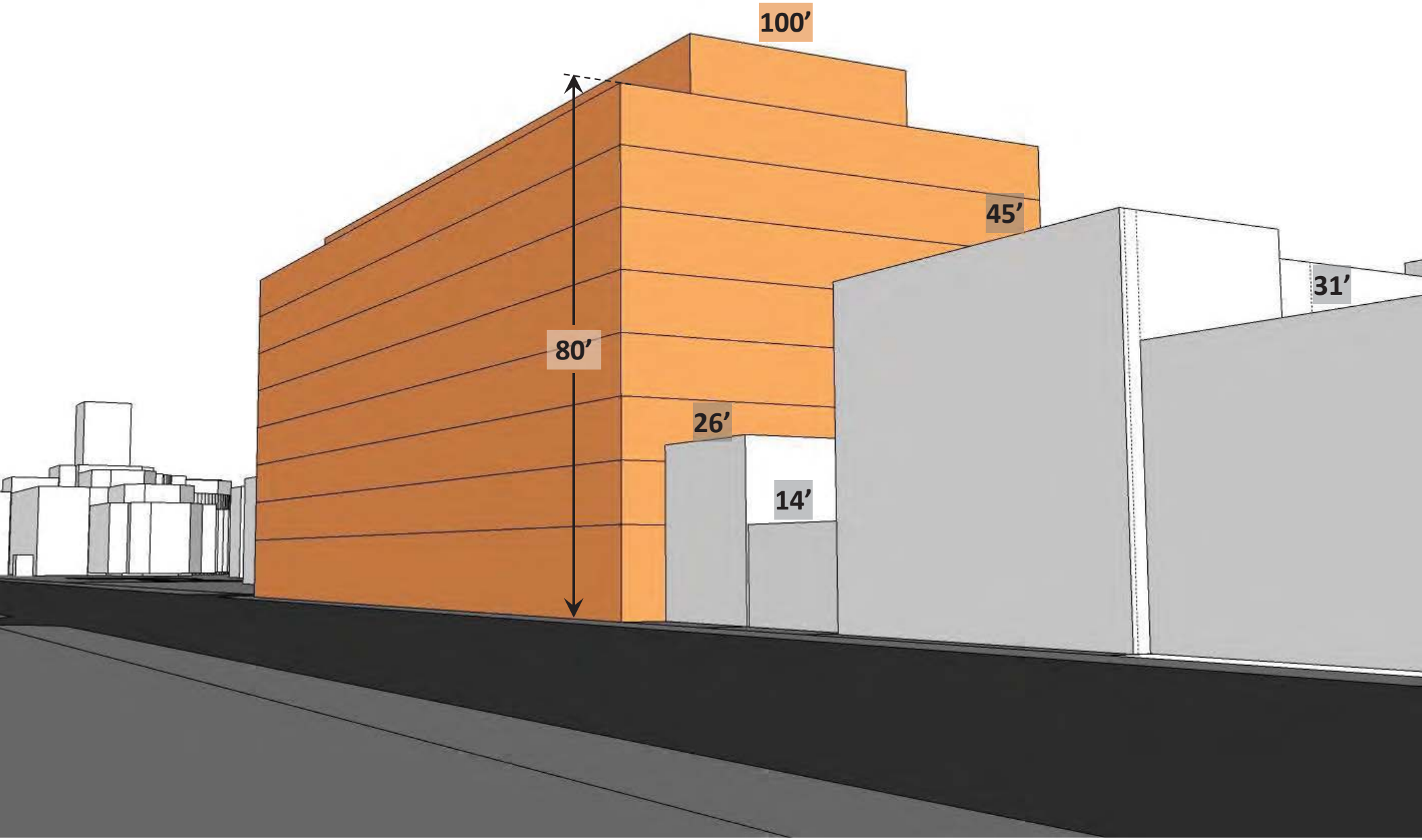


Figure A-6:



ANALYSIS

Development under the proposed C4-5D would create a lively streetscape with a consistent street wall with active uses and transparency on the ground floor. These requirements will not only enhance the pedestrian experience along this stretch of East Fordham Road, but will provide visual continuity to the corridor and create a more attractive streetscape (See Figure A-6). In contrast the existing zoning does not have height limits or a street wall requirement nor does it require active uses on the ground floor. The existing zoning also allows limited commercial and community facility development and residential is not permitted.

The proposed rezoning provides greater capacity for commercial and community facility development and introduces residential uses. East Fordham Road is a wide street with good access to mass transit and capacity for additional growth and development along this stretch of the corridor. However, the additional capacity would not produce buildings that are substantially out-of-context with what exists there today or what could be built under the current zoning (See Figure A-3 and Figure A-4). There are several existing tall buildings throughout the study area (See Figure A-3). The proposed new buildings are similar in height and bulk to that of existing buildings in the study area and the proposed new buildings enhance the existing streetscape (See Figure A-4). The proposed rezoning would frame the wide corridor and provide built continuity to the currently incongruous street. Additionally, the proposed C4-5D will promote the pedestrian environment through street level commercial activity.

CONCLUSION

The current streetscapes, as described above, existing buildings and land uses within the study area are varied. There are surface parking lots, one-story drive-thru establishments, four-story residential walkups, six- to- seven story apartment buildings, a 200 foot residential tower and various commercial structures, including a new four story medical office building. There is no one predominant urban form or context along the corridor.

No significant adverse impacts related to urban design and visual resources are anticipated since the proposed action would not alter an entrenched, consistent urban context, or obstruct a natural or built visual corridor. Moreover, the proposed action would not alter topography, natural features, street hierarchy, block shapes, or building arrangements. The potential new development would encourage greater continuity in the streetscapes by requiring a more consistent street wall and active uses than

exists there today. These changes would enhance a pedestrian's experience of the area (See Figure A-5 and Figure A-6). The proposed action seeks to create this new gateway by stimulating private investment and incentivizing permanently affordable housing while establishing a consistent, predictable and vibrant urban fabric with appropriate building heights and forms that would unify the otherwise haphazard built context and streetscapes. Therefore, the proposed action is not expected to have a significant adverse impact on urban design and no further analysis is necessary.

ATTACHMENT 8—Shadows

INTRODUCTION

No significant adverse shadow impacts on open space or light-sensitive architectural resources are anticipated as a result of the proposed action.

The 2012 CEQR Technical Manual defines a shadow as the condition that results when a building or other built structure blocks the sunlight that would otherwise reach a certain area, space or feature. An incremental shadow is an additional or new shadow that a building or other built structure resulting from a proposed project would cast on a sunlight-sensitive resource during the year.

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. Such resources generally include: publicly accessible open spaces, architectural resources with shadow sensitive features such as stained glass windows and façade elements that depend on direct sunlight for visual character, and natural resources such as wetland and surface water bodies that are the habitat of vegetation or animals that depend on direct sunlight to live and/or grow.

In general, shadows on city streets and sidewalks or on other buildings are not considered significant. Some open spaces contain facilities that are not sensitive to sunlight. These are usually paved such as handball or basketball courts, contain no seating areas and no vegetation, no unusual or historic plantings, or contain only unusual or historic plantings that are shade tolerant. These types of facilities do not need to be analyzed for shadow impacts. Additionally, it is generally not necessary to assess resources located to the south of development sites as shadows cast by the action-generated development would not be cast in the direction of these resources. Furthermore, shadows occurring within 1.5 hours after sunrise and 1.5 hours before sunset generally are not considered significant in accordance with the 2012 CEQR Technical Manual.

A significant adverse shadow impact occurs when the incremental shadow added by 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 threatening the viability of vegetation or other resources.

Pursuant to guidelines in the 2012 CEQR Technical Manual, a shadow impact analysis is necessary if the proposed actions would result in new structures greater than 50 feet in height. In addition, the analysis is required if any of the development sites are adjacent to, or across the street from, a sunlight-sensitive park, historic resource, or other important natural feature.

TIER 1 SCREENING ASSESSMENT

According to the 2012 CEQR Technical Manual guidelines, shadow study areas are determined by drawing a radius equal to 4.3 times the maximum height of each projected and potential site under the With Action scenario. The buffer defines an area that the longest shadow a building on each site could cast on the winter solstice, which happens around December 21st. Sunlight-sensitive resources that are located outside of these buffers are therefore eliminated from further analysis.

At this step in the analysis it was determined that five of the sixteen development sites could potentially cast shadows on sunlight-sensitive resources (Figure 1). These resources include Sergeant Johnson Triangle and I.S. 45 Playground. It should be noted that, per CEQR Technical Manual Guidelines, the Bronx Botanical Gardens and Bronx Zoo are accessible for a fee and therefore are not considered publicly assessable sunlight sensitive resources. Therefore, the analysis is



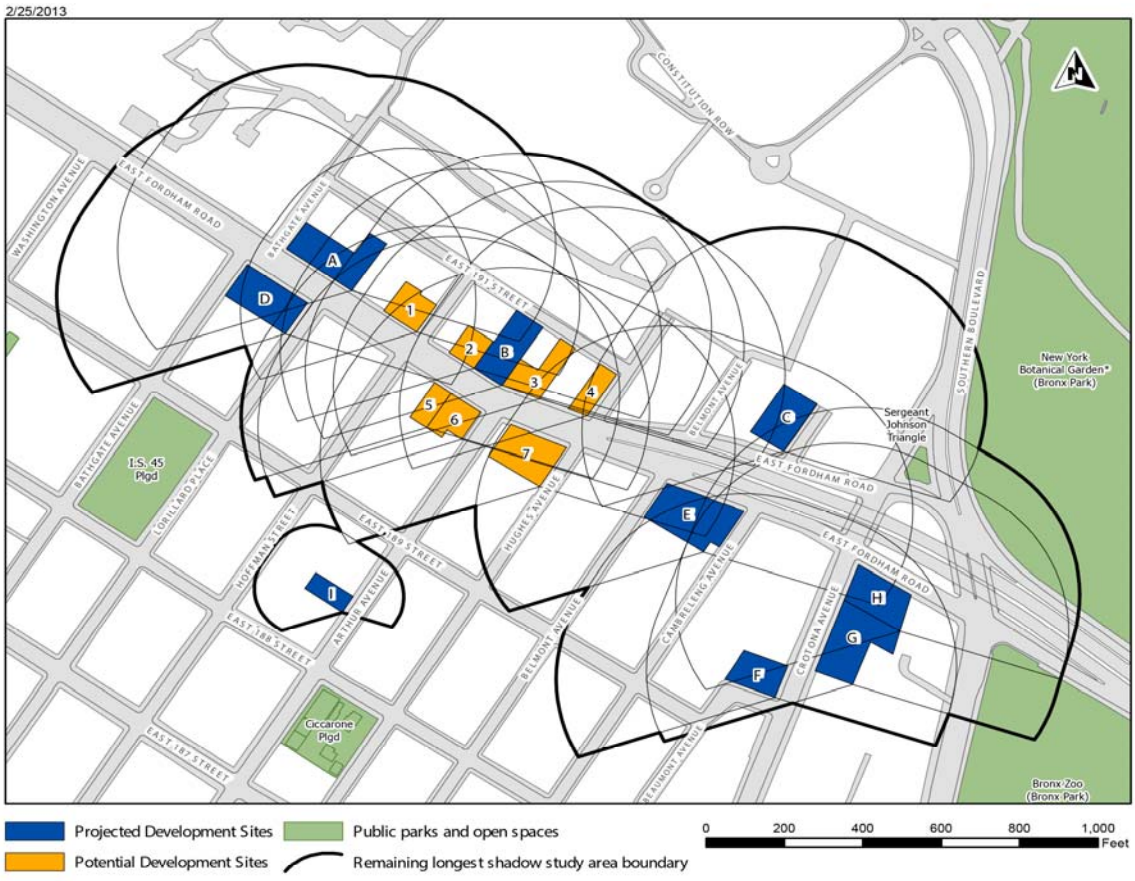
EAST FORDHAM ROAD REZONING

Tier 1 Assessment
Figure 1

limited to Sergeant Johnson Triangle and I.S. 45 Playground. A Tier 2 screening assessment was conducted.

TIER 2 SCREENING ASSESSMENT

Further screening was conducted to determine whether the buildings in the with-action condition were capable of casting a shadow on the nearby sun-sensitive open space resources. According to the CEQR Technical Manual buildings in New York City are not capable of casting a shadow in the area that lies between -108 degrees and +108 degrees relative to true north. The analysis showed that one sunlight sensitive resources is located in this area: Sergeant Johnson Triangle. Only three development sites have the potential to cast shadows on Sergeant Johnson Triangle: Projected Development Sites C, G and H. Sergeant Johnson Triangle is publicly accessible and free of charge to enter; therefore further analysis is warranted for this sunlight sensitive resource.



*The New York Botanical Garden is also a National Historic Landmark. There are no other listed or eligible City, State or National historic resources in the study area.

EAST FORDHAM ROAD REZONING

Tier 2 Assessment
Figure 2

TIER 3 SCREENING ASSESSMENT

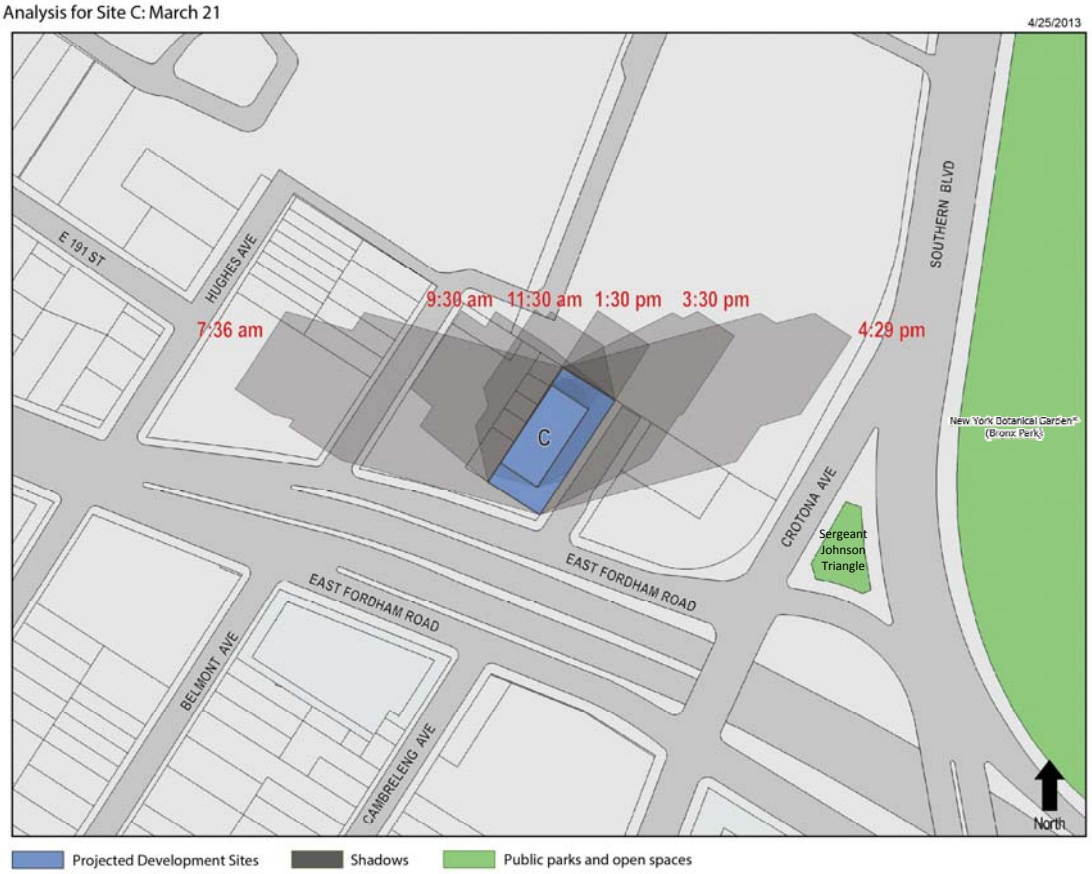
In order to determine a more realistic extent of shadows from potential and projected development sites, three-dimensional models of the area, as well as projected and potential reasonable worst-case buildings under the Future With-Action scenario, were created. Shadows from each development site were rendered using three-dimensional computer modeling software that is listed in the *2012 CEQR Technical Manual*.

According to the 2012 CEQR Technical Manual, five representative days during the growing season, as well as one representative day of cold-weather conditions, were analyzed. The representative growing season days include: the spring and fall equinoxes (March 21st and September 22st, respectively) where shadow sweeps follow approximately the same path on these two days and the length of a shadow would be about the middle of the longest and the shortest days in the year; summer solstice (June 21st) which is the longest day and the length of a shadow would be the shortest in the year, and; May 6th and August 6th where shadow sweeps follow approximately the same path on these two days and the shadow length is about halfway between summer solstice and the spring or fall equinoxes. The winter solstice (December 21st) was used as a representative day for cold weather conditions. The winter solstice is the shortest day and a shadow would be the longest at this time of year. The timeframe window of analysis was set to consider shadows occurring between 1.5 hours after sunrise and 1.5 hours before sunset on each of the representative dates.

The assessment showed that the shadows cast by the reasonable worst case building from Projected Development Sites C would cast a shadow on Sergeant Johnson Triangle in the late evening on June 21st (Figures 3.4) and shadows cast by the reasonable worst case building from Projected Development Site H would cast a shadow in the afternoon on December 21st (Figure 5.4). The assessment also determined that the shadows cast by the reasonable worst case building from Projected Development Sites G would not reach Sergeant Johnson Triangle during any of the analysis days (Figures 4.1–4.4). At this point Projected Development Sites G was eliminated from the assessment. The results of this assessment determined that a detailed assessment is required for Projected Development Sites C and H.

Figure 3.1

Tier 3 Analysis for Site C: March 21



EAST FORDHAM ROAD REZONING

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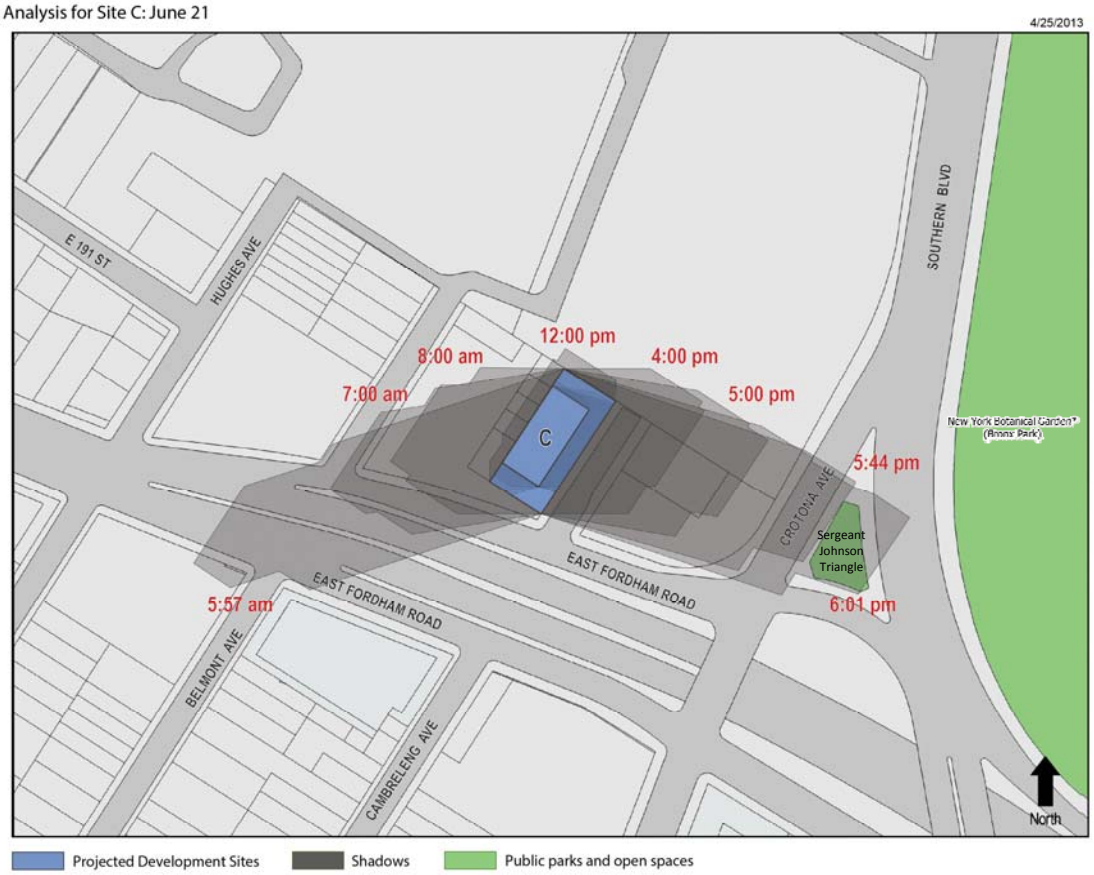
Tier 3 Analysis for Site C: June 21



EAST FORDHAM ROAD REZONING

*The New York Botanical Garden is also a National Historic Landmark. There are no other listed or eligible City, State or National historic resources in the study area.

Figure 4.1
Tier 3 Analysis for Site G: March 21

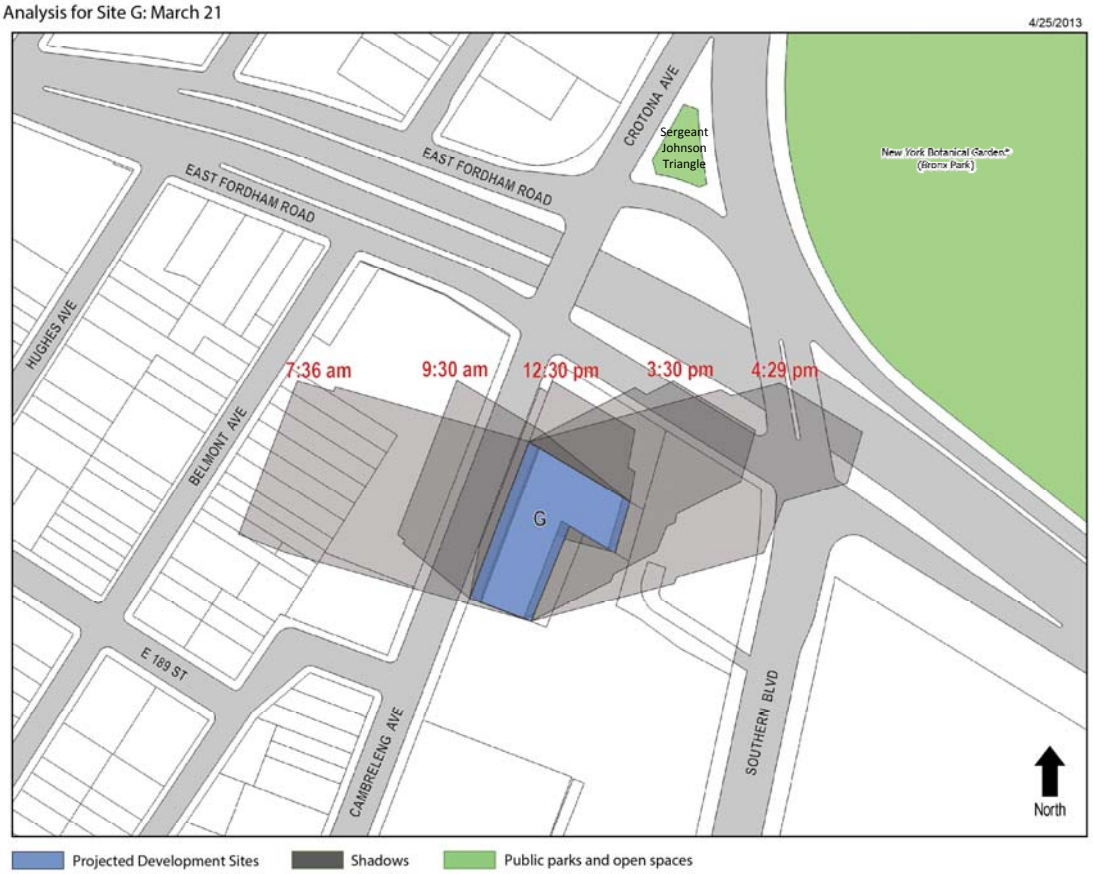
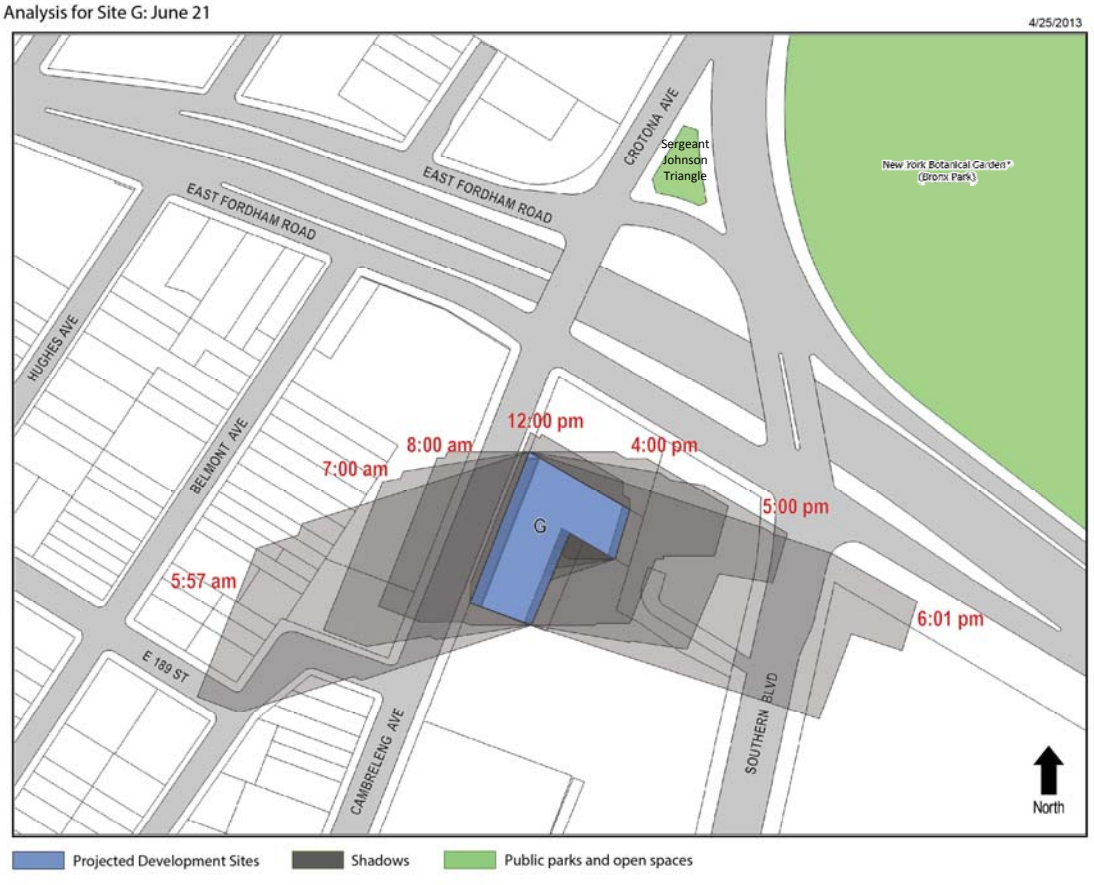


Figure 4.2
Tier 3 Analysis for Site G: June 21



*The New York Botanical Garden is also a National Historic Landmark. There are no other listed or eligible City, State or National historic resources in the study area.

Figure 4.3
Tier 3 Analysis for Site G: August 6

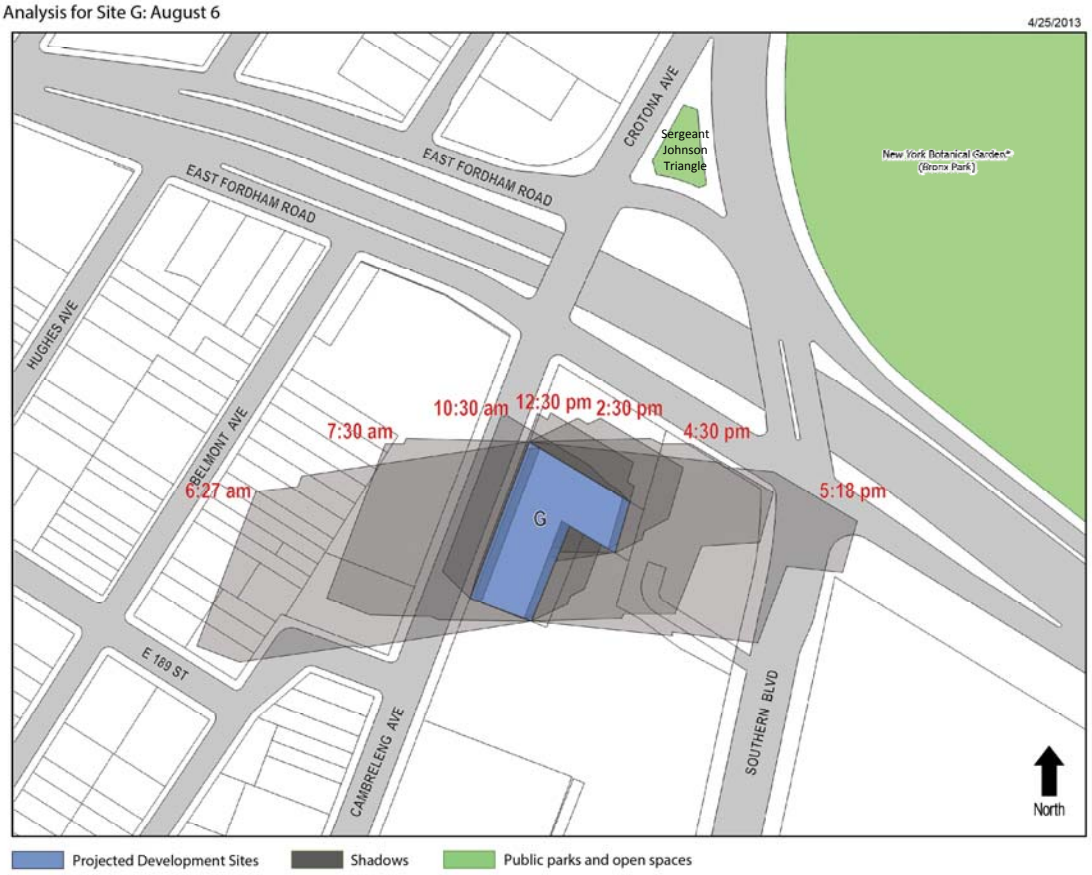
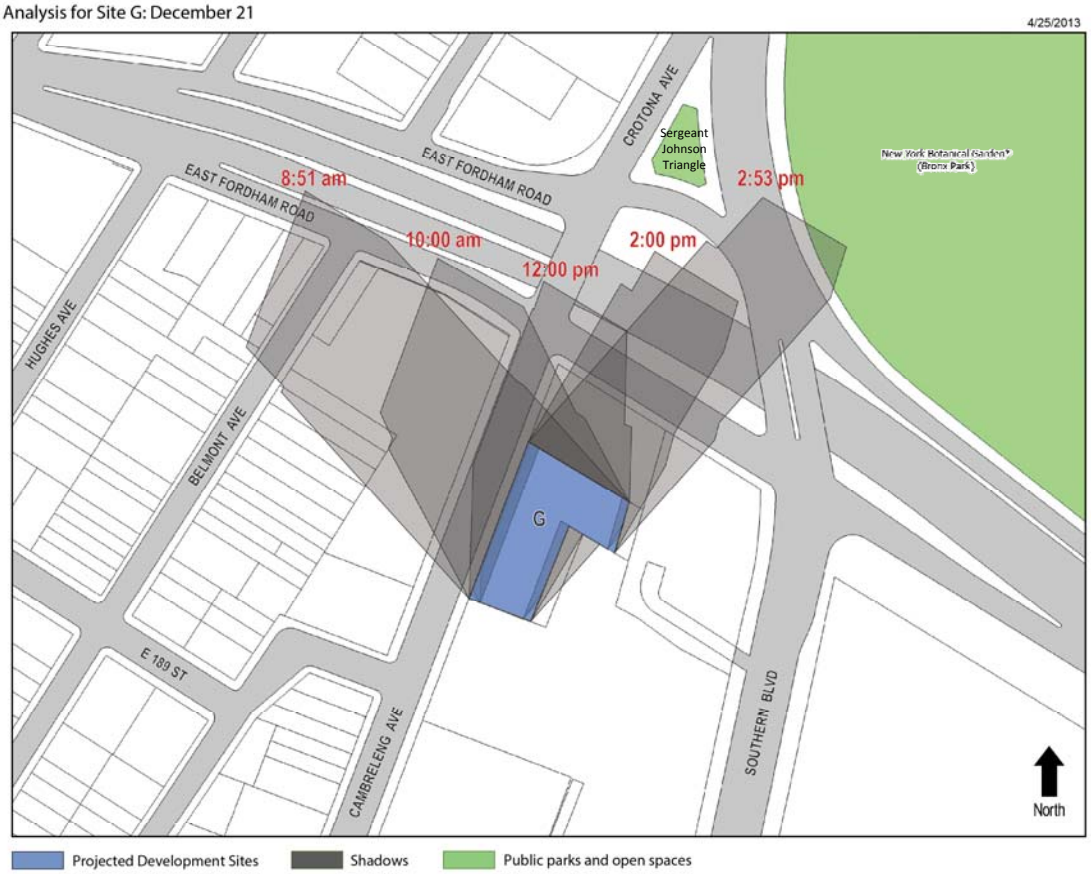


Figure 4.4
Tier 3 Analysis for Site G: December 21



*The New York Botanical Garden is also a National Historic Landmark. There are no other listed or eligible City, State or National historic resources in the study area.

Figure 5.1
Tier 3 Analysis for Site H: March 21

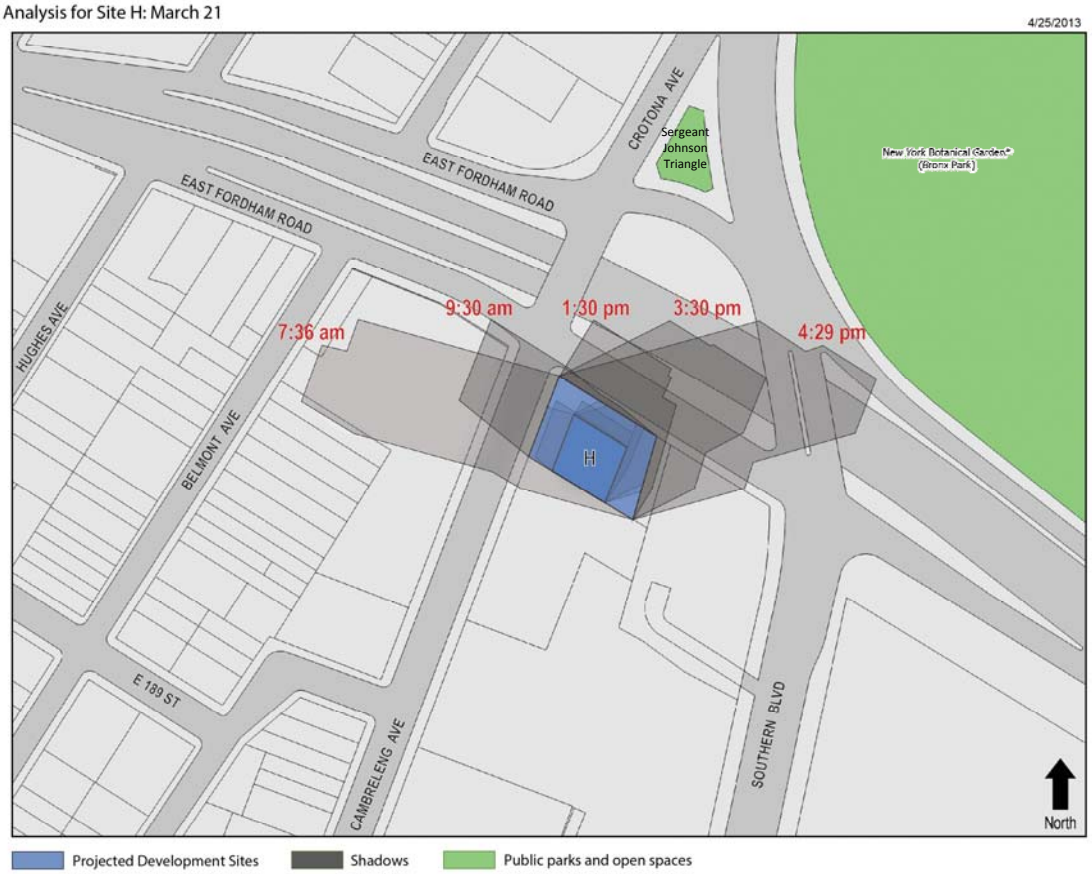


Figure 5.2
Tier 3 Analysis for Site H: June 21

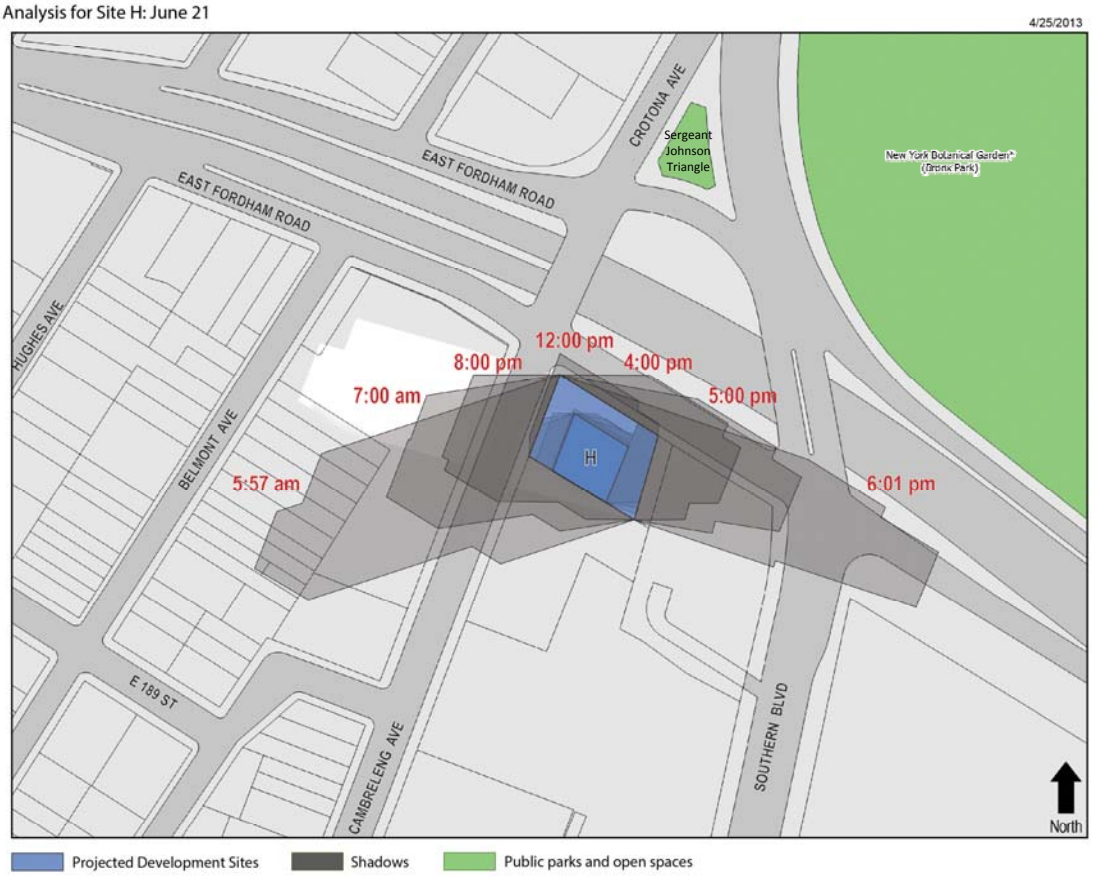


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Figure 5.3
Tier 3 Analysis for Site H: August 6

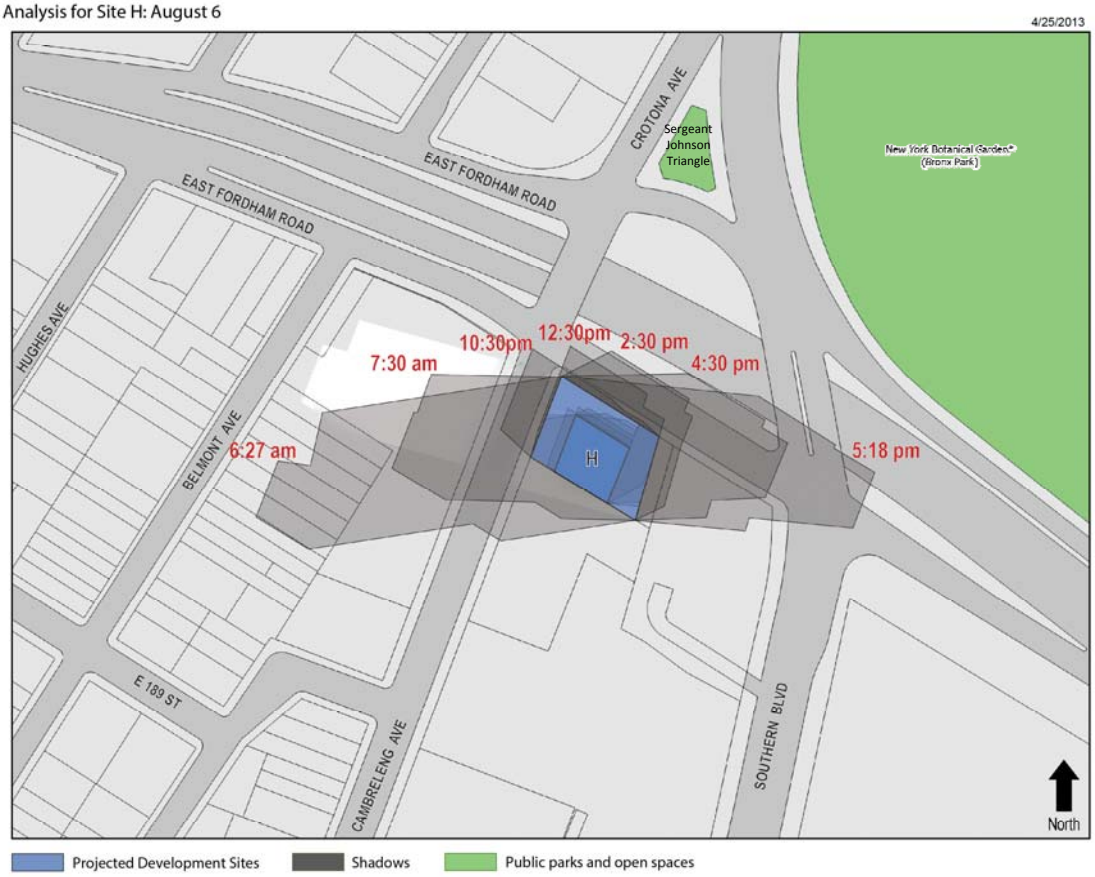
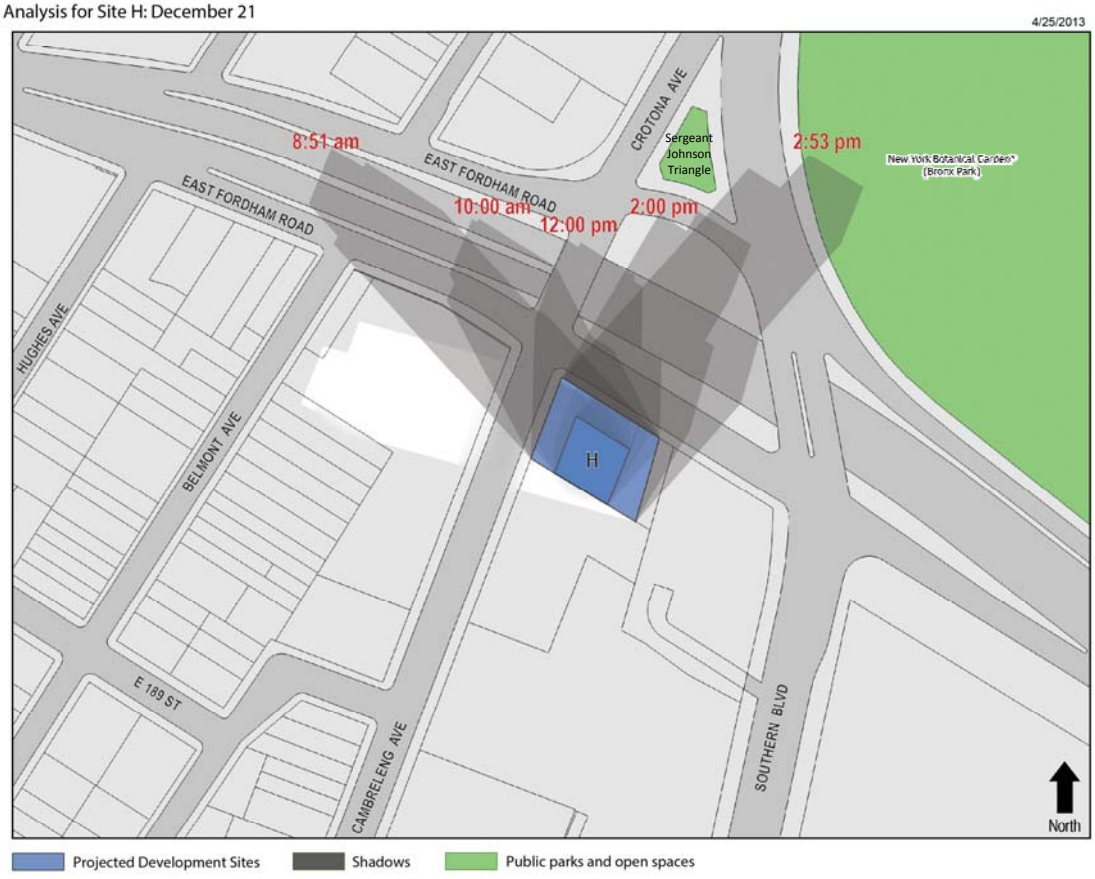


Figure 5.4
Tier 3 Analysis for Site H: December 21



*The New York Botanical Garden is also a National Historic Landmark. There are no other listed or eligible City, State or National historic resources in the study area.

DETAILED ASSESSMENT

The purpose of the detailed assessment is to determine the degree to which the sunlight-sensitive features on identified open space and architectural resources would be affected by the incremental shadows beyond those that would be cast in the Future With No-Action conditions.

Sergeant Johnson Triangle







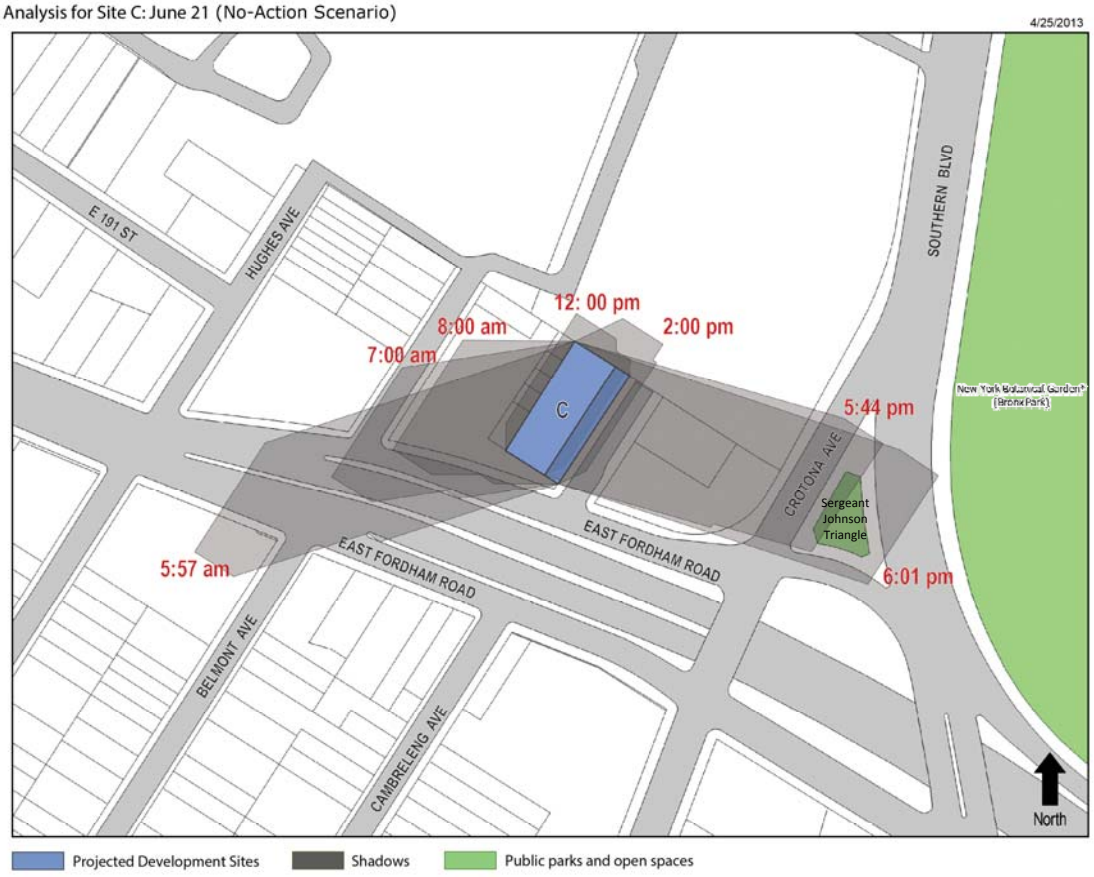
Bordered by East Fordham Road, Southern Boulevard, and Crotona Avenue, Sergeant Johnson Triangle is adjacent to the Bronx Zoo, New York Botanical Gardens and Fordham University's Rose Hill Campus. It is named in honor of Sergeant Charles J. Johnson (1894-1918), the only New York City fireman to be killed during World War I. The center is planted with trees and shrubs. Benches and metal pipe fencing surround the plantings, along with a concrete sidewalk.

On analysis days December 21, March 21, September 21, May 6th and August 6th shadows from Projected Site C generated by the reasonable worst case building under both the Future No-Action and the Future With -Action

scenarios do not reach the triangle. However, on the June 21st analysis day shadows cast by Projected Site C generated by the reasonable worst case building under the Future No-Action scenario enter the triangle at 5:40PM and exit at 6:01PM (Figure 6), duration of 21 minutes. In addition, on the June 21st analysis day, the shadows from Projected Site C generated by the reasonable worst case building under the Future With-Action scenario enters the triangle at 5:44PM and exits at 6:01PM, a duration of 18 minutes (Figure 3.2). The detailed assessment demonstrates that the building generated under the Future No-Action scenario cast a greater shadow on Sergeant Johnson Triangle than the building under the Future With Action scenario. Additionally, the building under the No-Action scenario casts shadows for a longer period than the shadows cast by the building generated under the Future With Action scenario. Therefore, the detailed analysis determined that there are no incremental shadows and no significant adverse shadow impacts on Sergeant Johnson Triangle as a result of the proposed action.

Figure 6

Tier 3 Analysis for Site C: June 21 (No-Action Scenario)

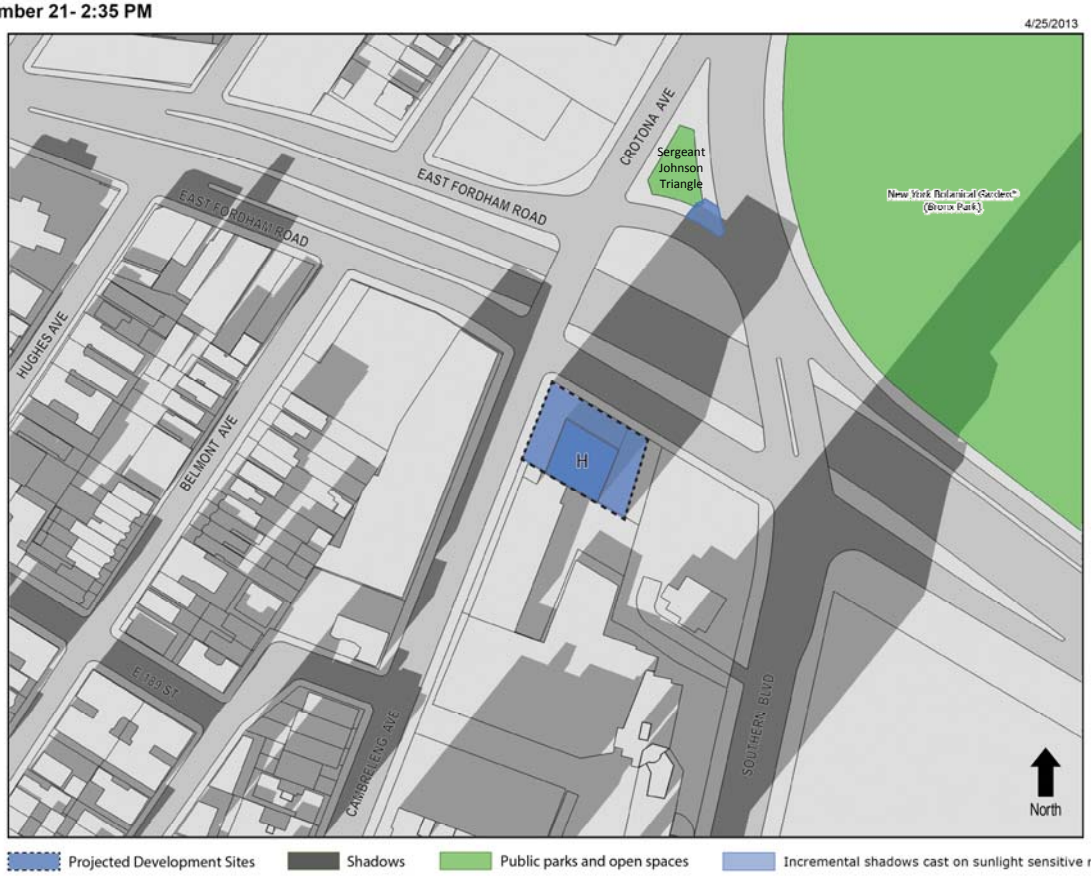


EAST FORDHAM ROAD REZONING

*The New York Botanical Garden is also a National Historic Landmark. There are no other listed or eligible City, State or National historic resources in the study area.

On analysis days March 21, September 21, May 6th and August 6th shadows from Projected Site H generated by the reasonable worst case building under both the Future No-Action and the Future With-Action scenarios do not reach the triangle. However on the December 21st analysis day incremental shadows cast by Projected Site H enter the southern corner of the triangle at 2:33 PM and exits at 2:42 pm, duration of 9 minutes (Figure 7). While the shadow occurs on the shortest day of the year when there is less sunlight, its length of nine minutes coupled with the fact that the triangle's overall utilization is considered light by the Department of Parks. These incremental shadows are small and would not disturb the sustenance of the vegetation or the ability for pedestrians to enjoy the triangle and fully utilize the benches and seats. Therefore, there are no significant adverse shadow impacts on Sergeant Johnson Triangle as a result of the proposed action.

Figure 7
December 21- 2:35 PM



EAST FORDHAM ROAD REZONING

*The New York Botanical Garden is also a National Historic Landmark. There are no other listed or eligible City, State or National historic resources in the study area.

CONCLUSION

As discussed in previous sections, incremental shadows created by the worst case buildings of the projected and potential development sites resulting from the proposed action would not result in any significant adverse shadow impacts on open space and historic resources. Our detailed analysis concluded that there would be no incremental shadows from Projected Development Site C since the No-Action building casts greater and longer shadows than the With-Action building. Additionally, the incremental shadow from Projected Development Site H touches a small fraction of the southwestern corner of the triangle for 9 minutes during the winter solstice. The short amount of incremental shadow would not disturb the sustenance of the vegetation or take away the ability of users to full enjoy the benches within the triangle. Therefore, there are no significant adverse shadow impacts on Sergeant Johnson Triangle as a result of the proposed action.

ATTACHMENT 9 - HAZARDOUS MATERIALS

Introduction

This chapter assesses the potential for impacts from an increased exposure to hazardous materials and/or contaminants that could be encountered in the soil and/or groundwater during construction on the sites included within the rezoning area. Potential effects from hazardous materials could result when on-site contaminants at concentrations above regulatory standards or guidance values are disturbed during construction activities, or when a new use is introduced that would increase the risk of human exposure to hazardous materials or contaminants.

The 2012 CEQR manual defines a hazardous material as any substance that poses a threat to human health or the environment. Potential hazardous materials include: heavy metals; volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); polychlorinated biphenyls (PCBS); pesticides; and hazardous wastes as defined under the Federal Resource Conservation and Recovery Act. Substances used in building materials and fixtures, such as asbestos-containing materials (ACM), lead-based paint, and mercury are also considered hazardous materials.

The presence of hazardous materials on site does not necessarily indicate a threat to human health or the environment. Rather, a means of exposure, presence of a receptor, and an unacceptable dose amount must be present to cause a threat. During construction on a development site, hazardous materials could be distributed through the excavation of soil and bedrock, extraction of groundwater, or the demolition and renovation of existing structures. Likely routes of human exposure to hazardous materials are the inhalation of VOCs, the ingestion of particulate matter containing SVOCs or metals, or skin contact with hazardous materials released during soil-disturbing activities.

The purpose of the CEQR regulations for hazardous materials is to determine whether proposed actions would cause the increased exposure of people or the environment to hazardous materials, and, if so, whether that increased exposure would result in significant environmental or public health impacts. According to the 2012 CEQR Technical Manual guidance, significant impacts related to hazardous materials may occur when:

- Elevated levels of hazardous materials exist on a site and the project would increase human or environmental exposure;
- A project would introduce new activities or processes using hazardous materials and increase the risk of human or environmental exposure;

- The project would introduce a population to potential human or environmental exposure from off-site sources.

A preliminary assessment of potential hazardous material impacts is warranted for the proposed actions. This is due to the expected redevelopment of a number of sites where elevated levels of hazardous materials could be currently present and will be disturbed due to:

- Development within an area close to a manufacturing zone and/or existing facilities;
- Rezoning to a residential or mixed-use district, in an area that has historically stored, used, disposed of or generated hazardous materials, such as an area in a C8 zoning district;
- Development on a vacant or underutilized site where there is a reason to suspect contamination.

This chapter assesses the potential presence of subsurface contamination (soil, soil gas, groundwater, and bedrock) and the possible presence of hazardous materials in surface structures for all projected and potential development sites identified by the reasonable worst-case development scenario (RWCDS).

Hazardous Materials Screening Methodology

Hazardous material screening seeks to evaluate the potential for contamination on development sites. The objective of this analysis is to determine if any of the projected and potential development sites identified as part of the RWCDS could be adversely affected by current or historical uses on-site, adjacent to or within 400 feet of the site. If contamination on a site is suspected or known through documentation, an (E) designation will be assigned. The (E) designation helps to guarantee that an appropriate level of site investigation and remediation is completed before development so that a zoning map amendment does not introduce new pathways for contamination. It ensures that the public, and any construction workers involved in developing the sites, are not exposed to contamination risk. On sites where contamination has been found, regulations stipulate that (E) designations be assigned to make sure that the appropriate level of site investigation and any necessary remediation occur prior to redevelopment actions.

A screening methodology was implemented to evaluate the applicability of assigning an (E) designation to privately-owned projected and potential development sites that have been identified by the RWCDS for proposed action. The first part of the screening involved the creation of a study area, which includes the following (as per 2012 CEQR guidelines): the nine projected development sites, seven potential development sites, and the area within a 400-foot

buffer of each development site (see Figure 9A). A list of all potential and projected development sites is provided in Table 9A.

TABLE 9A: Potential and Projected Development Sites

	Sites	Address	County	Zip Code
Projected Sites	A	545 East Fordham Road	Bronx	10458
	B	591 East Fordham Road	Bronx	10458
	C	2533-2541 Cambreleng Avenue	Bronx	10458
	D	528-540 East Fordham Road	Bronx	10458
	E	660-668 East Fordham Road	Bronx	10458
	F	711 East 189th Street	Bronx	10458
	G	2500 Crotona Avenue	Bronx	10458
	H	730 East Fordham Road	Bronx	10458
	I	2465 Arthur Avenue	Bronx	10458
Potential Sites	1	561 East Fordham Road	Bronx	10458
	2	585 East Fordham Road	Bronx	10458
	3	609 East Fordham Road	Bronx	10458
	4	619 East Fordham Road	Bronx	10458
	5	580 East Fordham Road	Bronx	10458
	6	588-590 East Fordham Road	Bronx	10458
	7	602-608 East Fordham Road	Bronx	10458

The next step in the screening process was a site history investigation and a land use survey of the study area. The site history investigation involved a review of documentation of both past and present uses to determine if any of the land uses of the sites were consistent with those identified on the *List of Facilities, Activities or Conditions Requiring Assessment* in the Hazardous Materials Appendix of the 2012 CEQR Technical Manual. Historical sources included, but were not limited to: Sanborn Fire Insurance Maps, business atlases, and United States Geological Survey (USGS) topographic maps.

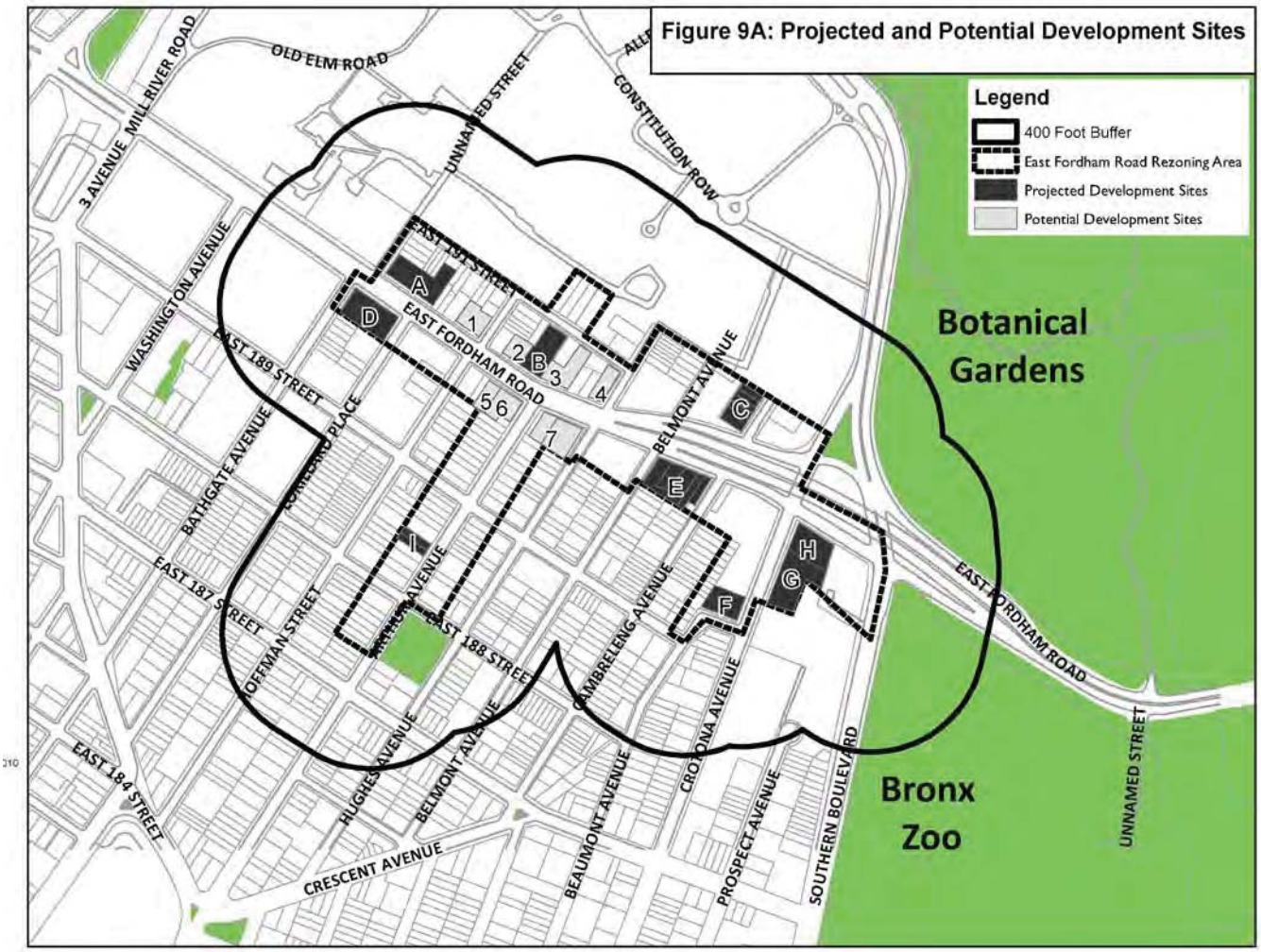


Figure 9A: Projected and Potential Development Sites
Legend
400 Foot Buffer
East Fordham Road Rezoning Area
Projected Development Sites
Potential Development Sites
Botanical Gardens
Bronx Zoo
OLD ELM ROAD
3 AVENUE
MILL RIVER ROAD
WASHINGTON AVENUE
EAST 189 STREET
BATHGATE AVENUE
CONCORD PLACE
EAST 187 STREET
HOFFMAN STREET
EAST 184 STREET
CRESCENT AVENUE
HUGHES AVENUE
BELMONT AVENUE
EAST 188 STREET
EAST FORDHAM ROAD
BEAUMONT AVENUE
CAMBRELENG AVENUE
CROTONA AVENUE
PROSPECT AVENUE
SOUTHERN BOULEVARD
UNNAMED STREET
CONSTITUTION ROW
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B
C
D
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The conclusion of the preliminary screening analysis is that some (E) designations are warranted and that a Phase I Environmental Site Assessment pursuant to Section 24-05 would not be required. A table summarizing the results of the preliminary screening analysis is attached. The (E) designations would ensure that the action would not result in significant adverse hazardous materials impacts.

Lots in the study area were evaluated pursuant to the preliminary screening criteria contained in Title 15, rules of the City of New York, Chapter 24, Section 4, Appendix A, and the Hazardous Materials Appendix of the CEQR Technical Manual. In accordance with these procedures, a land use survey and site history investigation were undertaken to determine past and current uses. A secondary analysis was completed to assess the conditions of the adjacent and surrounding properties within that tax block. The sites included below are those that were found to be located within 400 feet from sites which were thought to be of concern with regard to hazardous materials, or sites with certain industrial, manufacturing or related uses. This is necessary because hazardous materials have the potential to migrate from off-site locations, through soils and/or groundwater, due to local groundwater flow.

If projected and potential development parcels were not assigned an (E) designation after this initial screening, adjacent parcels or nearby parcels within 400 feet were assessed using the same sources. If land use determined through visual inspection or review of historical documentation was consistent with those uses identified in the Hazardous Materials Appendix, affected parcels were given an (E) designation.

FIELD SURVEY

The results of the land use survey and site history investigations indicate that portions of the study area were developed as residential and industrial uses, and that some of the sites within the study area continue to be used by manufacturing businesses in recent years. Based on the methodology from *CEQR Technical Manual*, of the 19 tax lots examined, 19 have or are adjacent to existing or past land uses that would qualify for (E) designations.

Table 9B, “Hazardous Materials Screening,” presents the detailed list of 19 tax lots (9 projected development sites and 7 potential development sites) that would be developed under the proposed action and the reason(s) for the (E) designation recommendation.

Table 9B: Hazardous Materials Screening

EAST FORDHAM ROAD REZONING						
LIST OF PROJECTED AND POTENTIAL SITES						
Projected Sites						
Site	Block	Lot	Address	Existing Land Use	Facilities, Activities or Conditions Requiring Assessment in Accordance with CEQR Appendix A	(E) Designation Warranted?
A	3273	301	545 East Fordham Road	Single-Story Auto Retailed Retail, Spill: 8708127,9008724,9508606,9511669,9909111,0013167, 0230081, 0210816, 9710880, 9810368, 9806974, 0109306	Residential, Restaurant, Parking Garage, Mechanical room, Auto related retail, Gas Station	Yes

B	3273	261	591 East Fordham Road	Single-Story Auto Retailed Retail, Spill: 9008724, 9508606, 9511669, 0230081, 0210816, 0412718, 1205823, 9806974, 8908739, 0109306, 0611679, 0814626, 0802503	Used car lot, minor motor vehicle repairs, Gas Station	Yes
C	3273	203, 204, 205, 206, 207	2533-2541 Cambreleng Avenue	Two- Story Row Houses, Spill: 9806614, 9806753, 0100388, 020081, 0412718, 1205823, 0802503, 8911689, 0304954, 9407414	Residential, Spill: 0412089, Gas Station	Yes
D	3059	32,36	528-540 East Fordham Road	Commercial, Spill: Spill: 8708127,9008724,9508606,9511669,9909111,0013167, 0230081, 0210816, 9710880, 9810368, 9806974, 0109306	Animal hospital, Automotive repair, Variety store, Gas Station	Yes

E	3091	17,20,22,24,26	660-668 East Fordham Road	Commercial, Spill: 9806614, 9806753, 0100388, 020081, 0412718, 1205823, 0802503, 8911689, 0304954, 9407414	Residential, Automotive showroom, Automotive repair, Restaurant, Garage, Spill: 0412089, Gas Station	Yes
F	3091	87	711 East 189th Street	Single-Story Auto Retailed Retail, Spill: 9806614, 9806753, 001388, 0412089, 0412718, 0814626, 8911689, 9407414, 9911733	Storage facility, Residential, Public parking, Commercial, Spill: 0412089, Gas Station	Yes
G	3115	25	2500 Crotona Avenue	Motel, Spill: 9806614, 9806753, 001388, 0412089, 0412718, 0814626, 8911689, 9407414, 9911733	Residential, Commercial, Spill: 0412089, Gas Station	Yes
H	3115	28	730 East Fordham Road	Gas Station, Spill: 9806614, 9806753, 001388, 0412089, 0412718, 0814626, 8911689, 9407414, 9911733	Gas Station, Lubritorium, Minor Auto Repairs	Yes

I	3066	53,54	2465 Arthur Avenue	Commercial, Spill: 0100779, 0210817, 0210846, 8908739, 9813531, 0611679, 0814626	Tinsmith (no welding or forging on premises), Office, Automotive Repair shop	Yes
Potential Sites						
Site	Block	Lot	Address	Existing Land Use	Facilities, Activities or Conditions Requiring Assessment in Accordance with CEQR Appendix A	(E) Designation Warranted
1	3273	293	561 East Fordham Road	Repair and Maintenance Center, Spill: 8708127,9008724,9508606,9511669,9909111,0013167, 0230081, 0210816, 9710880, 9810368, 9806974, 0109306	Medical Offices, Commercial	Yes

2	3273	265	585 East Fordham Road	Office and Storage Facility, Spill: 9008724, 9508606, 9511669, 0230081, 0210816, 0412718, 1205823, 9806974, 8908739, 0109306, 0611679, 0814626, 0802503	Doctor's office, Doctor's Residence, Coal storage, Garage, Residential, Gas Station	Yes
3	3273	257	609 East Fordham Road	Gas Station, Spill: 9008724, 9508606, 9511669, 0230081, 0210816, 0412718, 1205823, 9806974, 8908739, 0109306, 0611679, 0814626, 0802503	Residential, Automotive repair shop, Office, Lubritorium, Parking garage, Spill: 1205823	Yes
4	3273	252	619 East Fordham Road	Single-Story Car Rental, Spill: 9008724, 9508606, 9511669, 0230081, 0210816, 0412718, 1205823, 9806974, 8908739, 0109306, 0611679, 0814626, 0802503	Gas station, Garage, Automotive repair, Spill: 1205823	Yes

5	3067	52	580 East Fordham Road	Café, Spill: 9008724, 9508606, 9511669, 0230081, 0210816, 0412718, 1205823, 9806974, 8908739, 0109306, 0611679, 0814626, 0802503	Auto related uses , Gas Station	Yes
6	3067	54	588-590 East Fordham Road	Gas Station, Spill: 9008724, 9508606, 9511669, 0230081, 0210816, 0412718, 1205823, 9806974, 8908739, 0109306, 0611679, 0814626, 0802503	Residential, Gas station, Car wash, Used car dealership	Yes
7	3078	14,16	602-608 East Fordham Road	Car Wash , Commercial, Spill: 9008724, 9508606, 9511669, 0230081, 0210816, 0412718, 1205823, 9806974, 8908739, 0109306, 0611679, 0814626, 0802503	Gas Station, Lubritorium, Minor automotive repair, Spill: 1205823	Yes

Future Without the Proposed Action

In the future without the proposed action new development might occur on 12 of the 19 tax lots that warrant an (E) designation. Without the proposed action, development of these sites would occur without the restrictions of the (E) designation. Without the proposed action the risks for potential exposure to hazardous and/or contaminated materials at these sites may increase.

Future With the Proposed Action

In the future with the proposed action, all of the lots that qualify for (E) designation have the potential to be redeveloped. The environmental impacts due to the possible presence of hazardous material at the projected and potential sites relate to the potential for impacts to the health and safety of workers during demolition of existing structures and construction, transportation of contaminated soil, or impacts to future residents or employees of individual buildings on these sites. These adverse impacts are principally associated with the following uses and concerns:

- Former or current gasoline filling stations or automotive service centers on a development site or an adjacent site
- Auto-related or "transportation" uses on the development site or an adjacent site (e.g., garage, filling station, auto repair, service or painting)
- Records of industrial/ manufacturing activities on the development site or adjacent sites
- Documented petroleum/waste oil spills on site or within 400 feet of a development site.

As stated above, the eligible sites recommended for (E) designations are based on whether the sites may have been adversely affected by existing or historical uses at, or adjacent to, these sites. By placing (E) designations on sites where there is a known or suspected environmental concern allows the possible avoidance of an adverse impact to human health and the environment resulting from the proposed action. (E) designations provide the City with a mechanism to prevent significant adverse impacts from occurring on possible development sites.

Placing an (E) designation on the nineteen projected and potential tax lots would eliminate the potential for significant adverse impacts from hazardous materials due to development on these sites under the proposed action. The (E) designation places regulatory oversight on these sites so that any potential environmental impacts and/or exposures can be mitigated.

Conclusion

As referenced above, an (E) designation will be placed on the sites identified in Table 9B as part of the proposed zoning. Recommendations for (E) designations are based on whether the projected and potential development sites may have been adversely affected by current or historical uses at, adjacent to, or within 400 feet of all projected and potential development sites. In determining (E) designations, current site conditions were given priority consideration followed by adjacent site use or history, and finally followed by current and historical conditions within a 400-foot radius of all development sites.

Receiving an (E) designation requires that the property owner must conduct a Phase I Environmental Site Assessment (ESA) in accordance with the American Society of Testing Materials (ASTM) E1527-05, a soil and groundwater testing protocol, and remediation where appropriate so as to satisfy the New York City Office of Environmental Remediation (OER), prior to any new development. All testing and remediation measures must be completed before the issuance of construction-related New York City Department of Buildings (DOB) permits pursuant to Section 11-15 of the Zoning Resolution, Environmental Requirements. The (E) designation also requires mandatory construction-related health and safety plans, which must be approved by OER.

Under the (E) designation, the following tasks must be undertaken:

Task 1 – The applicant submits to OER, for review and approval, a Phase 1A of the site along with a soil and groundwater 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 sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and 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 – A written report with findings and a summary of the data must be 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.

An OER-approved construction-related health and safety plan would be implemented during evacuation 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 and approval 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. Development of a site with an (E) designation would require that a Phase I Environmental Site Assessment be conducted, and if necessary, a sampling and remediation protocol be developed and implemented to the satisfaction of OER prior to issuance of a building permit.

Regardless of the proposed action, the conditions in the future would be the same for the development of the sites qualifying for an (E) designation. Within the proposed rezoning area, 9 projected and 7 potential development sites are potentially contaminated as a result of historical and/or current land use activity, the presence of fuel storage tanks, or some other condition identified in the *CEQR Technical Manual*. As such, these locations without environmental requirements already in place would receive an (E) designation pursuant to the proposed action (Table 9A).

With the incorporation of the hazardous materials (E) designations no significant adverse impacts related to hazardous materials are expected and no further analysis is necessary.

ATTACHMENT 10-TRANSPORTATION

According to the *CEQR Technical Manual*, interrelationships between the key technical areas of the transportation system – traffic, transit, pedestrians, and parking – should be taken into account in any assessment. Furthermore, the individual technical areas should be separately assessed to determine whether a project has the potential to adversely and significantly affect a specific area of the transportation system. The *CEQR Technical Manual* states that a preliminary trip generation assessment should be prepared to determine whether a quantified analysis of any technical areas of the transportation system is necessary. Except in unusual circumstances, a further quantified analysis would typically not be needed for a technical area if the proposed development would result in fewer than the following increments:

- 50 peak hour vehicle trips;
- 200 peak hour subway/rail or bus transit riders; or
- 50 or more bus trips in a single direction; or
- 200 peak hour pedestrian trips.

The *CEQR Technical Manual* also states that if the threshold for traffic is not surpassed, it is likely that further parking assessment is also not needed.

Consistent with the guidelines of the *2012 CEQR Technical Manual*, an assessment of transportation will be provided in the EIS. As detailed in the Transportation Planning Factors (TPF) technical memorandum included in Appendix 1, there are a total of 9 projected development sites in the proposed rezoning area. The Proposed Action is expected to induce new residential and commercial development at these sites, which would generate additional vehicular travel and demand for parking, as well as additional subway and bus riders and pedestrian traffic. These new trips have the potential to affect the area's transportation systems. Based on a preliminary travel demand forecast and trip assignment for the RWCDS, the Proposed Action is expected to generate more than 50 additional (net) vehicular trips in the project study area. Therefore, the EIS will provide a detailed traffic analysis that focuses on those peak hours and street network intersections where the highest concentrations of action-generated demand would occur. The transportation studies will focus on four key issues: (1) the size of the traffic study area

and the number of intersections to be analyzed both within the rezoning area and along major access routes; (2) the potential for the Proposed Action to generate significant traffic impacts requiring mitigation; (3) the potential increase in the parking demand; and (4) an increased level of transit use and pedestrian demand.

ATTACHMENT 11-AIR QUALITY

A. INTRODUCTION

The potential for air quality impacts from the proposed action is examined in this chapter. Air quality impacts can be either direct or indirect. Direct impacts result from emissions generated by stationary sources at a development site, such as emissions from on-site fuel combustion for heat and hot water systems. Indirect impacts are impacts that are caused by emissions from nearby existing stationary sources (impacts on the proposed action) or by emissions from on-road vehicle trips generated by the proposed action or other changes to future traffic conditions due to the proposed action.

The proposed action would include fossil fuel-burning heat and hot water systems at development sites. Therefore, a stationary source analysis was conducted to evaluate potential future pollutant concentrations with the proposed heat and hot water systems.

In the future with the proposed action, emissions from existing sources that would not be developed or enlarged would be anticipated to be the same as the No Action condition. However, since pollutant concentrations from existing sources at development sites may be different than the No Action condition, potential air quality impacts on the proposed action were also examined. In addition, since a portion of the Rezoning Area is within 400 feet of areas zoned for manufacturing uses, potential effects of stationary source emissions from existing nearby industrial facilities on proposed sensitive uses were assessed.

The project site is in the vicinity of large sources of emissions and commercial, institutional and residential development. Therefore, potential air quality impacts from these sources on development sites were evaluated.

The maximum hourly traffic generated by the proposed action would not exceed the 2012 *City Environmental Quality Review (CEQR) Technical Manual* carbon monoxide (CO) screening threshold of 170 peak-hour vehicle trips at an intersection in the study area. In addition, the particulate matter emissions screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual* would not be exceeded in the 2023 analysis year. Therefore, a quantified assessment of the potential impacts on air quality from traffic generated by the proposed action was not warranted. A quantified analysis was also conducted to evaluate potential future CO concentrations in the vicinity of the ventilation outlets for parking facilities assumed to be developed with the proposed action.

PRINCIPAL CONCLUSIONS

As discussed below, screening and refined analyses were performed to evaluate potential air quality impacts associated with the proposed actions' stationary sources of emissions. A refined analysis was performed to evaluate potential air quality impacts at certain

development sites from existing stationary sources of emissions. An industrial analysis was performed to evaluate potential emissions of toxic air contaminants at development sites from existing industrial sources. The analyses conducted for the proposed action concluded that, with the implementation of the proposed (E) designations, there would be no significant adverse air quality impacts.

As discussed below, the parking facilities assumed to be developed as a result of the proposed action would also not result in any significant adverse air quality impacts.

The stationary source analysis determined that at certain projected and potential development sites, environmental requirements would be necessary to ensure that emissions from heat and hot water systems would not result in a significant adverse impact. An (E) designation would be assigned to the affected sites as part of the proposed action to address the potential effects of specific pollutants, if applicable, to ensure that the developments would not result in any significant air quality impacts from heat and hot water systems emissions due to individual or groups of development sites.

Nearby existing sources from manufacturing or processing facilities were also analyzed for their potential impacts on the projected and potential development sites. The results of the industrial source analysis demonstrated that there would be no significant adverse air quality impacts resulting from these existing sources on the proposed action.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of CO are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide, NO, and nitrogen dioxide, NO_2, collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources, and sources utilizing non-road diesel such as diesel trains, marine engines, and non-road vehicles (e.g., construction engines). On-road diesel vehicles currently contribute very little to SO_2 emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs. These pollutants are regulated by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act, and are referred to as “criteria pollutants”.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. Since CO is a reactive gas which does not persist in the atmosphere, CO concentrations can vary greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis.

Since the proposed action would result in fewer new peak hour vehicle trips than the *CEQR Technical Manual* screening threshold of 170 trips in the study area, a quantified assessment of on-street CO emissions is not warranted. A parking garage analysis was conducted to evaluate future CO concentrations with the operation of the parking facilities assumed to be developed as a result of the proposed action.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow, and occur as the pollutants are dispersed downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions. The proposed action would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x emissions or on ozone levels is predicted. A regional analysis of emissions of these pollutants from mobile sources associated with the proposed action was therefore not warranted.

In addition to being a precursor to the formation of ozone, NO_2 (one component of NO_x) is also a regulated criteria pollutant. Since NO_2 is mostly formed from the transformation of NO in the atmosphere, it has mostly been of concern further downwind from large stationary point sources, and not a local concern from mobile sources. However, with the promulgation of the 2010 1-hour average standard for NO_2, local sources such as vehicular emissions may become of greater concern for this pollutant. An assessment of NO_2 emissions from stationary sources at projected and potential development sites was conducted, following the *CEQR Technical Manual* and EPA guidance. In addition, potential impacts of NO_2 emissions from large existing sources in the vicinity of development sites were evaluated.

In order to evaluate the effect of mobile source emissions due to the proposed action, predicted mobile source pollutant concentrations at affected roadways and intersections must be added to background concentrations. Community-scale monitors currently in operation can

be used to represent background NO_2 conditions away from roadways, but there is substantial uncertainty regarding background concentrations at or near ground-level locations in close proximity to roadways. EPA estimates that concentrations near roadways may be anywhere from 30 to 100 percent higher than those measured at community-scale monitors. Furthermore, the existing EPA mobile source models are not capable of assessing the chemical transformation of emitted NO to NO_2 over relatively short distances (e.g., sidewalks, low-floor windows). In addition, existing EPA mobile source models are designed to provide only peak concentrations, which are not consistent with the statistical format of the 1-hour average NO_2 standard.

Given the current uncertainty regarding background concentrations at specific locations near roadways, and the lack of approved modeling protocols for the prediction of total maximum 1-hour daily 98th percentile NO_2 concentrations, as well as the lack of a benchmark for evaluating the significance of these incremental concentrations, no methodology exists that could provide reasonable predictions about concentrations from mobile sources due to the proposed action on the receptors at or near ground-level locations. The traffic associated with the proposed action is not expected to change NO_2 concentrations appreciably, since the vehicular traffic associated with the proposed action would be a very small percentage of the total number of vehicles in the area. The amount of NO emitted that would rapidly transform to NO_2 in the immediate vicinity of roadways and intersections with project-generated traffic would be very small. It is not known whether conditions in the future condition without the proposed action will be within or in excess of the NAAQS in these near-road areas. Background concentrations are in fact expected to decrease over time and local sources would contribute an incremental amount of NO_2 to those background concentrations. The analysis limitations described above preclude the performance of an accurate quantitative assessment of the significance of the 1-hour NO_2 increments from the increase in traffic resulting from the proposed action.

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Lead in gasoline has been banned under the Clean Air Act. No significant sources of lead are associated with the proposed action and, therefore, analysis is not warranted.

RESPIRABLE PARTICULATE MATTER—PM_{10} AND $PM_{2.5}$

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Natural sources include the condensed and reacted forms of naturally occurring VOC; salt particles resulting from the evaporation of sea spray; wind-borne pollen, fungi, molds, algae, yeasts, rusts, bacteria, and material from live and decaying plant and animal life; particles eroded from beaches, soil, and

rock; and particles emitted from volcanic and geothermal eruptions and from forest fires. Naturally occurring PM is generally greater than 2.5 micrometers in diameter. Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines, and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood-burning stoves and fireplaces. PM also acts as a substrate for the adsorption (accumulation of gases, liquids, or solutes on the surface of a solid or liquid) of other pollutants, often toxic and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}, which includes $PM_{2.5}$). $PM_{2.5}$ 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, and is also extremely persistent in the atmosphere. $PM_{2.5}$ is mainly derived from combustion material that has volatilized and then condensed to form primary PM (often soon after the release from a source exhaust) or from precursor gases reacting in the atmosphere to form secondary PM.

Diesel-powered vehicles, especially heavy duty trucks and buses, are a major source of respirable PM, most of which is $PM_{2.5}$; PM concentrations may, consequently, be locally elevated near roadways with high volumes of heavy diesel powered vehicles. The proposed action would not result in any significant increase in truck traffic in the study area or other potentially significant increase in $PM_{2.5}$ vehicle emissions as defined in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, an analysis of potential mobile source impacts from PM was not warranted.

An assessment of PM emissions from heat and hot water systems at the projected and potential development sites was conducted, following the *CEQR Technical Manual* and EPA guidance. The potential impacts of PM emissions from existing buildings on the projected and potential development sites were also analyzed, following the *CEQR Technical Manual* guidance.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). SO_2 is also of concern as a precursor to $PM_{2.5}$ and is regulated as a $PM_{2.5}$ precursor under the New Source Review permitting program for large sources. Due to the federal restrictions on the sulfur content in diesel fuel for on-road and non-road vehicles, no significant quantities are emitted from vehicular sources. Vehicular sources of SO_2 are not significant and therefore, analysis of SO_2 from mobile and non-road sources was not warranted.

An assessment of SO_2 emissions from stationary sources, including proposed and existing building heat and hot water systems was conducted, following the *CEQR Technical Manual* and EPA guidance**.**

NONCRITERIA POLLUTANTS

In addition to the criteria pollutants discussed above, noncriteria pollutants may be of concern. Noncriteria pollutants are emitted by a wide range of man-made and naturally occurring sources. Emissions of noncriteria from industries are regulated by EPA. Federal ambient air quality standards do not exist for noncriteria pollutants; however, the New York State Department of Environmental Conservation (NYSDEC) has issued standards for certain noncriteria compounds, including beryllium, gaseous fluorides, and hydrogen sulfide. NYSDEC has also developed guideline concentrations for numerous noncriteria pollutants. The NYSDEC guidance document DAR-1 (October 2010)[1] contains a compilation of annual and short term (1-hour) guideline concentrations for these compounds. The NYSDEC guidance thresholds represent ambient levels that are considered safe for public exposure. EPA has also developed guidelines for assessing exposure to noncriteria pollutants. These exposure guidelines are used in health risk assessments to determine the potential effects to the public.

C. AIR QUALITY STANDARDS, REGULATIONS AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the Clean Air Act (CAA), primary and secondary NAAQS have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary and secondary standards are the same for NO_2 (annual), ozone, lead, and PM (24-hour), and there is no secondary standard for CO and the 1-hour NO_2 standard. The NAAQS are presented in **Table 11-1**. The NAAQS for CO, annual NO_2, and 3-hour SO_2 have also been adopted as the ambient air quality standards for New York State, but are defined on a running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particulate matter (TSP), settleable particles, non-methane hydrocarbons (NMHC), 24-hour and annual SO_2, and ozone which correspond to federal standards that have since been revoked or replaced, and for the noncriteria pollutants beryllium, fluoride, and hydrogen sulfide (H_2S).

EPA recently announced a final decision to lower the primary annual average standard for $PM_{2.5}$ from 15 $\mu g/m^3$ to 12 $\mu g/m^3$, effective March 2013.

[1] NYSDEC DAR-1 (Air Guide-1) AGC/SGC Tables, October 2010.

Table 11-1
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	$\mu g/m^3$	ppm	$\mu g/m^3$
Carbon Monoxide (CO)				
8-Hour Average [1]	9	10,000	None	
1-Hour Average [1]	35	40,000		
Lead				
Rolling 3-Month Average [2]	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
1-Hour Average [3]	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average [4]	0.075	150	0.075	150
Respirable Particulate Matter (PM_{10})				
24-Hour Average [1]	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Annual Mean [5]	NA	12	NA	15
24-Hour Average [6]	NA	35	NA	35
Sulfur Dioxide (SO_2) [7]				
1-Hour Average [8]	0.075	197	NA	NA
Maximum 3-Hour Average [1]	NA	NA	0.50	1,300

Notes:

ppm – parts per million
$\mu g/m^3$ – micrograms per cubic meter
NA – not applicable
All annual periods refer to calendar year.
PM concentrations (including lead) are in $\mu g/m^3$ since ppm is a measure for gas concentrations. Concentrations of all gaseous pollutants are defined in ppm and approximately equivalent concentrations in $\mu g/m^3$ are presented.

(1) Not to be exceeded more than once a year.
(2) EPA has lowered the NAAQS down from 1.5 $\mu g/m^3$, effective January 12, 2009.
(3) 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. Effective April 12, 2010.
(4) 3-year average of the annual fourth highest daily maximum 8-hr average concentration.
(5) EPA has lowered the NAAQS down from 15 $\mu g/m^3$, effective March 2013.
(6) Not to be exceeded by the annual 98th percentile when averaged over 3 years.
(7) EPA revoked the 24-hour and annual primary standards, replacing them with a 1-hour average standard. Effective August 23, 2010.
(8) 3-year average of the annual 99th percentile daily maximum 1-hr average concentration.

Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

EPA revised the 8-hour ozone standard, lowering it from 0.08 to 0.075 parts per million (ppm), effective as of May 2008. On January 6, 2010, EPA proposed a change in the 2008 ozone NAAQS, lowering the primary NAAQS from the current 0.075 ppm level to within the range of 0.060 to 0.070 ppm. EPA is also proposing a secondary ozone standard, measured as a cumulative concentration within the range of 7 to 15 ppm-hours aimed mainly at protecting sensitive vegetation. A final decision on this standard has been postponed but is expected to occur in 2013.

EPA lowered the primary and secondary standards for lead to 0.15 $\mu g/m^3$, effective January 12, 2009. EPA revised the averaging time to a rolling 3-month average and the form of the standard to not-to-exceed across a 3-year span.

EPA established a 1-hour average NO_2 standard of 0.100 ppm, effective April 12, 2010, in addition to the annual standard. The statistical form is the 3-year average of the 98th percentile of daily maximum 1-hour average concentration in a year.

EPA established a 1-hour average SO_2 standard of 0.075 ppm, replacing the 24-hour and annual primary standards, effective August 23, 2010. The statistical form is the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour concentrations (the 4th highest daily maximum corresponds approximately to 99th percentile for a year.)

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

The CAA, as amended in 1990, defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA, followed by a plan for maintaining attainment status once the area is in attainment.

In 2002, EPA re-designated New York City as in attainment for CO. Under the resulting maintenance plan, New York City is committed to implementing site-specific control measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period.

Manhattan has been designated as a moderate NAA for PM_{10}. On December 17, 2004, EPA took final action, designating the five New York City counties and Nassau, Suffolk, Rockland, Westchester, and Orange Counties as a $PM_{2.5}$ NAA under the CAA due to exceedance of the annual average standard. Based on recent monitoring data (during the 2006-2009 period, as well as more recent data), annual average concentrations of $PM_{2.5}$ in New York City no longer exceed the annual standard. EPA has determined that the area has attained the 1997 $PM_{2.5}$ NAAQS, effective December 15, 2010. As stated earlier, EPA has recently lowered the annual average primary standard to 12 $\mu g/m^3$. EPA will make initial attainment designations by

December 2014. Based on analysis of 2009-2011 monitoring data, it is likely that the region will be in attainment for the new standard.

In October 2009 EPA finalized the designation of the New York City Metropolitan Area as nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS, effective in November 2009. The nonattainment area includes the same 10-county area originally designated as nonattainment with the 1997 annual $PM_{2.5}$ NAAQS. Based on recent monitoring data (2008-2010), 24-hour average concentrations of $PM_{2.5}$ in this area no longer exceed the standard. New York has submitted a "Clean Data" request to the USEPA. Any requirement to submit a SIP is stayed until EPA acts on New York's request.

The five New York City counties, Nassau, Rockland, Suffolk, Westchester, and Lower Orange County Metropolitan Area (LOCMA) counties had been designated as a severe NAA for ozone (1-hour average standard). On June 18, 2012, EPA determined that the New York-New Jersey-Long Island NAA has attained the standard. Although this is not yet a redesignation to attainment status, this determination removes further requirements under the 1-hour standard.

On April 15, 2004, EPA designated the same counties as moderate non-attainment for the 1997 8-hour average ozone standard. On February 8, 2008, NYSDEC submitted final revisions to the SIP to EPA to address the 1997 8-hour ozone standard. On June 18, 2012, EPA determined that the New York-New Jersey-Long Island NAA has attained the 1997 8-hour ozone NAAQS (0.08 ppm). Although not yet a redesignation to attainment status, this determination removes further requirements under the 1997 8-hour standard.

In March 2008 EPA strengthened the 8–hour ozone standards. EPA designated the counties of Suffolk, Nassau, Bronx, Kings, New York, Queens, Richmond, Rockland, and Westchester (NY portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT NAA) as a marginal NAA for the 2008 ozone NAAQS effective July 20, 2012. SIPs are due in 2015.

New York City is currently in attainment of the annual-average NO_2 standard. EPA has designated the entire state of New York as "unclassifiable/attainment". Since additional monitoring is required for the 1-hour standard, areas will be reclassified once three years of monitoring data are available (2016 or 2017).

EPA has established a 1-hour SO_2 standard, replacing the former 24-hour and annual standards, effective August 23, 2010. Based on the available monitoring data, all New York State counties currently meet the 1-hour standard. Additional monitoring will be required. EPA plans to make final attainment designations in 2013. SIPs for nonattainment areas will be due by 2015.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

The State Environmental Quality Review Act (SEQRA) regulations and the *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is

material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected.[1] In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see **Table 11-1**) would be deemed to have a potential significant adverse impact. Similarly, for non-criteria pollutants, predicted exceedance of the DAR-1 guideline concentrations would be considered a potential significant adverse impact.

In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

DE MINIMIS CRITERIA REGARDING CO IMPACTS

New York City has developed *de minimis* criteria to assess the significance of the increase in CO concentrations that would result from the impact of proposed projects or actions on mobile sources, as set forth in the *CEQR Technical Manual*. These criteria set the minimum change in CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 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 or between 8 and 9 ppm; or (2) 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 8.0 ppm.

$PM_{2.5}$ INTERIM GUIDANCE CRITERIA

NYSDEC has published a policy to provide interim direction for evaluating $PM_{2.5}$ impacts[2]. This policy applies only to facilities applying for permits or major permit modifications subject to SEQRA that emit 15 tons of PM_{10} or more annually. The policy states that such a project will be deemed to have a potentially significant adverse impact if the project's maximum impacts are predicted to increase $PM_{2.5}$ concentrations by more than 0.3 $\mu g/m^3$ averaged annually or more than 5 $\mu g/m^3$ on a 24-hour basis. Projects that exceed either the annual or 24-hour threshold will be required to prepare an Environmental Impact Statement (EIS) to assess the severity of the impacts, to evaluate alternatives, and to employ reasonable and necessary mitigation measures to minimize the $PM_{2.5}$ impacts of the source to the maximum extent practicable.

[1] *CEQR Technical Manual*, Chapter 17, section 400, 2012 Edition; and State Environmental Quality Review Regulations, 6 NYCRR § 617.7

[2] CP33/Assessing and Mitigating Impacts of Fine Particulate Emissions, NYSDEC 12/29/2003.

In addition, New York City uses interim guidance criteria for evaluating the potential $PM_{2.5}$ impacts for projects subject to CEQR. The interim guidance criteria currently employed to determine the potential significant adverse $PM_{2.5}$ impacts under CEQR are as follows:

- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 5 $\mu g/m^3$ at a discrete receptor location would be considered a significant adverse impact on air quality under operational conditions (i.e., a permanent condition predicted to exist for many years regardless of the frequency of occurrence);
- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 2 $\mu g/m^3$ but no greater than 5 $\mu g/m^3$ would be considered a significant adverse impact on air quality based on the magnitude, frequency, duration, location, and size of the area of the predicted concentrations;
- Annual average $PM_{2.5}$ concentration increments which are predicted to be 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 at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.3 $\mu g/m^3$ at a discrete receptor location (elevated or ground level).

Actions under CEQR predicted to increase $PM_{2.5}$ concentrations by more than the above interim guidance criteria will be considered to have a potential significant adverse impact.

The above CEQR interim guidance criteria were used to evaluate the significance of predicted impacts of the proposed action on $PM_{2.5}$ concentrations and determine the need to minimize particulate matter emissions from the proposed action.

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

INTRODUCTION

This section presents the methodologies, data, and assumptions used to conduct the air quality analyses for the proposed action. The following mobile source and stationary source analyses were conducted for the expected year for project completion (2023):

Mobile Source Analyses

- Parking Garage
  - Potential CO impacts from ventilation of the parking garages.

Stationary Source Analyses

- Heating and Hot Water Systems

  - Potential impacts from the individual heat and hot water systems at the projected and potential development sites.
  - Potential impacts from the heat and hot water systems serving large existing buildings within 400 feet of a development site, and/or from large emission sources within 1,000 feet of a development site.
- Industrial Sources
  - Potential air toxic pollutant impacts from uses in the nearby manufacturing zone.

MOBILE SOURCES

The proposed action would include accessory parking garages to account for the new parking demand. Emissions from vehicles using the garages could potentially affect future ambient levels of CO in the vicinity of the garage exhaust vents. Therefore, an analysis was conducted to determine the potential for significant adverse impacts from garages exhaust vents.

Of the parking facilities associated with the development sites, the garage at Projected Development Site E was selected for analysis. This site has the greatest potential parking demand, and therefore the highest potential air quality impact. Since the parking garage for this site has not been designed, it was conservatively assumed that the garage would have one vent that would exhaust air onto Cambreleng Avenue. Representative receptor locations on the Projected Development Site E were modeled.

The analysis of emissions from the outlet vents and their dispersion in the environment was performed to calculate pollutant levels in the surrounding area, using the methodology set forth in the *CEQR Technical Manual*. Emissions from vehicles entering, parking, and exiting the garage were estimated using the EPA MOBILE6.2 mobile source emissions model and an ambient temperature of 43°F, as referenced in the *CEQR Technical Manual*. For all arriving and departing vehicles, an average speed of 5 miles per hour was conservatively assumed for travel within the parking garage. In addition, all departing vehicles were assumed to idle for 1 minute before proceeding to the exit. The concentration of CO within the garage was calculated assuming a minimum ventilation rate, based on New York City Building Code requirements, of 1 cubic foot per minute of fresh air per gross square foot of garage area.

To determine CO concentrations, the outlet vent was analyzed as a “virtual point source” using the methodology in EPA’s *Workbook of Atmospheric Dispersion Estimates, AP-26*. This methodology estimates CO concentrations at various distances from an outlet vent by assuming that the concentration in the garage is equal to the concentration leaving the vent, and determining the appropriate initial horizontal and vertical dispersion coefficients at the vent faces.

The CO concentrations were determined for the time periods when overall garage usage would be the greatest. The weekday AM and PM peak periods were therefore analyzed. Departing

vehicles were assumed to be operating in a "cold-start" mode, emitting higher levels of CO than arriving vehicles. Vehicle trip generation analysis data were used.

A persistence factor of 0.70 was used to convert the calculated 1-hour average maximum concentrations to 8-hour averages, accounting for meteorological variability over the average 8-hour period. Background CO concentrations and concentrations from on-street traffic were added to the parking garage modeling results to obtain the total ambient CO levels. The 8-hour average background concentration used in the analysis was 1.9 ppm, which is based on the highest second-highest 8-hour measurements over the most recent five-year period for which complete monitoring data are available (2007-2011). The 1-hour CO background used in the analysis was 3.0 ppm and was obtained using the same procedure as the 8-hour average background. The monitored values were obtained at the Botanical Garden monitoring station, which is the currently operating monitoring station nearest to the Rezoning Area.

STATIONARY SOURCES

A stationary source analysis was conducted to evaluate potential impacts from the development sites' fossil fuel-fired heat and hot water systems. In addition, an assessment was conducted to determine the potential for impacts due to combustion sources and industrial activities within the Rezoning Area. The project-related (i.e., projected and potential) development sites analyzed are described in Chapter 1, "Project Description".

INDIVIDUAL HEAT AND HOT WATER SOURCES

Screening Analysis

A screening analysis was performed to assess air quality impacts associated with emissions from heat and hot water systems associated with each projected and potential development site. The methodology described in the *CEQR Technical Manual* was used for the analysis and considered impacts on sensitive uses (i.e., existing residences and other developments under construction).

The methodology determines the threshold of development size below which the action would not have a significant adverse impact. The screening procedures utilize information regarding the type of fuel to be used, the maximum development size, and the heat and hot water systems exhaust stack height to evaluate whether a significant adverse impact may occur. Based on the distance from the development site to the nearest building of similar or greater height, if the maximum development size is greater than the threshold size in the *CEQR Technical Manual,* there is the potential for significant air quality impacts, and a refined dispersion modeling analysis would be required. Otherwise, the source passes the screening analysis, and no further analysis is required.

Since information on the heat and hot water systems' design was not available, each projected and potential development site was evaluated with the nearest existing or proposed residential development of a similar or greater height analyzed as a potential receptor. The maximum floor area

of each projected and potential development site from RWCDS was used as input for the screening analysis.

It was assumed that No. 2 fuel oil or natural gas would be used in the heat and hot water systems for new construction and conversion sites, and that exhaust stacks would be located 3 feet above roof height (as per the *CEQR Technical Manual*). For sources that did not pass the screening analyses using the *CEQR Technical Manual* procedures, a refined modeling analysis was performed. For fuel oil, the primary pollutants of concern are SO_2 and PM, while for natural gas, the primary pollutant of concern is NO_2.

Refined Dispersion Modeling Analysis

Development sites that did not pass the screening analysis were further analyzed using a refined dispersion model, the EPA/AMS AERMOD dispersion model[1]. A description of the methodology and assumptions used in the AERMOD analysis follows.

AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatments of the boundary layer theory, understanding of turbulence and dispersion, and includes handling of terrain interactions.

The AERMOD model calculates pollutant concentrations from one or more points (e.g., exhaust stacks) based on hourly meteorological data, and has the capability to calculate pollutant concentrations at locations where the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by nearby structures. The analyses of potential impacts from exhaust stacks were made assuming stack tip downwash, urban dispersion and surface roughness length, and elimination of calms. AERMOD can be run with and without building downwash (the downwash option accounts for the effects on plume dispersion created by the structure the stack is located on, and other nearby structures). In general, modeling "without" building downwash produces higher estimates of pollutant concentrations when assessing the impact of elevated sources on elevated receptor locations. Therefore, the analysis was performed using the AERMOD model with the no downwash option only.

For the refined analysis, the exhaust stacks for the heat and hot water systems were assumed to be located 10 feet from the edge of the development massing closest to the receptor, unless

[1] EPA, AERMOD: Description Of Model Formulation, 454/R-03-004, September 2004; and EPA, User's Guide for the AMS/EPA Regulatory Model AERMOD, 454/B-03-001, September 2004 and Addendum December 2006.

the source and receptor were immediately adjacent to each other. In these cases, the stack was assumed to be located at an initial distance of 10 feet from the nearest receptor.

The refined dispersion modeling analysis was performed for $PM_{2.5}$, NO_2 and SO_2 (for sites where fuel oil was modeled). The analysis was then performed using calculated emission rates for fuel oil and natural gas. If a source could not meet the NO_2 NAAQS or $PM_{2.5}$ interim guidance criteria, the stack would then be set back until the source met the respective criteria.

Methodology Utilized for Estimating 1-Hour NO_2 Concentrations

EPA has recently issued guidance for assessing 1-hour average NO_2 concentrations for compliance with NAAQS.[1] Background concentrations are currently monitored at several sites within New York City, which are used for reporting concentrations on a "community" scale. Because this data is compiled on a 1-hour average format, it can be used for comparison with the new 1-hour standards. Therefore, background 1-hour NO_2 concentrations currently measured at the community-scale monitors can be considered representative of background concentrations for purposes of assessing the impact of heat and hot water systems.

EPA's preferred regulatory stationary source model, AERMOD, is capable of producing detailed output data that can be analyzed at the hourly level required for the form of the 1-hour standards. EPA has also developed guidance to estimate the transformation ratio of NO_2 to NO_x, applicable to heating and hot water systems, as discussed further below.

1-Hour average NO_2 concentration increments associated with proposed heat and hot water systems were estimated using AERMOD model. The results represent the five-year average of the annual 98th percentile of the maximum daily 1-hour average, added to background concentrations (see below).

NO_2 concentrations were estimated using NO_2 to NO_x ratios of 0.8 for the 1-hour concentration and 0.75 for the annual concentration, per EPA guidance.[2]

Meteorological Data

The meteorological data set consisted of five consecutive years of meteorological data: surface data collected at LaGuardia Airport (2007–2011) and concurrent upper air data collected at Brookhaven, New York. The meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevation over the 5-year period. These data were processed using the EPA AERMET program to develop data in a format that can be readily processed by the AERMOD model. The land uses around the site where meteorological surface data were available were

[1] EPA Memorandum, "Additional Clarification Regarding Application of Appendix W, Modeling Guidance for the 1-Hour NO_2 National Ambient Air Quality Standard," March 1, 2011.

[2] EPA, Memorandum, "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard," March 1, 2011.

classified using categories defined in digital United States Geological Survey (USGS) maps to determine surface parameters used by the AERMET program.

Background Concentrations

To estimate the maximum expected pollutant concentration at a given location (receptor), the predicted impacts must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the model (see **Table 11-2**). To develop background levels, concentrations measured at the most representative NYSDEC ambient monitoring station over the latest available 5-year period (2007-2011) were used for annual average NO_2 and 3-hour average SO_2 background (consistent with New York City Department of Environmental Protection [DEP] guidance), while the latest available 3-year period was used for the 24-hour PM_{10} background concentration. Note that the background concentrations for the 1-hour and 24-hour standards are consistent with the form of the NAAQS.

Table 11-2
Background Pollutant Concentrations

Pollutant	Average Period	Location	Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
NO_2	Annual[1]	Botanical Garden, Bronx	46	100
	1-hour[2]		122.3	188
SO_2	1-hour[3]	Botanical Garden, Bronx	133.5	196
	3-hour[4]		162	1,300
PM_{10}	24-Hour[5]	Morrisania, Bronx	37	150

Notes:
(1) Annual average NO_2 background concentration is based on the 5-year highest value from 2007–2011.
(2) The 1-Hour NO_2 background concentration is based on the maximum 98th percentile 1-Hour NO_2 concentration averaged over three years of data, from 2009–2011.
(3) The 1-Hour SO_2 background concentration is based on the maximum 99th percentile concentration averaged over three years of data, from 2009–2011.
(4) The 3-hour SO_2 background concentration is based on the 5-year highest second-highest measured value from 2007–2011.
(5) PM_{10} is based on the 3-year highest second-highest value from 2009–2011.
Source: New York State Air Quality Report Ambient Air Monitoring System, NYSDEC, 2007-2011.

Total 1-hour NO_2 concentrations were determined following methodologies that are accepted by the EPA, and which were accepted by the lead agency, in consultation with DEP, as appropriate and conservative. The methodology used to determine the compliance of the total 1-hour NO_2 concentrations from proposed sources with the 1-hour NO_2 NAAQS[1] was based on

[1] http://www.epa.gov/ttn/scram/guidance/clarification/Additional_Clarifications_AppendixW_Hourly-NO2-NAAQS_FINAL_03-01-2011.pdf

adding the monitored background to modeled concentrations, as follows: hourly modeled concentrations from proposed developments were added to the 98th percentile background monitored concentrations averaged over the latest 3 years. This simplified approach is recognized as being conservative by EPA and the City.

Receptor Placement

Discrete receptors (i.e., locations at which concentrations are calculated) were placed along the façade of the projected and potential development sites and on nearby buildings for the stationary source modeling analysis. The model receptor network consisted of operable windows, intake vents, and otherwise accessible locations such as terraces. Rows of receptors were placed in the model on the building at an elevation interval of approximately 10 feet.

Emission Estimates and Stack Parameters

Emission factors for the development sites' heating and hot water systems were developed using energy intensity data from the Air Quality Appendix of the *CEQR Technical Manual* and EPA's *Compilation of Air Pollutant Emission Factors (AP-42*)[1]. Annual fuel usage was determined using the proposed development size (square feet) and *CEQR Technical Manual* fuel consumption factors. Since design information is not available regarding the proposed sites energy systems, typical stack parameters for exhaust velocity, exit diameter, and temperature were determined based on expected heat and hot water systems ratings associated with the calculated fuel usage rates. These factors are more reasonable than the default assumptions in the *CEQR Technical Manual*, which are highly conservative and more appropriate for screening level analyses.

ADDITIONAL SOURCE ANALYSIS

The *CEQR Technical Manual* requires an analysis of commercial, institutional and residential developments and the height of the proposed developments is greater than the height of the existing stack. In addition, the *CEQR Technical Manual* requires an assessment of any actions that could result in the location of sensitive uses within 1,000 feet of a "large" emission source (examples of large emission sources provided in the *CEQR Technical Manual* include solid and medical waste incinerators, cogeneration plants, asphalt and concrete plants, or power plants). To assess the potential effects of these existing sources on the proposed project, a review of existing permitted facilities was conducted. Within the study area boundaries, sources permitted under DEC's Title V program and State Facility permit program were considered. New York City Department of Buildings (DOB) and DEP records were also reviewed.

Three existing schools were identified to have potential effects on the proposed project sites. There is a school located at Bathgate Avenue, the records show that it has a total installed

[1] EPA, Compilation of Air Pollutant Emission Factors AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources, http://www.epa.gov/ttn/chief/ap42

boiler capacity of less than 20 MMBtu/hr. The 20MMBtu/hr is the threshold for analysis. Therefore, no potential for significant adverse air quality impact on the project sites is anticipated. The school located at 2502 Lorillard Place has a total boiler capacity of approximately 25 MMBtu/hr with a stack height of 115 feet according to its DEP permit. Since no projected or potential development sites of similar or greater height, fall within 400 feet distance (CEQR Manual screening threshold) of the school, no potential for significant adverse air quality impact on the project sites is anticipated. No information on boiler capacity on the school located at 500 East Fordham Road was available. However, according to information obtained from the NYCityMap, the existing school has a total floor area of 101,500 gsf. Using a floor area of 200,000 gross square feet (gsf) to determine the need for an analysis of existing sources within 400 feet of a development site, the existing school falls below the threshold. Therefore, no potential for significant adverse air quality impact on the proposed project sites is anticipated. In conclusion, an assessment of these sites is not required.

One large source was identified within the 1,000 foot study area: the Fordham University central boiler plant located at Thebaud Hall. Therefore, an analysis was performed using the EPA/AMS AERMOD dispersion model.[1] The AERMOD analysis was performed assuming the same options and assumptions as described previously for the analysis of the proposed project's emissions sources, except where indicated.

Emission Rates and Stack Parameters

For the Fordham University Boilers, $PM_{2.5}$, which is the critical pollutant of concern, was conservatively modeled based on Title V boiler permit information obtained from DEC, historical fuel usage (from Fordham University), and load and usage information from boiler engineers. All 3 boilers in the permit were modeled at 50% load, assuming that No. 2 fuel oil is used exclusively in the month of January, and natural gas is used for the rest of the year, which is considered the reasonable worst case scenario**.** This scenario was created in consultation with DEP. **Table 11-3** presents the emission rates and stack exhaust parameters used in the AERMOD analysis.

Receptor Locations

Discrete receptors (i.e., locations at which concentrations are calculated) were modeled along the facades of the proposed development sites to represent operable window locations, intake vents, and otherwise accessible locations such as terraces. Rows of receptors were placed at spaced intervals on the proposed buildings at multiple elevations.

[1] EPA, AERMOD: Description Of Model Formulation, 454/R-03-004, September 2004; and
EPA, User's Guide for the AMS/EPA Regulatory Model AERMOD, 454/B-03-001, September 2004 and Addendum December 2006.

Table 11-3
Fordham University Boiler Plant
Emission Rates and Stack Parameters

Parameter	No. 2 Fuel Oil	Natural Gas
Stack Height (ft) (1)	80	
Stack Diameter (ft) (1)	3	
Exhaust Velocity (m/s) (2)	5.957	5.646
Exhaust Temperature (°F)	300	
$PM_{2.5}$ Emission Rate (g/s) (2)	0.0575	0.0282

Notes:
(1) Based on Title V permit for the source.(2) The emission rate and stack velocity for the boilers are variable by month.

Background Concentrations

To estimate the maximum expected pollutant concentration at a given receptor, the predicted impact must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the model. Consistent with the form of the standard, for the 1-hour NO_2 averaging period, the 3-year average of the annual 98th percentile daily maximum 1-hour average concentration was used. $PM_{2.5}$ impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ interim guidance criteria. Therefore, a background concentration for $PM_{2.5}$ is not included.

$PM_{2.5}$ impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ interim guidance criteria. Therefore, a background concentration for $PM_{2.5}$ is not included.

INDUSTRIAL SOURCES

Pollutants emitted from the exhaust vents of existing permitted industrial facilities were examined to identify the potential for air quality impacts on the proposed action. All industrial air pollutant emissions sources within 400 feet of any projected or potential development site were considered for inclusion in the air quality impact analyses.

Information regarding the release of air pollutants from existing industrial sources was obtained from the DEP's Bureau of Environmental Compliance (BEC) and NYSDEC records. The DEP and NYSDEC air permit data provided was compiled into a database of source locations, air emission rates, and other data pertinent to determining source impacts. A comprehensive search was also performed to identify NYSDEC Title V permits and permits listed in the EPA Envirofacts database.[1]

A field survey was conducted on August 15, 2012 to determine the operating status of permitted industries and identify any potential industrial sites not included in the permit databases. The results of the field surveys were compared against DEP data sources.

No businesses were found to have a DEP certificate of operation within 400 of projected and potential development sites. One of the sources surveyed, Fordham University's McCauley Hall,

[1] EPA, Envirofacts Data Warehouse, http://oaspub.epa.gov/enviro/ef_home2.air, July 2010.

was determined to use hazardous chemicals in connection with science labs, which is considered an exempt activity under air permit regulations. Laboratories in which hazardous chemicals are used are equipped with fume hoods. Fume hoods are enclosures that are maintained under negative pressure and continuously vented to the outside. Their function is to protect staff from potentially harmful fumes. By providing a continuous exhaust from laboratory rooms, they also prevent any fumes released within the laboratory from escaping into other areas of the building, or through windows to the outside. These laboratories are operated in conformance with a safety plan, which provides procedures to be followed to minimize the frequency and effect of a chemical spill, and the measures to be taken in the event of an accidental spill. The plan is required under regulations administered by the Occupational Safety and Health Administration (29 CFR 1910.1450), Occupational Exposures in Laboratories. An analysis of the laboratories was conducted to determine potential for significant adverse air quality impacts on the proposed action.

Emissions from the fume hood exhaust system of McCauley Hall, in the event of an accidental chemical spill in one of the laboratories, were evaluated. Impacts were evaluated using information, procedures and methodologies contained in the *CEQR Technical Manual*. Maximum concentrations were compared to the short-term exposure levels (STELs) or to the ceiling levels recommended by the U.S. Occupational Safety and Health Administration (OSHA) for the chemicals examined.

A quantitative analysis employing mathematical modeling was performed to determine potential impacts of a chemical spill on nearby proposed developments. The analysis was performed using a set of conservative assumptions. The fume hood exhaust stack height was conservatively assumed to be 3 feet above the roof. An exhaust fan sufficient to maintain a minimum exit velocity of 1,500 feet per minute through a 12-inch diameter stack discharge was assumed, as was a 1.1 square meter lab spill area.

Table 11-4 shows the hazardous chemicals modeled. The vapor pressure shown for each chemical is a measure of the material's volatility—its tendency to evaporate, or to form fumes or vapors, which is a critical parameter in determining potential impacts from chemical spills. The exposure standards (OSHA permissible exposure limit [PEL], National Institute for Occupational Safety and Health [NIOSH], immediately dangerous to life or health [IDLH], and OSHA and/or NIOSH short-term exposure level [STEL] and ceiling values) are measures of the material's toxicity—more toxic substances have lower exposure standards.

Table 11-4
Hazardous Materials in the Laboratories

Chemical [CAS #]	Vapor Pressure mm Hg	PEL PPM	STEL PPM	IDLH PPM	Ceiling PPM
Hydrochloric Acid [7647-01-0]	170	5	5	-	5

Nitric Acid [7697-37-2]	48	2	4	25	-
Phosphoric Acid [7758-11-4]	0.03	1	3	1000	-
Sulfuric Acid [7784-24-9]	0.001	1	-	-	-

Notes:
PEL—Permissible Exposure Limit; Time Weighted Average (TWA) for up to a 10-hour workday during a 40-hour workweek.
STEL—Short-Term Exposure Limit is a 15-minute TWA exposure that should not be exceeded at any time during a workday.
IDLH—Immediately Dangerous to Life or Health.
Ceiling—Level set by NIOSH or OSHA not to be exceeded in any working exposure.
PPM = parts per million.
Where a hyphen (-) appears there is no recommended corresponding guideline value.

The dispersion of above listed hazardous chemicals from a spill within one of the laboratories of the existing McCauley Hall building was analyzed to assess the potential for exposure to the future residents of the nearby proposed developments to hazardous fumes in the event of an accident. Evaporation rates for volatile hazardous chemicals were estimated using the model developed by the Shell Development Company[1], as referenced in the *CEQR Technical Manual*. The Shell model, which was developed specifically to assess air quality impacts from chemical spills, calculates evaporation rates based on physical properties of the material, temperature and rate of air flow over the spill surface. Room temperature conditions (20° C) and an air-flow rate of 0.5 meters/second were assumed for calculating evaporation rates.

Table 11-5 shows the estimated emission rates used in the dispersion modeling analysis.

Table 11-5
Estimated Emission Rates of the Modeled Chemicals

Chemical	Evaporation Rate (gram/meter^2/sec)	Emission Rate(1) (gram/sec)
Hydrochloric Acid	0.45477	0.500245
Nitric Acid	0.26863	0.295495
Phosphoric Acid	0.00022	0.000239
Sulfuric Acid	0.00001	0.000008

Notes:
(1) Average emission rate.

[1] Fleischer, M.T., An Evaporation/Air Dispersion Model for Chemical Spills on Land, Shell Development Company, December 1980.

The analysis conservatively assumes that a chemical spill in a fume hood would extend to an area of 12 square feet (approximately 1.1 square meters). The emission rates were determined using the evaporation rates and assuming this maximum spill area. For modeling purposes, the emission rates shown in **Table 11-5** are calculated for a 15-minute time period.

DISPERSION MODELING

The analysis of potential impacts from the chemical spill was conducted assuming stack tip downwash, urban dispersion and surface roughness length, with and without building downwash, and with elimination of calms. The power law relationship was used to convert the calculated 1-hour average maximum concentrations to short-term 15-minute averages. The 15-minute average concentrations were then compared to the STELs or to the ceiling levels for the chemicals examined.

E. EXISTING CONDITIONS

Representative criteria pollutant concentrations measured in recent years at NYSDEC air quality monitoring stations nearest to the Rezoning Area are presented in **Table 11-6**. The values presented are consistent with the form of the NAAQS. For example, the 8-hour ozone concentration shown is the 3-year average of the 4th highest daily maximum 8-hour average concentrations. As shown in **Table 11-6**, the recently monitored levels did not exceed the NAAQS. It should be noted that these values are somewhat different from the background concentrations used in the stationary source and parking garage analyses, since these are the most recent reported monitored values, rather than more conservative values used for dispersion modeling. The concentrations presented in **Table 11-6** provide a comparison of the air quality in the Rezoning Area with the NAAQS, while background concentrations are obtained from several years of monitoring data, and represent a conservative estimate of the highest concentrations for future ambient conditions.

Table 11-6
Representative Monitored Ambient Air Quality Data

Pollutant	Location	Units	Averaging Period	Concentration	NAAQS
CO	Botanical Garden, Bronx	ppm	8-hour	1.9	9
			1-hour	3.0	35
SO_2	Botanical Garden, Bronx	$\mu g/m^3$	3-hour	102.6	1,300
			1-hour	133.5 [1]	196
PM_{10}	Botanical Garden, Bronx	$\mu g/m^3$	24-hour	37	150
$PM_{2.5}$	Botanical Garden, Bronx	$\mu g/m^3$	Annual	10.0	15
			24-hour	25	35
NO_2	Botanical Garden, Bronx	$\mu g/m^3$	Annual	39.2	100
			1-hour	122.3 [2]	188

Lead	Morrisania, Bronx	$\mu g/m^3$	3-month	0.008	0.15
Ozone	Botanical Garden, Bronx	ppm	8-hour	0.072	0.075

Notes:
(1) The 1-hour value is based on a three-year average (2009-2011) of the 99th percentile of daily maximum 1-hour average concentrations.
(2) The 1-hour value is based on a three-year average (2009-2011) of the 98th percentile of daily maximum 1-hour average concentrations.
Source: NYSDEC, New York State Ambient Air Quality Report (2009-2011).

F. THE FUTURE WITHOUT THE PROPOSED ACTION

Some of the development sites identified as part of the proposed action have a No Action development. Smaller as-of-right buildings would be constructed at these development sites, and would be shorter in height as compared with the developments analyzed for the proposed action. The proposed action would result in a greater amount of development and therefore the emissions from the heat and hot water systems associated with the proposed action would cumulatively be greater than the emissions from the heat and hot water systems assumed in the No-Action condition; however, under the No Action condition, the controls measures provided in the proposed (E) designations would not be implemented.

G. THE FUTURE WITH THE PROPOSED ACTION

MOBILE SOURCES

The CO levels from parking garage at Projected Development Site E were predicted using the methodology set forth in the *CEQR Technical Manual*. Based on the projected parking demand developed for the proposed action, the number of vehicles entering and exiting the garages would be greatest during the weekday PM (5 to 6) peak hour. Over the peak weekday 8-hours of garage usage, 11AM to 7 PM, an average of 4 vehicles per hour would enter the parking garage at Projected Development Site E, while an average of 10 vehicles per hour would exit.

The vent for each of the garages was modeled at a height of 10 feet above ground level, along Cambreleng Street, between East Fordham Road and East 189th Street. Pollutant levels were predicted at the height of the vents at a distance of 15 feet, accounting for the minimum vent to window distance requirements specified by the New York City Mechanical Code. Receptors (locations where CO levels were predicted) were also modeled along the Spring Street sidewalks.

The maximum predicted CO concentration from a single garage, with ambient background, and on-street traffic levels would be 4.3 ppm for the 1-hour period, and 2.4 ppm for the 8-hour period. The maximum 1- and 8-hour contributions from the parking garage alone would be 2.4 ppm and 0.76 ppm, respectively. These maximum predicted CO levels would be in compliance with the applicable CO NAAQS and the CO *de minimis* criteria. As these results show, the

parking garages at the projected and potential development sites would not result in any significant adverse air quality impacts based on the conservative assumptions described above regarding the locations of the garage exhaust vents. Therefore, as the mechanical designs and exhaust locations of the parking garages would comply with applicable codes, there would be no potential for significant adverse impacts on air quality.

STATIONARY SOURCES

HEAT AND HOT WATER SYSTEMS

Screening Analysis

The screening analysis was performed to evaluate whether potential air quality impacts from the heat and hot water systems associated with the projected and potential development sites could potentially impact other projected and potential development sites, or existing buildings.

A total of 11 projected and potential development sites (6 projected and 5 potential) that were analyzed using No. 2 fuel oil as the fuel source were found to have a potential significant adverse air quality impact based on the screening analysis. At three of these sites (Projected Development Sites A and D, and Potential Development Site 7) the screening analysis determined that no significant adverse impact would occur if the fuel was restricted to natural gas. Therefore, a refined analysis was determined to be necessary at 8 sites (Projected Development Sites B, G, H and I, and Potential Development Sites 2, 3, 5 and 6).

Refined Dispersion Modeling Analysis

As indicated above, 8 projected and potential development sites (4 projected and 4 potential) required a refined modeling analysis to determine the potential for air quality impacts. The results of the refined modeling analysis determined the following:

- One of the 8 sites analyzed using refined dispersion modeling passed the refined analysis for fuel oil; therefore, no restrictions are required for this site.
- If the fuel type is restricted to natural gas only, no significant adverse impacts are predicted at 5 of the sites.
- If the fuel type is restricted to natural gas only, minimum distances are increased from the most conservative distance (building line to building line, no significant adverse impacts are predicted at one of the sites.
- If the fuel type is restricted to natural gas only and the height of the exhaust stack is increased, no significant adverse impacts are predicted at one of the sites.

The results of the refined air quality analysis determined that maximum concentrations of NO_2 would be less than the annual and 1-hour NAAQS for all sites for which a refined modeling analysis was performed. The air quality modeling analysis also determined the highest predicted increase in $PM_{2.5}$ concentrations. The maximum projected $PM_{2.5}$ increments from the proposed

action would be less than the applicable interim guidance criteria of 0.3 μg/m^3 on an annual basis and 2 μg/m^3 on a 24-hour average basis.

Overall, to preclude the potential for significant adverse air quality impacts on other projected and potential development sites, or existing buildings, from the heat and hot water emissions, an (E) designation would be assigned as part of the proposed action for 11 projected and potential sites (6 projected and 5 potential development sites). These designations would specify the various restrictions, such as type of fuel to be used, the distance that the vent stack on the building roof must be from its lot line(s), and/or the increase of the exhaust stack height. The text of the proposed (E) designations is discussed later in this section, under *Proposed (E) Designation Requirements*.

Additional Source Analysis

The air quality modeling analysis determined the highest predicted increase in 24-hour average and annual average $PM_{2.5}$ concentrations from Fordham University central boiler plant on development sites with the proposed action. As shown in **Table 11-7**, the maximum 24-hour incremental impacts at any discrete receptor location would be less than the applicable interim guidance criterion of 5 μg/m^3. On an annual basis, the projected $PM_{2.5}$ impacts would be less than the applicable interim guidance criterion of 0.3 μg/m^3 for local impacts.

Table 11-7
Future Maximum Modeled $PM_{2.5}$ Concentrations from the Fordham University Central Plant (in μg/m^3)

Pollutant	Averaging Period	Maximum Concentration	Interim Guidance Threshold
$PM_{2.5}$	24-Hour	4.10	5/2[(1)]
	Annual (Discrete)	0.24	0.3

Note:
[(1)] 24-hour $PM_{2.5}$ interim guidance criterion, > 2 μg/m^3 (5 μg/m^3 not-to-exceed value), depending on the magnitude, frequency, duration, location, and size of the area of the predicted concentrations.

The 24-hour average $PM_{2.5}$ concentration increments with the proposed project were compared to the 24-hour average interim guidance criterion of 2 μg/m^3 for discrete receptor locations (see Section D., *Air Quality Standards, Regulations Benchmarks* for a description of the City's $PM_{2.5}$ interim guidance criteria). The assessment examined the magnitude, duration, frequency, and extent of the increments at locations where exposure above the 2 μg/m^3 threshold averaged over a 24-hour period could occur.

Projected Development Site A - The maximum 24-hour average incremental $PM_{2.5}$ concentration from Fordham University central boiler plant on Projected Development Site A, 4.10 μg/m^3 was predicted on the north facade of that building at a height of 95 feet. At the location where the maximum 24-hour average concentration was predicted, the maximum annual frequency of

concentrations greater than 2 μg/m^3 was six timesfor the worst year analyzed. At the same elevation, on the north, south, east and west façades of the building, there were 30 other locations with incremental concentrations exceeding 2 μg/m^3. At these locations, 24-hour average incremental concentrations on the building were predicted to exceed 2 μg/m^3 at a maximum frequency of once to eight times for the worst year analyzed. One other floor on this building was found to have locations with incremental concentrations exceeding 2 μg/m^3, on the north, east and west façades at a height of 85 feet. At these locations, 24-hour average incremental concentrations on the building were predicted to exceed 2 μg/m^3 at a maximum frequency of twice for the worst year analyzed

Projected Development Site B - The maximum 24-hour average incremental $PM_{2.5}$ concentration from Fordham University central boiler plant on Projected Development Site B, 3.50 μg/m^3, was predicted on the west facade of that building at a height of 95 feet. At the location where the maximum 24-hour average concentration was predicted, the maximum annual frequency of concentrations greater than 2 μg/m^3 was two times per year, for the worst year analyzed. At the same elevation, on the north, east and west façades of the building, there were nine locations with incremental concentrations exceeding 2 μg/m^3. At these locations, 24-hour average incremental concentrations on the building were predicted to exceed 2 μg/m^3 at a maximum frequency ranging from one to two times per year for the worst year analyzed. One other floor on this building was found to have locations with incremental concentrations exceeding 2 μg/m^3, on the north, east and west façades at a height of 85 feet. At these locations, 24-hour average incremental concentrations on the building were predicted to exceed 2 μg/m^3 at a maximum frequency of once per year.

Potential Development Site 2 - The maximum 24-hour average incremental $PM_{2.5}$ concentration from Fordham University central boiler plant on Potential Development Site 2, 2.10 μg/m^3, was predicted on the north facade of that building at a height of 95 feet. At the location where the maximum 24-hour average concentration was predicted, the maximum annual frequency of concentrations greater than 2 μg/m^3 was only once for the worst year analyzed

Potential Development Site 3 - The maximum 24-hour average incremental $PM_{2.5}$ concentration from Fordham University central boiler plant on Potential Development Site 3, 2.97 μg/m^3, was predicted on the west facade of that building at a height of 95 feet. At the location where the maximum 24-hour average concentration was predicted, the maximum annual frequency of concentrations greater than 2 μg/m^3 was only once for the worst year analyzed. At the same elevation, on the north, east and west façades of the building, there were 14 locations with incremental concentrations exceeding 2 μg/m^3. At these locations, 24-hour average incremental concentrations on the building were predicted to exceed 2 μg/m^3 at a maximum frequency of once for the worst year analyzed. One other floor on this building was found to have locations with incremental concentrations exceeding 2 μg/m^3, on the north and west façades at a height of 85 feet. At these locations, 24-hour average incremental concentrations

on the building were predicted to exceed 2 μg/m^3 at a maximum frequency of one for the worst year analyzed.

Overall, the magnitude, extent, and frequency of 24-hour average $PM_{2.5}$ concentrations above 2.0 μg/m^3 are low. Therefore, it would not result in a significant impact based on the City's interim guidance criteria.

Proposed (E) Designation Requirements

At affected projected and potential development sites, the proposed (E) designation would specify the type of fuel to be used, the distance that the vent stack on the building roof must be from its lot line(s) and/or the increase of the exhaust stack height. The text of the proposed air quality (E) designations is set forth as follows.

Block 3273, Lot 301 (Projected Development Site A)

Any new residential and/or commercial development on Block 3273, Lot 301 must ensure that the heating system boilers fire only natural gas.

Block 3273, Lot 261 (Projected Development Site B)

Any new residential and/or commercial development on Block 3273, Lot 261 must ensure that the heating system boilers fire only natural gas.

Block 3059, Lots 32, 36 (Projected Development Site D)

Any new residential and/or commercial development on Block 3059, Lots 32, 36 must ensure that the heating system boilers fire only natural gas.

Block 3115, Lot 25 (Projected Development Site G)

Any new residential and/or commercial development on Block 3115, Lot 25 must ensure that the heating system boilers fire only natural gas and that the stack(s) shall be at least ~~103~~ 110 feet above grade.

Block 3115, Lot 28 (Projected Development Site H)

Any new residential and/or commercial development on Block 3115, Lot 28 must ensure that the heating system boilers fire only natural gas and that the stack(s) shall be at least 110 feet above grade and at least 20 feet away from the lot line facing East Fordham Road.

Block 3273, Lot 265 (Potential Development Site 2)

Any new residential and/or commercial development on Block 3273, Lot 265 must ensure that the heating system boilers fire only natural gas.

Block 3273, Lot 257 (Potential Development Site 3)

Any new residential and/or commercial development on Block 3273, Lot 257 must ensure that the heating system boilers fire only natural gas and that the stack(s) shall be at least 110 feet above grade.

Block 3067, Lot 52 (Potential Development Site 5)

Any new residential and/or commercial development on Block 3067, Lot 52 must ensure that the heating system boilers fire only natural gas and that the stack(s) shall be at least 105 feet above grade.

Block 3067, Lot 54 (Potential Development Site 6)

Any new residential and/or commercial development on Block 3067, Lot 54 must ensure that the heating system boilers fire only natural gas and that the stack(s) shall be at least 105 feet above grade.

Block 3078, Lots 14, 16 (Potential Development Site 7)

Any new residential and/or commercial development on Block 3078, Lots 14, 16 must ensure that the heating system boilers fire only natural gas.

With these restrictions in place, no significant adverse air quality impacts are predicted from the proposed action's heating and hot water systems.

INDUSTRIAL SOURCE ANALYSIS

The results of the analysis of emissions from the existing McCauley Hall fume hood exhaust system are shown below in Table 11-8. The maximum concentration at elevated receptors downwind of the fume hood exhausts was estimated using the methodology previously described, and was determined to be well below the STEL levels. As shown, the maximum concentrations found at the receptor of highest impact would be lower than the corresponding impact thresholds. Therefore, there would be no significant impact on air quality from potential spills in the school laboratory hoods.

Table 11-8
Maximum Predicted Concentration (ppm)

Chemical	STEL	15-Minute Average
Hydrochloric Acid	5	1.56
Nitric Acid	2	0.53
Phosphoric Acid	1	0.0003
Sulfuric Acid	1	0.00001

The results of the chemical spill analysis demonstrate that there would be no significant adverse impacts from the exhaust system of the laboratories on the proposed project.

Therefore, no significant adverse air quality impacts from industrial sources on the proposed action are anticipated.

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ATTACHMENT 12 – NOISE

INTRODUCTION

This chapter assesses the potential for the Proposed Action to result in significant adverse noise impacts. The analysis determines whether the Proposed Action would result in increases in noise levels that could have a significant adverse impact on nearby sensitive receptors and also considers the effect of existing noise levels at the projected and potential development sites on the proposed uses.

The Proposed Action would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of noise passenger car equivalents [Noise PCEs] which would be necessary to cause a 3 dBA increase in noise levels, see APPENDIX 3). However, ambient noise levels adjacent to the projected and potential development sites also must be examined to address any noise attenuation requirements, as found in the *City Environmental Quality Review (CEQR) Technical Manual*, for interior noise levels. The building attenuation analysis also accounts for changes in noise due to increases in traffic in the future with the Proposed Action. This assessment is presented below.

PRINCIPAL CONCLUSIONS

The noise analysis has been updated to be consistent with the updated transportation analyses provided in this FEIS. The analysis finds that the Proposed Action would not result in any significant adverse noise impacts due to operations of the future development on projected and potential development and enlargement sites.

A detailed mobile source noise analysis was not required since the Proposed Action would not generate sufficient traffic to have the potential to cause a significant adverse noise impact.

The building attenuation analysis concludes that in order to meet *CEQR Technical Manual* interior noise level requirements, up to **31** dBA of building attenuation would be required for the Applicant's projected and potential development sites.

ACOUSTICAL FUNDAMENTALS

Sound is a fluctuation in air pressure. Sound pressure levels 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 1 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 12.1**, 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.

Table 12.1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	80–90
Busy city street, loud shout	80
Busy traffic intersection	70–80
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas, or residential areas close to industry	50–60
Background noise in an office	50
Suburban areas with medium-density transportation	40–50
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Sources: Cowan, James P. *Handbook of Environmental Acoustics,* Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

In considering these values, it is important to note that the dBA scale is logarithmic, meaning that each increase of 10 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 3 dBA. At 5 dBA, the change will be readily noticeable.

NOISE DESCRIPTORS USED IN IMPACT ASSESSMENT

Because the sound pressure level 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., 1 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. 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 1, 10, 50, 90 and x percent of the time, respectively.

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 10 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, the L_{10} descriptor has been selected as the noise descriptor to be used in this noise impact evaluation. The 1-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* noise exposure guidelines for city environmental impact review classification.

NOISE STANDARDS AND CRITERIA

NEW YORK CEQR TECHNICAL NOISE STANDARDS

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise level (see **Table 12.2**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for retail or office uses, and are determined based on exterior $L_{10(1)}$ noise levels.

EXISTING NOISE LEVELS

SELECTION OF NOISE RECEPTOR LOCATIONS

A total of 8 receptor locations within the Rezoning Area were selected for evaluation of noise attenuation requirements. These locations are detailed below and shown in **Figure 12.1.**

Table 12.2
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level With Proposed Actions	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[A]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)$[B] dB(A)

Notes:
[A] The above composite window-wall attenuation values are for residential dwellings. Retail and office spaces would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
[B] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.
Source: New York City Department of Environmental Protection.

Noise receptor locations were selected based on the following criteria: (1) locations near projected and potential development sites; and (2) to provide comprehensive geographic coverage throughout the study area to get an accurate picture of the ambient noise environment.

1. Site 1 is proposed to be located on East 191st Street between Hoffman Street and Hughes Avenue. This site represents conditions along East 191st Street between Bathgate Avenue and Hughes Avenue.
2. Site 2 is proposed to be located on Hughes Avenue between East 191st Street and East Fordham Road. This site represents conditions along East Fordham Road near Hughes Avenue.
3. Site 3 is proposed to be located at the northeast corner of East Fordham Road and Bathgate Avenue. This site represents conditions along East Fordham Road west of Hughes Avenue where East Fordham Road operates as a four lane two-way road.
4. Site 4 is proposed to be located on Hughes Avenue between East Fordham Road and East 189th Street. This site represents conditions along Bathgate Avenue, Hoffman Street, Hughes Avenue, and Cambreleng Avenue between East Fordham Road and East 189th Street that are close enough to East Fordham Road to experience noise from East Fordham Road traffic.
5. Site 5 is proposed to be located on Crotona Avenue between East Fordham Road and Beaumont Avenue. This site represents conditions along Crotona Avenue.
6. Site 6 is proposed to be located on Belmont Avenue between East Fordham Road and East 189th Street. This site represents conditions along Lorillard Place, Arthur Avenue, and Belmont Avenue between East Fordham Road and East 189th Street that are close enough to East Fordham Road to experience noise from East Fordham Road traffic.

7. Site 7 is proposed to be located on Arthur Avenue between East 189th Street and East 188th Street. This site represents conditions along Arthur Avenue between East 189th Street and East 188th Street.

8. Site 8 is proposed to be located at the southeast corner of East Fordham Road and Crotona Avenue. This site represents conditions along East Fordham Road between Hughes Avenue and Southern Boulevard where East Fordham Road has one northernmost west-bound late at grade, two west-bound lanes and one east-bound late below grade in the center, and two southernmost east-bound lanes at grade.

NOISE MONITORING

At each receptor site, existing noise levels were determined by field measurements. Noise monitoring was performed between October 23, 2012 and October 25, 2012, and on January 22, 2013. At all sites, 20-minute spot measurements were taken. All measurements were performed during the weekday peak periods—AM (7:30 to 9:30 AM), midday (MD) (12:00 to 2:00 PM), and PM (4:30 to 6:30 PM).

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Sound Level Meter (SLM) Type 2260, a Brüel & Kjær ½-inch microphone Type 4189, and a Brüel & Kjær Sound Level Calibrator Type 4231. The Brüel & Kjær SLM is Type 1 instruments according to ANSI Standard S1.4-1983 (R2006). The SLM has a laboratory calibration date within the past one year at the time of use. The microphone was 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 SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. The data were digitally recorded by the SLM 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}. 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

The results of the measurements of existing noise levels are summarized in **Table 12.3**. Traffic was the dominant noise source for all receptor sites. Noise levels are moderate to relatively high and reflect the level of vehicular activity present on the adjacent roadways.

Table 12.3
Existing Noise Levels (in dBA)

Receptor #	Measurement Location	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	East 191st Street between Hoffman Street and Hughes Avenue	AM	59.6	70.5	63.7	55.2	51.1
		MD	57.3	65.6	57.4	52.3	50.2
		PM	58.4	69.2	60.5	52.5	50.2
2	Hughes Avenue between East 191st Street and East Fordham Road	AM	69.3	74.1	73.1	65.2	59.2
		MD	64.3	72.6	67.1	62.2	57.6
		PM	62.7	72.1	64.9	60.4	57.0
3	East Fordham Road and Bathgate Avenue	AM	68.7	75.7	71.7	66.8	62.4
		MD	67.4	74.2	70.3	66.3	60.6
		PM	67.4	75.9	70.6	64.6	60.1
4	Hughes Avenue between East Fordham Road and East 189th Street	AM	66.1	73.9	68.6	64.6	60.0
		MD	67.2	76.3	68.8	54.6	60.6
		PM	65.6	75.3	67.8	62.5	59.2
5	Crotona Avenue between East Fordham Road and Beaumont Avenue	AM	66.1	75.7	69.1	63.0	57.7
		MD	65.4	74.8	68.2	62.8	57.9
		PM	68.8	78.0	72.5	65.4	60.7
6	Belmont Avenue between East Fordham Road and East 189th Street	AM	62.4	68.8	65.1	61.2	56.2
		MD	62.2	71.3	64.2	59.7	56.3
		PM	63.8	72.3	64.9	60.6	57.6
7	Arthur Avenue between East 189th Street and East 188th Street	AM	66.8	74.8	70.7	63.7	54.0
		MD	62.2	71.8	65.2	58.5	52.5
		PM	59.7	67.5	63.6	56.8	51.7
8	East Fordham Road and Crotona Avenue	AM	69.6	79.3	73.1	66.3	62.5
		MD	69.4	77.4	71.9	66.3	62.6
		PM	72.4	81.4	75.5	69.5	64.8

Note: Field measurements were performed by AKRF, Inc. between October 23, and October 25, 2012, and on January 22, 2013.

In terms of *CEQR Technical Manual* criteria, receptor site 1 is in the "acceptable" category, receptor sites 4 and 6 are in the "marginally acceptable" category, and receptor sites 2, 3, 5, 7, and 8 are in the "marginally unacceptable" category.

NOISE ATTENUATION MEASURES

The *CEQR Technical Manual* has set noise attenuation requirements for buildings based on exterior noise levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for retail and office uses, and are determined based on exterior $L_{10(1)}$ noise levels.

Table 12.4 shows the minimum window/wall attenuation necessary to meet *CEQR Technical Manual* requirements for internal noise levels at each of the noise measurement locations. The build $L_{10(1)}$ noise levels were determined by adjusting the existing noise measurements to account for future increases in traffic with the Proposed Project based on the Noise PCE screening analysis results. See APPENDIX 3 for details.

Table 12.4
Required Attenuation at Noise Measurement Locations (in dBA)

Receptor #	Location	Highest Build $L_{10(1)}$ Value	Minimum Required Attenuation
1	East 191st Street between Hoffman Street and Hughes Avenue	64.0	N/A[1]
2	Hughes Avenue between East 191st Street and East Fordham Road	73.5	31
3	East Fordham Road and Bathgate Avenue	72.7	28
4	Hughes Avenue between East Fordham Road and East 189th Street	68.9	N/A[1]
5	Crotona Avenue between East Fordham Road and Beaumont Avenue	72.7	28
6	Belmont Avenue between East Fordham Road and East 189th Street	67.9	N/A[1]
7	Arthur Avenue between East 189th Street and East 188th Street	70.7	28
8	East Fordham Road and Crotona Avenue	75.7	31

Note:
Attenuation values are shown for residential uses; retail and office uses would be 5 dBA less.
(1) "NA" indicates that the highest calculated L_{10} is below 70 dBA. The *CEQR Technical Manual* does not specify minimum attenuation guidance for exterior L_{10} values below this level.
(2)Attenuation requirements at these locations are adjusted for future increases in traffic with the proposed project (see **APPENDIX 3)**. At all other locations future increases in traffic would be insubstantial.

Based on the values shown in **Table 12.4**, required attenuation levels were determined for all projected and potential development and enlargement sites. These values are shown in **Table 12.5**.

Table 12.5
Required Attenuation at Development Sites (in dBA)

Site Descriptor	Address	Block	Lots	Representative Receptor Site	Minimum Required Attenuation[4]
Projected Site A	545 East Fordham Road	3273	301	3	28
Projected Site B	591 East Fordham Road	3273	261	3	28
Projected Site C	2533-2541 Cambreleng	3273	203-207	2	31
Projected Site D	528-540 East Fordham Road	3059	32, 36	3	28
Projected Site E	650-668 East Fordham Road	3091	17, 20, 22, 24, 26	8	31
Projected Site F	711 East Fordham Road	3091	87	5	28
Projected Site G	2500 Crotona Avenue	3115	25	5	28
Projected Site H	730 East Fordham Road	3115	28	8	31
Projected Site I	2365 Arthur Avenue	3066	53, 54	7	28
Potential Site 1	561 East Fordham Road	3273	293	3	28
Potential Site 2	585 East Fordham Road	3273	265	3	28
Potential Site 3	609 East Fordham Road	3273	257	3	28
Potential Site 4	619 East Fordham Road	3273	252	2	31
Potential Site 5	580 East Fordham Road	3067	52	3	28
Potential Site 6	588 East Fordham Road	3067	54	3	28
Potential Site 7	602-608 East Fordham Road	3078	14, 16	3	28

The required attenuation levels would be mandated by (E) designations on all affected development and enlargement sites specifying the appropriate amount of window/wall attenuation. There are two levels of required noise attenuation depending upon the ambient noise levels, 28 dBA and 31 dBA. The text of the (E) designation for sites requiring 28 dBA would be as follows:

In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed window condition with a minimum of 28 dB(A) window/wall attenuation in all façades in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed window condition, an alternate means of ventilation that brings outside air into the building without degrading the acoustical performance of the building must also be provided. Alternate means of ventilation include, but are not limited to, central air conditioning. The specific attenuation requirements to be implemented for all facades are provided in the East Fordham Road EAS, Table 12.5 (CEQR No. 13DCP107X), May 2013.

For sites requiring 31 dBA noise attenuation, the following (E) designation noise text would apply:

In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed window condition with a minimum of 31 dB(A) window/wall attenuation in all façades in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed window condition, an alternate means of ventilation that brings outside air into the building without degrading the acoustical performance of the building must also be provided. Alternate means of ventilation include, but are not limited to, central air conditioning. The specific attenuation requirements to be implemented for all facades are provided in the East Fordham Road EAS, Table 12.5 (CEQR No. 13DCP107X), May 2013.

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. Normally, a building façade is composed of the wall, glazing, and any vents or louvers for HVAC systems in various ratios of area. Buildings proposed to be located on the (E) designated sites would be designed to provide a composite Outdoor-Indoor Transmission Class (OITC) rating greater than or equal to the attenuation requirements listed in **Table 12.5**. The OITC classification is defined by ASTM International (ASTM E1332-10) 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.

By adhering to these design guidelines, the Proposed Action would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines.

Mechanical Equipment

It is assumed that the building mechanical systems (i.e., HVAC systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code, the New York City Department of Buildings Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. With the (E) Designation specified on the above properties, the proposed action would not result in any significant adverse noise impacts, and no further analysis is warranted.

ATTACHMENT 13 – 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, hazardous materials, construction, and natural resources. The *CEQR Technical Manual* indicates that for most proposed projects, a public health analysis is not necessary. Where no significant unmitigated adverse impact is found in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise, no public health analysis is warranted. If, however, an unmitigated significant adverse impact is identified, the lead agency may determine that a public health assessment is warranted for that specific technical area.

As determined in the revised EAS dated May 2013, the Proposed Action would not have the potential for unmitigated significant adverse impacts related to air quality, hazardous materials, construction, and natural resources. Therefore, the proposed action would not have the potential for significant adverse impacts related to public health and no further analysis is warranted.

ATTACHMENT 14 - NEIGHBORHOOD CHARACTER

As defined in the *CEQR Technical Manual,* neighborhood character is considered to be an amalgam of the various elements that give a neighborhood its distinct personality. These elements include land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise. The proposed action would be expected to integrate the rezoning area with the surrounding neighborhoods by facilitating changes in land use patterns, as new residential development, in particular, would be introduced to the rezoning area, which is predominately commercial and auto-related in nature. Development facilitated by the proposed action would bring new activity, increases in traffic, and increases in the built density of the area.

As determined in the revised EAS dated May 2013, the Proposed Action would not have the potential to adversely impact land use, urban design and visual resources, historic resources, socioeconomic conditions, and noise. While there is the potential for significant traffic impacts, which will be studied as part of the EIS, these impacts are not be expected to alter neighborhood character. Since the proposed action would not have the potential to combine impacts within these technical areas, the proposed action would not have the potential for significant adverse impacts related to neighborhood character and no further analysis is warranted.

APPENDIX 1

TRANSPORTATION PLANNING FACTORS

TECHNICAL MEMORANDUM

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Draft Memorandum

To: Glen Price, III (NYCDCP)

From: Cornelius Armentrout, Lee Kim, and Adnan Pasha, P.E.

Date: March 14, 2013

Re: East Fordham Road Rezoning — Travel Demand Factors

cc: Robert White (AKRF)

A. INTRODUCTION

This memorandum details the trip generation assumptions and travel demand estimates for the proposed action which involves rezoning along East Fordham Road in the Bronx. The proposed rezoning would facilitate the development of new residential and commercial uses by replacing the existing C8-1 and R6 zoning districts (with C2-3 and C2-4 overlays) with a proposed C4-5D district and a R6B contextual district, and mapping a C2-4 overlay along several blocks. It is expected that the proposed action would result in redevelopment of 9 projected development sites that would include new residential units, commercial retail space, office space, and community facility space.

In the Future Without the Proposed Action, the projected development sites could be redeveloped As-of-Right (AOR) to include approximately 538 gross-square feet (gsf) of commercial office space, approximately 84,057 gsf of local retail space, approximately 20,000 gsf of destination retail space, approximately 17,322 gsf of medical office space, and approximately 68,857 gsf of Fordham University science classroom space. The proposed rezoning would increase residential use by approximately 352 dwelling units, office use by approximately 56,434 gsf, commercial use by approximately 119,000 gsf, and community facility use by approximately 32,168 gsf. Overall, in the future with the proposed action, the projected development sites would be redeveloped to include 352 residential units, approximately 56,972 gsf of office space, approximately 115,590 gsf of local retail space, approximately 56,101 gsf of destination retail space, a 40,000 gsf supermarket, an approximately 11,318 gsf restaurant, approximately 49,940 gsf of medical office use, and approximately 62,194 gsf of university classroom space. **Table 1** provides a comparison of the future without and with the proposed action.

As part of the transportation analysis for the proposed rezoning, as an initial step, travel demand factors were identified for each of the development components discussed above (see **Table 2**).

Table 1
Comparison of the Future Without and With the Proposed Action

Development Components	Future Without the Proposed Action (AOR Development)	Future With the Proposed Action	Incremental Difference
Residential (dwelling units)	--	352	352
Office (gsf)	538	56,972	56,434
Local Retail (gsf)	84,057	115,590	31,533
Destination Retail (gsf)	20,000	56,101	36,101
FRESH Market (gsf)	--	40,000	40,000
Restaurant (gsf)	--	11,318	11,318
Medical Office (gsf)	17,322	49,490	32,168
Fordham University Classroom (gsf)	68,857	62,194	-6,663

B. ANALYSIS FRAMEWORK

The *2012 CEQR Technical Manual* describes a two-tier screening procedure to assess the travel demand characteristics of a project. The preliminary assessment begins with a trip generation analysis (Level-1) to estimate the volume of person and vehicle trips attributable to a project. Based on CEQR guidelines, if a project 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 (Level-2) are performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that a project 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 pedestrian element, then further quantified analyses are warranted to assess the potential for significant adverse impacts.

In accordance with the CEQR criteria discussed above, a transportation screening assessment was prepared to identify the needs for detailed analysis of potential project-related impacts. This assessment is discussed in detail in the proceeding section.

C. TRAVEL DEMAND FACTORS

The transportation screening assessment begins with the identification of travel demand factors for each of the proposed development components for the critical peak periods. These periods—including the weekday AM, weekday midday, and weekday PM peak hours—were selected based on the proposed mix of uses and their typical travel characteristics.

The travel demand factors used in estimating the trip generation for each of the proposed development components were obtained from the *2012 CEQR Technical Manual*, the *2011 Webster Avenue Rezoning FEIS* and the *2012 West Harlem Rezoning FEIS.* Furthermore, where applicable, in-out distributions, modal splits, and vehicle occupancies were obtained from the 2007-2011 American Community Survey (ACS) and 2000 U.S. Census databases.

Table 2
Travel Demand Factors

Use	Residential			Local Retail			Destination Retail			Fresh Market			Restaurant			Community Facility(Medical Office) Staff			Community Facility(Medical Office) Visitors			Community Facility (Science Classroom)			Office		
Daily Person Trip Generation Rate	(1) Weekday 8.075 Trips / Unit			(1) Weekday 205 Trips / KSF			(1) Weekday 78.2 Trips / KSF			(2) Weekday 205 Trips / KSF			(2) Weekday 173.0 Trips / KSF			(2) Weekday 10.0 Trips / KSF			(2) Weekday 33.6 Trips / KSF			(1) Weekday 26.6 Trips / KSF			(1) Weekday 18.0 Trips / KSF		
Trip Linkage	0%			25%			25%			25%			25%			0%			0%			0%			0%		
Net Daily Person trip Generation Rate	Weekday 8.1 Trips / Unit			Weekday 153.8 Trips / KSF			Weekday 58.7 Trips / KSF			Weekday 153.8 Trips / KSF			Weekday 129.8 Trips / KSF			Weekday 10.0 Trips / KSF			Weekday 33.6 Trips / KSF			Weekday 26.6 Trips / KSF			Weekday 18.0 Trips / KSF		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Temporal	(1)			(1)			(1)			(2)			(2)			(2)			(2)			(1,6)			(1)		
	10%	5%	11%	3%	19%	10%	3%	9%	9%	3.1%	12.0%	9.6%	1.0%	17.2%	7.7%	24.0%	17.0%	24.0%	6.0%	9.0%	5.0%	16.0%	10.7%	26.0%	12%	15%	14%
Direction	(2)			(2)			(4)			(2)			(2)			(2)			(2)			(6)			(2)		
In	15%	50%	70%	50%	50%	50%	51.8%	51.8%	51.8%	45%	46%	47%	94%	65%	65%	100%	50%	0%	92%	50%	31%	100%	52%	66%	96%	39%	5%
Out	85%	50%	30%	50%	50%	50%	48.2%	48.2%	48.2%	55%	54%	53%	6%	35%	35%	0%	50%	100%	8%	50%	69%	0%	48%	34%	4%	61%	95%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(3)			(2)			(5)			(2)			(2)			(5)			(2)			(6)			(5)		
Auto	18.0%	18.0%	18.0%	3%	3%	3%	51.0%	51.0%	51.0%	4%	4%	4%	40%	40%	40%	51.0%	51.0%	51.0%	25.0%	25.0%	25.0%	20.0%	20.0%	20.0%	51.0%	51.0%	51.0%
Taxi	3.0%	3.0%	3.0%	2%	2%	2%	2.0%	2.0%	2.0%	3%	3%	3%	5%	5%	5%	2.0%	2.0%	2.0%	15.0%	15.0%	15.0%	1.0%	1.0%	1.0%	2.0%	2.0%	2.0%
Subway	31.0%	31.0%	31.0%	5%	5%	5%	12.0%	12.0%	12.0%	5%	5%	5%	4%	4%	4%	12.0%	12.0%	12.0%	19.0%	19.0%	19.0%	24.0%	24.0%	24.0%	12.0%	12.0%	12.0%
Railroad	4.0%	4.0%	4.0%	0%	0%	0%	2.0%	2.0%	2.0%	0%	0%	0%	1%	1%	1%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%	0.0%	0.0%	2.0%	2.0%	2.0%
Bus	20.0%	20.0%	20.0%	10%	10%	10%	17.0%	17.0%	17.0%	5%	5%	5%	5%	5%	5%	17.0%	17.0%	17.0%	19.0%	19.0%	19.0%	47.0%	47.0%	47.0%	17.0%	17.0%	17.0%
Walk	24.0%	24.0%	24.0%	80%	80%	80%	16.0%	16.0%	16.0%	83%	83%	83%	45%	45%	45%	16.0%	16.0%	16.0%	20.0%	20.0%	20.0%	8.0%	8.0%	8.0%	16.0%	16.0%	16.0%
Work at Home	0.0%	0.0%	0.0%	0%	0%	0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(2)(3)			(2)			(2,4)			(2)			(2)			(2,5)			(2)			(6)			(2,5)		
Auto	1.19	1.19	1.19	1.60	1.60	1.60	2.20	2.20	2.20	1.65	1.65	1.65	2.20	2.20	2.20	1.14	1.14	1.14	1.65	1.65	1.65	1.10	1.10	1.10	1.14	1.14	1.14
Taxi	1.40	1.40	1.40	1.20	1.20	1.20	2.00	2.00	2.00	1.40	1.40	1.40	2.30	2.30	2.30	1.40	1.40	1.40	1.40	1.40	1.40	1.10	1.10	1.10	1.40	1.40	1.40
Daily Delivery Trip Generation Rate	(1) Weekday 0.06 Delivery Trips / Unit			(1) Weekday 0.35 Delivery Trips / KSF			(1) Weekday 0.35 Delivery Trips / KSF			(2) Weekday 0.35 Delivery Trips / KSF			(2) Weekday 3.60 Delivery Trips / KSF			(2) Weekday 0.45 Delivery Trips / KSF						(6) Weekday 0.03 Delivery Trips / KSF			(1) Weekday 0.35 Delivery Trips / KSF		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM				AM	MD	PM	AM	MD	PM
Delivery Temporal	(1)			(1)			(1)			(2)			(2)			(2)						(6)			(1)		
	12%	9%	2%	8%	11%	2%	8%	11%	2%	9.7%	7.8%	5.1%	6.0%	6.0%	1.0%	9.6%	1.0%	9.6%				9.7%	7.8%	7.8%	10%	11%	2%
Delivery Direction	(1)			(1)			(1)			(2)			(2)			(2)						(6)			(1)		
In	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%				50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%				50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				100%	100%	100%	100%	100%	100%

Source
(1) 2012 CEQR Technical Manual
(2) Webster Avenue Rezoning FEIS, 2011. Subway and rail modal splits for restaurant and community facility visitor uses adjusted to account for local travel characteristics. Destination retail auto occupancy same as restaurant, as per DCP guidance.
(3) ACS 2007-2011 5-year Journey To Work estimates for Bronx Tracts 387, 389, 393, and 397
(4) Gateway Center at Bronx Terminal Market FEIS (2005), with adjusted subway and rail modal splits to account for local travel characteristics.
(5) 2000 Census Reverse Journey To Work for Bronx Tracts 387, 389, 393, and 397. Destination retail uses the same modal splits as per DCP guidance
(6) Lower Concourse Rezoning and Related Actions EIS (2009)

RESIDENTIAL

For the residential component, the person and delivery trip generation rates and temporal distributions were obtained from the 2012 *CEQR Technical Manual.* The latest U.S. Census American Community Survey (ACS) 2007-2011 journey-to-work data were used to develop the modal splits for all peak periods based on the information for census tracts 387, 389, 393, and 397, as illustrated in **Figure 1**. Auto occupancy rates from the journey-to-work data were used for all analysis time periods. The vehicle occupancy for taxi trips was obtained from the *Webster Avenue Rezoning FEIS* (2011).

The directional distributions for the residential component were based on the information from *Webster Avenue Rezoning FEIS* (2011). The temporal and directional distributions for delivery trip for all peak periods were based on the information from the 2012 *CEQR Technical Manual*.



Figure 1: Study Area Census Tracts

OFFICE

For the office component, the person and delivery trip generation rates were obtained from the 2012 *CEQR Technical Manual.* The temporal and directional distributions for all peak periods were obtained from the 2012 *CEQR Technical Manual* and the *Webster Avenue Rezoning FEIS* (2011), respectively.

The modal splits and vehicle occupancies for the all peak periods were based on the reverse journey-to-work data from the 2000 U.S. Census database for the census tracts in the study area including tracts 387,

389, 393, and 397. The vehicle occupancy for taxi trips was obtained from the *Webster Avenue Rezoning FEIS* (2011).

DESTINATION RETAIL

The person and delivery trip generation rates and for the destination retail components were obtained from the 2012 *CEQR Technical Manual*. The temporal and directional distributions were obtained from the 2012 *CEQR Technical Manual* and *Gateway Center at Bronx Terminal Market FEIS* (2005), respectively. A 25-percent linked trip credit was also applied to the destination retail trip generation estimates.

The modal splits for the destination retail component were based on the reverse journey-to-work data from the 2000 U.S. Census database for the census tracts in the study area including tracts 387, 389, 393, and 397. The auto occupancy was assumed to be the same as that for the restaurant use, and was obtained from the *Webster Avenue Rezoning FEIS* (2011). The occupancy for taxi trips was also obtained from the *Webster Avenue Rezoning FEIS* (2011).

The temporal distributions for the delivery trips for all peak periods were obtained from the 2012 *CEQR Technical Manual*.

LOCAL RETAIL

The daily trip generation and delivery vehicle trip generation rates for the project's local neighborhood retail component were obtained from the 2012 *CEQR Technical Manual*. A 25-percent linked trip credit was applied to the local retail trip generation estimates. The modal splits and vehicle occupancies were obtained from the *Webster Avenue Rezoning FEIS* (2011).

The temporal and directional distributions for all peak periods were obtained from the 2012 *CEQR Technical Manual* and the *Webster Avenue Rezoning FEIS* (2011), respectively.

The temporal distributions for the delivery trips were obtained from the 2012 *CEQR Technical Manual.*

FRESH MARKET

The travel demand factors for the proposed FRESH market component were obtained from the *Webster Avenue Rezoning FEIS* (2011). Likewise local and destination retail components, a 25-percent linked trip credit were applied to the FRESH market trip generation estimates.

RESTAURANT

The travel demand factors for the proposed restaurant component were obtained from the *Webster Avenue Rezoning FEIS* (2011). A 25-percent linked trip credit was also applied to the restaurant trip generation estimates. .

COMMUNITY FACILITY (MEDICAL OFFICE USES)

Medical office staff modal splits were based on the reverse journey-to-work data from the 2000 U.S. Census database for tracts 387, 389, 393, and 397. All other travel demand factors for the project's community facility component were obtained from the *Webster Avenue Rezoning FEIS* (2011).

UNIVERSITY CLASSROOM

The person trip generation rates for the university classroom components were obtained from the 2012 *CEQR Technical Manual*. The temporal and directional distributions were obtained from the 2012 *CEQR Technical Manual* and *Lower Concourse Rezoning and Related Actions EIS* (2009).

Delivery trip rates, delivery temporal and directional distributions, modal splits, and vehicle occupancies were also obtained from the *Lower Concourse Rezoning and Related Actions EIS* (2009).

D. LEVEL-1 SCREENING

As per the criteria established in the 2012 *CEQR Technical Manual*, a quantified transportation analysis may be warranted if the proposed action is expected to result in 50 or more vehicle trips, 200 or more transit trips (200 or more peak hour transit riders at any given subway station or 50 or more peak hour bus trips on a particular route in one direction), and/or 200 or more pedestrian trips during a given peak hour.

THE FUTURE WITHOUT THE PROPOSED ACTION (AS-OF-RIGHT)

In the future without the proposed action, the projected development sites could be redeveloped As-of-Right (AOR) to include approximately 538 gross-square feet (gsf) of commercial office space, approximately 84,057 gsf of local retail space, approximately 20,000 gsf of destination retail space, approximately 17,322 gsf of medical office space, and approximately 68,857 gsf of Fordham University science classroom space.

As shown in **Table 3**, the AOR scenario would generate approximately 794, 2,841, and 1,945 person trips including 105, 196, and 202 subway trips, and 197, 371, and 383 bus trips during the weekday AM, midday, and PM peak hours, respectively. The AOR scenario would also result in approximately 125, 232, and 223 vehicle trips including 93, 128, and 159 auto trips, 28, 100, and 62 taxi trips, and 4, 4, and 2 delivery trips during the weekday AM, midday, and PM peak hours, respectively.

Table 3
Trip Generation Summary: As-of-Right Scenario

Peak Hour	AM			Midday			PM		
Person Trip	In	Out	Total	In	Out	Total	In	Out	Total
Auto	104	15	119	99	96	195	112	105	217
Taxi	13	5	18	31	31	62	19	19	38
Subway	93	12	105	99	97	196	116	86	202
Bus	174	23	197	188	183	371	223	160	383
Railroad	2	0	2	2	2	4	1	2	3
Walk	195	158	353	1,007	1,006	2,013	553	549	1,102
Total	**581**	**213**	**794**	**1,426**	**1,415**	**2,841**	**1,024**	**921**	**1,945**
Peak Hour	**AM**			**Midday**			**PM**		
Vehicle Trip	In	Out	Total	In	Out	Total	In	Out	Total
Auto	85	8	93	65	63	128	83	76	159
Taxi	14	14	28	50	50	100	31	31	62
Delivery	2	2	4	2	2	4	1	1	2
Total	**101**	**24**	**125**	**117**	**115**	**232**	**115**	**108**	**223**

THE FUTURE WITH THE PROPOSED ACTION

In the future with the proposed action, the projected development sites would be redeveloped to include 352 residential dwelling units, approximately 56,972 gsf of office space, approximately 115,590 gsf of local retail space, approximately 56,101 gsf of destination retail space, a 40,000 gsf supermarket, an approximately 11,318 gsf restaurant, approximately 49,490 gsf of medical office use, and approximately 62,194 gsf of university classroom use.

As shown in **Table 4**, the With-Action scenario would generate approximately 1,730, 5,374, and 3,866 person trips including 248, 395, and 405 subway trips, and 324, 620, and 591 bus trips during the weekday AM, midday, and PM peak hours, respectively. The With-Action scenario would also result in approximately 345, 601, and 540 vehicle trips including 255, 379, and 392 auto trips, 74, 208, and 142 taxi trips, and 16, 14, and 6 delivery trips during the weekday AM, midday, and PM peak hours, respectively.

Table 4
Trip Generation Summary: With-Action Scenario

Peak Hour	AM			Midday			PM		
Person Trip	In	Out	Total	In	Out	Total	In	Out	Total
Auto	247	85	332	310	293	603	252	318	570
Taxi	32	18	50	72	70	142	46	50	96
Subway	147	101	248	197	198	395	221	184	405
Bus	231	93	324	310	310	620	318	273	591
Railroad	9	11	20	11	11	22	13	13	26
Walk	387	369	756	1,787	1,805	3,592	1,080	1,098	2,178
Total	**1,053**	**677**	**1,730**	**2,687**	**2,687**	**5,374**	**1,930**	**1,936**	**3,866**
Peak Hour	**AM**			**Midday**			**PM**		
Vehicle Trip	In	Out	Total	In	Out	Total	In	Out	Total
Auto	196	59	255	190	189	379	164	228	392
Taxi	37	37	74	104	104	208	71	71	142
Delivery	8	8	16	7	7	14	3	3	6
Total	**241**	**104**	**345**	**301**	**300**	**601**	**238**	**302**	**540**

NET INCREMENTAL TRIPS

TRAFFIC

As shown in **Table 5**, the net difference in trips generated in the future without and with the proposed action would total 222, 369, and 318 vehicle trips during the weekday AM, midday, and PM peak hours, respectively. Since the net incremental vehicle trips would be greater than 50 during all three peak hours, a Level-2 screening assessment was conducted to determine the need for undertaking additional quantified analysis.

Table 5
Trip Generation Summary: Project Increments

Peak Hour	AM			Midday			PM		
Person Trip	In	Out	Total	In	Out	Total	In	Out	Total
Auto	144	70	214	211	196	407	139	214	353
Taxi	19	13	32	41	39	80	28	31	59
Subway	53	89	142	98	101	199	105	98	203
Bus	58	70	128	122	126	248	95	113	208
Railroad	8	10	18	9	9	18	12	11	23
Walk	192	210	402	780	799	1,579	528	549	1,077
Total	**474**	**462**	**936**	**1,261**	**1,270**	**2,531**	**907**	**1,016**	**1,923**
Peak Hour	**AM**			**Midday**			**PM**		
Vehicle Trip	In	Out	Total	In	Out	Total	In	Out	Total
Auto	111	51	162	125	126	251	81	153	234
Taxi	24	24	48	54	54	108	40	40	80
Delivery	6	6	12	5	5	10	2	2	4
Total	**141**	**81**	**222**	**184**	**185**	**369**	**123**	**195**	**318**

TRANSIT

As shown in **Table 5**, compared to the future without the proposed action, the proposed project would result in net increments of 142, 199, and 203 person trips by subway and 128, 248, and 208 person trips by bus during the weekday AM, midday, and PM peak hours, respectively. Since the project area is served by various transit options—including the No. 4, B and D subway lines at the two Fordham Road subway stations, the No.2 and No.5 subway service at the Pelham Parkway Station, and the Bx1, Bx2, Bx9, Bx12, Bx12-Select, Bx15, Bx17, Bx19, Bx22, Bx34, Bx41, and Bx55 bus routes—it is anticipated that no single subway station would experience trips in excess of CEQR recommended thresholds to undertake quantified transit analyses. However, since the subway stations are located approximately one-half mile to a mile from the rezoning area, a majority of the subway riders would be expected to take the Bx12 or Bx12-Select Bus Service (SBS) to and from the subway stations. The Bx12-SBS makes limited stops; within the rezoning area, the only Bx12-SBS stops (eastbound and westbound) are at East Fordham

Road and Southern Boulevard. However, it is anticipated that the Bx12, which serves local stops along East Fordham Road, would experience more than 50 riders per direction and, therefore a quantitative bus line-haul analysis for the Bx12 route would be conducted for the weekday AM and PM peak hours.

PEDESTRIANS

All the person trips generated by the proposed action would traverse the pedestrian elements surrounding the projected development sites. A Level-2 screening assessment was conducted to select pedestrian elements (including corner reservoirs, sidewalks and crosswalks) which would experience 200 or more peak hour pedestrian trips during the critical peak periods for quantified analysis.

E. LEVEL-2 SCREENING

For the Level-2 screening assessment, projected trips were assigned to specific intersections, transit facilities, and pedestrian elements in the study area. Further quantified analyses to assess the potential impacts of the Proposed Action on the transportation system would be warranted if the trip assignments were to identify intersections incurring 50 or more peak hour vehicles trips or pedestrian elements incurring 200 or more peak hour pedestrian trips. Similarly, for transit elements, the projected trips were considered in determining the likely transit facilities requiring detailed analysis.

TRAFFIC

As shown above, incremental vehicle trips resulting from the Proposed Action would exceed the *CEQR* Level-1 screening threshold during all peak hours. These vehicle trips were assigned to area intersections based on the most likely travel routes to and from the projected development sites, prevailing travel patterns, commuter origin-destination summaries from the census data, the configuration of the roadway network, and the anticipated locations of site access and egress. For a conservative analysis, all auto trips were assigned directly to the projected development sites. Taxi trips were assigned to the block faces bordering the projected development sites. All delivery trips were assigned to the projected development sites via the New York City Department of Transportation (DOT) designated truck routes.

Traffic assignments for autos, taxis, and deliveries for individual components are discussed as follows:

Autos

Residential

Residential auto assignments were based on the journey-to-work origin-destination information from the 2000 U.S. Census database. Based on this information, majority of residential trips would occur within the Bronx (approximately 70 percent) with the remaining trips being made to Brooklyn and Manhattan.

Overall, the vehicle trips generated by the residential component were distributed to the study area streets/roadways in the following manner: approximately 30 percent of project-generated vehicle trips were assumed to approach the projected development sites from southeast Bronx, 33 percent from southwest Bronx, 7 percent from northwest Bronx, 20 percent from Manhattan, and 10 percent from Brooklyn. Reverse auto trips are expected to return along the same general routes on which they departed.

Office

Auto trips generated by the office use were based on the 2000 U.S. Census reverse journey-to-work data. Most of the office trips would originate from within the Bronx (63 percent) and from upstate New York counties outside of the five boroughs (20 percent). The remaining trips would originate from Queens (12 percent) and Manhattan (5 percent).

Of the trips within the Bronx, approximately 41 percent were assigned from points southeast of the projected development sites, 22 percent were assigned from points northeast of the sites, 19 percent from southwest of the sites, and the remaining 18 percent were assigned from points northwest of the sites. The majority of trips traveling from Queens were assigned to the projected development sites via the Robert F. Kennedy Triborough Bridge and the Bronx-Whitestone Bridge, and subsequently along the Bruckner Expressway and the Bronx River Parkway. Trips from Manhattan are expected to use Harlem River crossings to enter the Bronx and will

than approach the projected development sites via the most direct routes available, primarily along the Major Deegan Expressway. Trips traveling from upstate New York were assigned to the projected development sites via the Bronx River Parkway or the Major Deegan Expressway.

Destination Retail

The destination retail component is expected to draw customers from within a three-mile radius of the projected development sites; therefore, a majority of the auto trips are expected to come from within the Bronx (65 percent) with some trips expected to come from Manhattan (25 percent) and Queens (10 percent).

Overall, the vehicle trips generated by the destination retail component were distributed to the study area streets/roadways in the following manner: approximately 50 percent of project generated trips were assumed to approach the projected development sites from the east, 25 percent from the north and west, and the remaining 25 percent from the south. Departing trips were assigned along the same routes as arrivals.

Local Retail

The local retail uses are expected to serve the immediate surrounding area. Therefore, auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas.

Overall, the vehicle trips generated by the local retail component were distributed to the study area streets/roadways in the following manner: approximately 82 percent of project generated trips were assumed to approach the projected development sites from the south, 16 percent from the north and west, and the remaining 2 percent from the east. Departing trips were assigned along the same routes as arrivals.

Medical Office - Staff

Auto trips generated by the medical office use for staff were based on U.S. Census 2000 reverse journey-to-work data and will follow the same pattern as identified for the general office use above.

Medical Office - Visitors

For medical office visitor trips, half of the trips were assigned locally to reflect neighborhood medical facilities (for e.g., neighborhood physician's office or local medical clinic), and the remaining half were assigned more regionally—similar to destination retail—to account for specialist offices or other facilities that would draw trips from beyond the local area.

Overall, the vehicle trips generated by the medical office visitors were distributed to the study area streets/roadways in the following manner: approximately 50 percent of project generated trips were assumed to approach the projected development sites from the east, 25 percent from the north and west, and the remaining 25 percent from the south.

FRESH Market and Restaurant

The FRESH market and restaurant components are expected to draw customers from within a three-mile radius of the projected development sites; therefore, a majority of the auto trips are expected to come from within the Bronx (65 percent) with some trips expected to come from Manhattan (25 percent) and Queens (10 percent).

Overall, the vehicle trips generated by these components were distributed to the study area streets/roadways in the following manner: approximately 57 percent of project generated trips were assumed to approach the projected development sites from the south, 40 percent of project generated trips were assumed to approach the projected development sites from the north and west, and the remaining 3 percent from the south. Departing trips were assigned along the same routes as arrivals.

University Classroom

The university classroom component is expected to draw patrons from within a three-mile radius of the projected development sites; therefore, a majority of the auto trips are expected to come from within the

Bronx (65 percent) with some trips expected to come from Manhattan (25 percent) and Queens (10 percent).

Overall, the vehicle trips generated by the university classroom component were distributed to the study area streets/roadways in the following manner: approximately 50 percent of project generated trips were assumed to approach the projected development sites from the east, 25 percent from the north and west, and the remaining 25 percent from the south. Departing trips were assigned along the same routes as arrivals.

Taxis

Taxi pick-ups and drop-offs for all development components were assigned to pick up and drop off along the projected development site frontages.

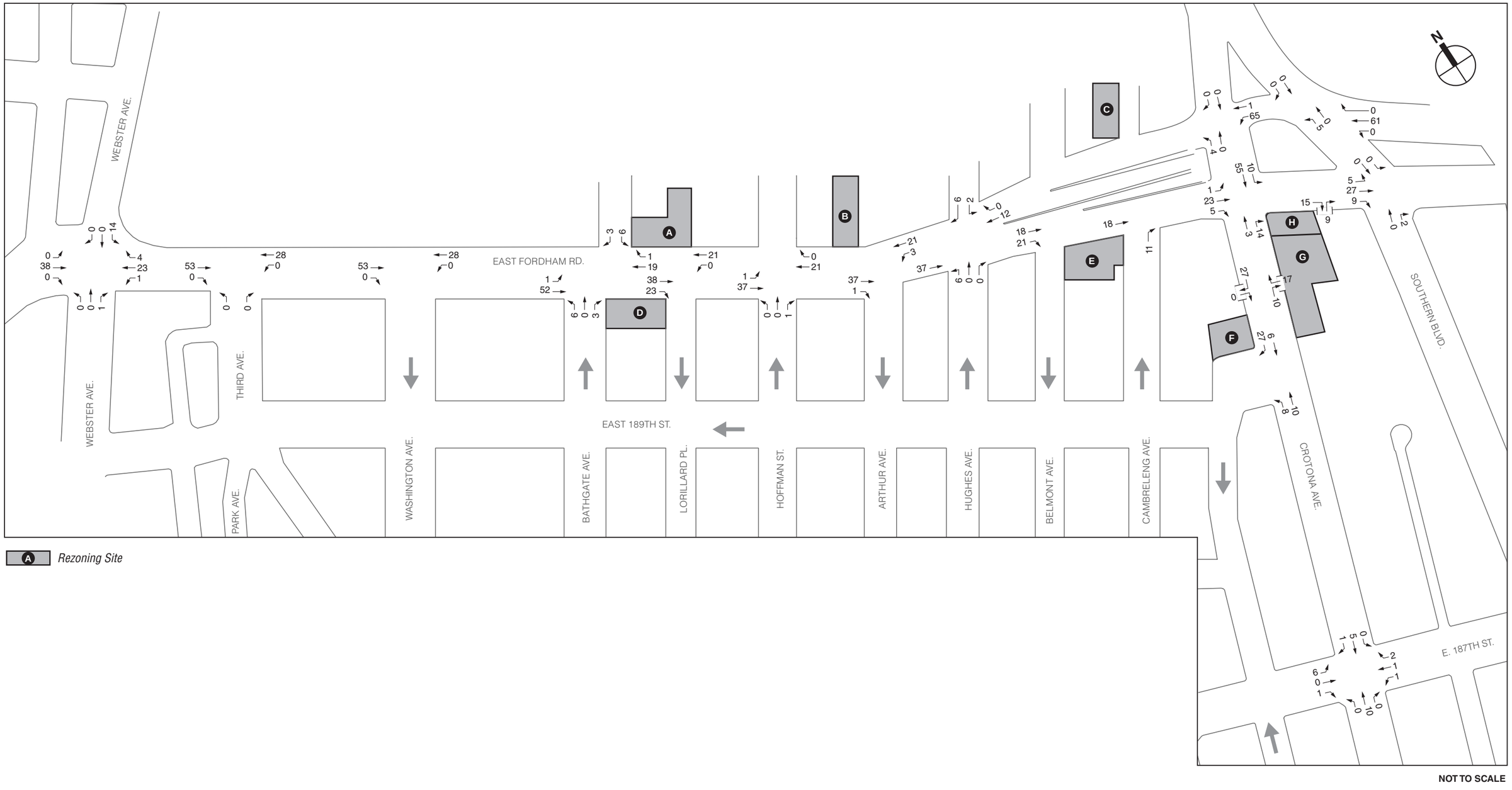
Deliveries

Truck delivery trips for all land uses were assigned to NYCDOT-designated truck routes. Trucks were assigned to the study area from regional origins via Webster Avenue, East Fordham Road, Third Avenue, and Southern Boulevard. Trucks were assigned along regional and local truck routes as long as possible until reaching the projected development sites.

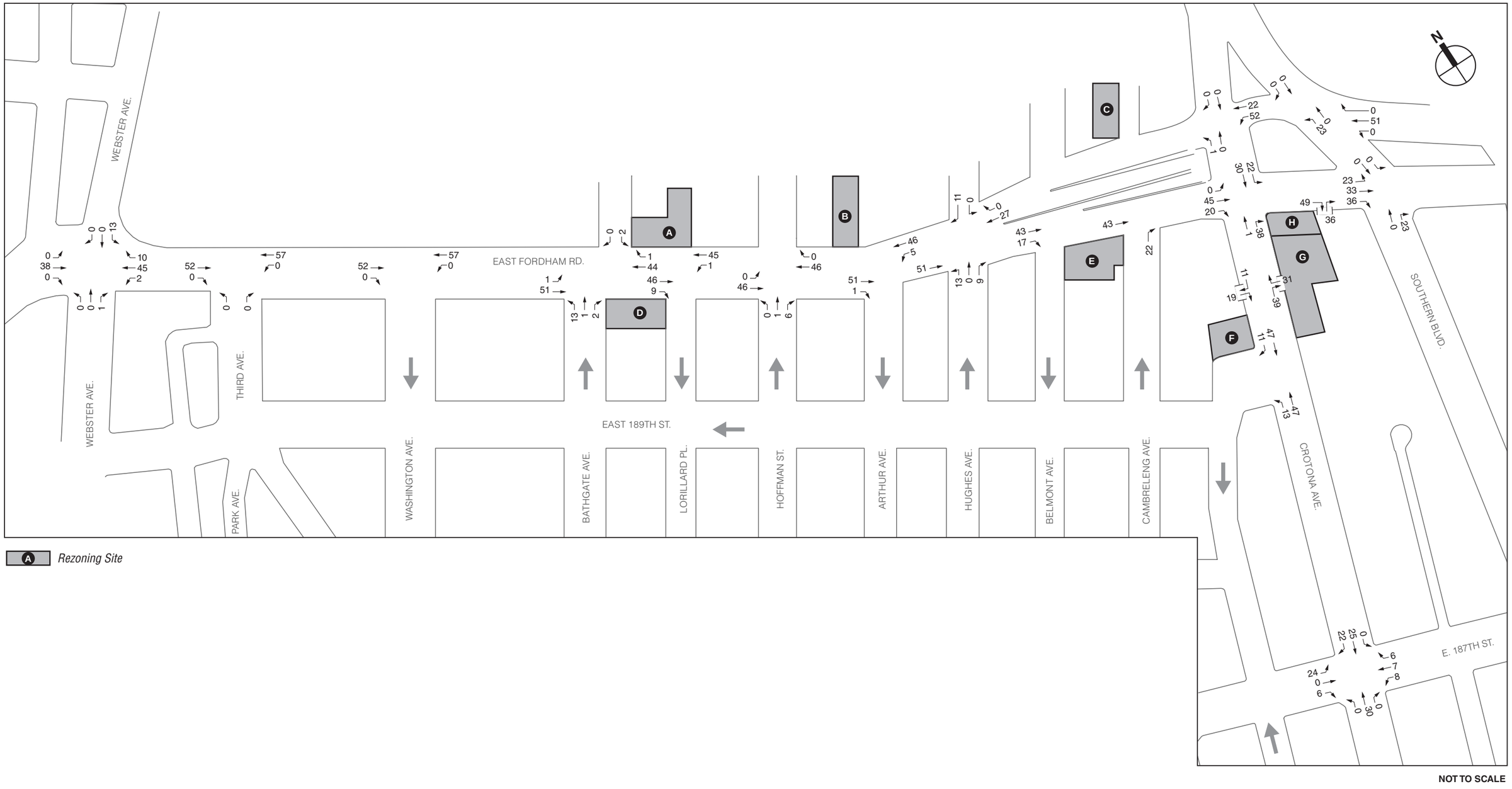
The total weekday AM, midday, and PM peak hour vehicle trip increments are presented in **Figures 2, 3, and 4**, respectively.

According to the *CEQR Technical Manual*, intersections expected to incur 50 or more incremental peak hour vehicle trips as a result of a proposed action would have the potential for significant adverse traffic impacts and should be assessed in a quantified traffic impact analysis. As summarized in **Table 6** and depicted in **Figure 5**, the following 12 intersections, together comprising the traffic study area, would be included for the weekday AM, midday, and PM peak hour traffic impact analysis.

- East Fordham Road and Webster Avenue;
- East Fordham Road and Third Avenue;
- East Fordham Road and Bathgate Avenue;
- East Fordham Road and Lorillard Place;
- East Fordham Road and Arthur Avenue;
- East Fordham Road and Hoffman Street;
- East Fordham Road and Hughes Avenue;
- East Fordham Road and Cambreleng Avenue;
- East Fordham Road (Eastbound & Westbound) and Crotona Avenue;
- East Fordham Road (Eastbound & Westbound) and Southern Boulevard;
- Crotona Avenue and East 187th Street; and
- Crotona Avenue and East 189th Street.

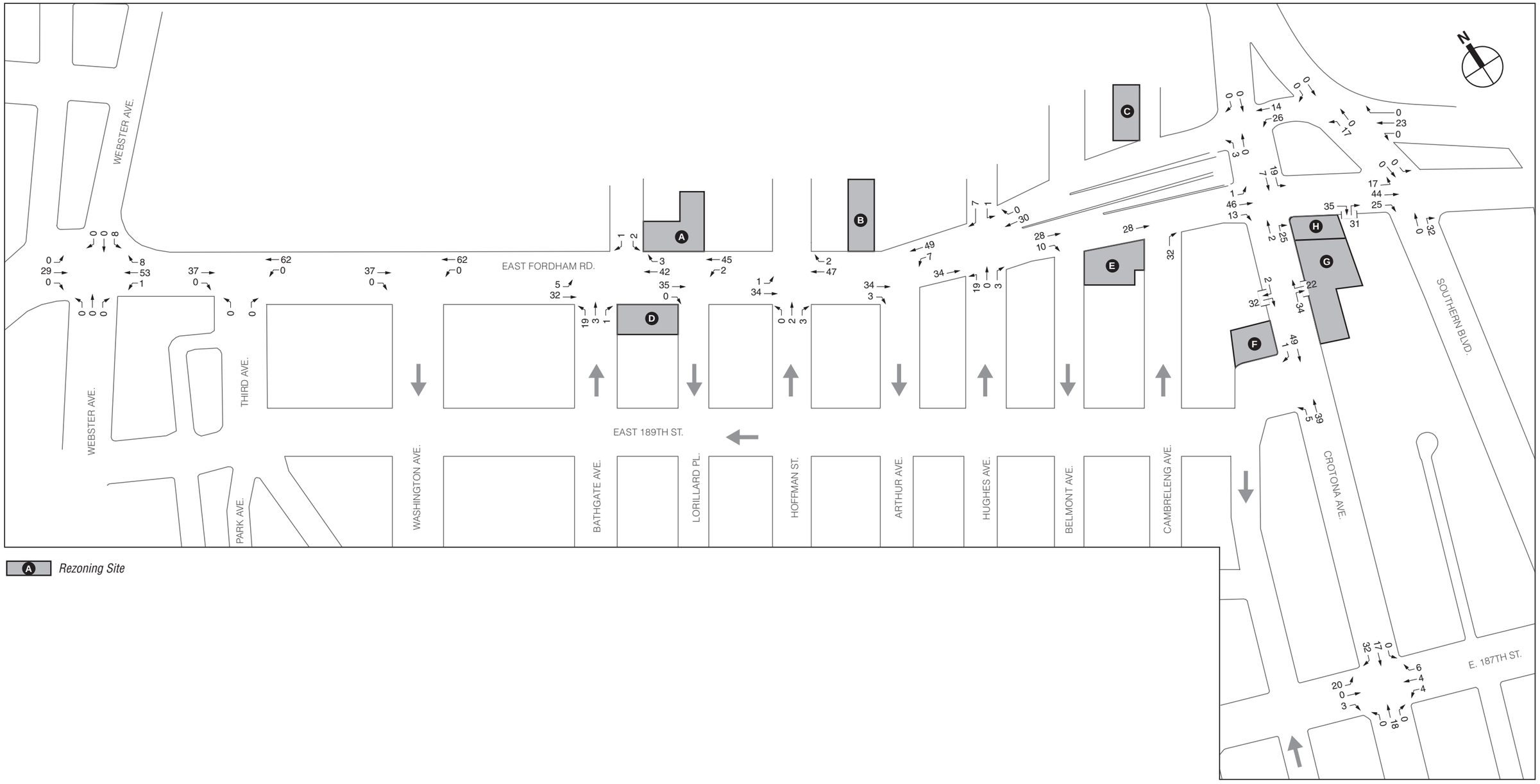


Incremental Traffic Volumes
Weekday AM Peak Hour
Figure 2



Incremental Traffic Volumes
Weekday Midday Peak Hour
Figure 3

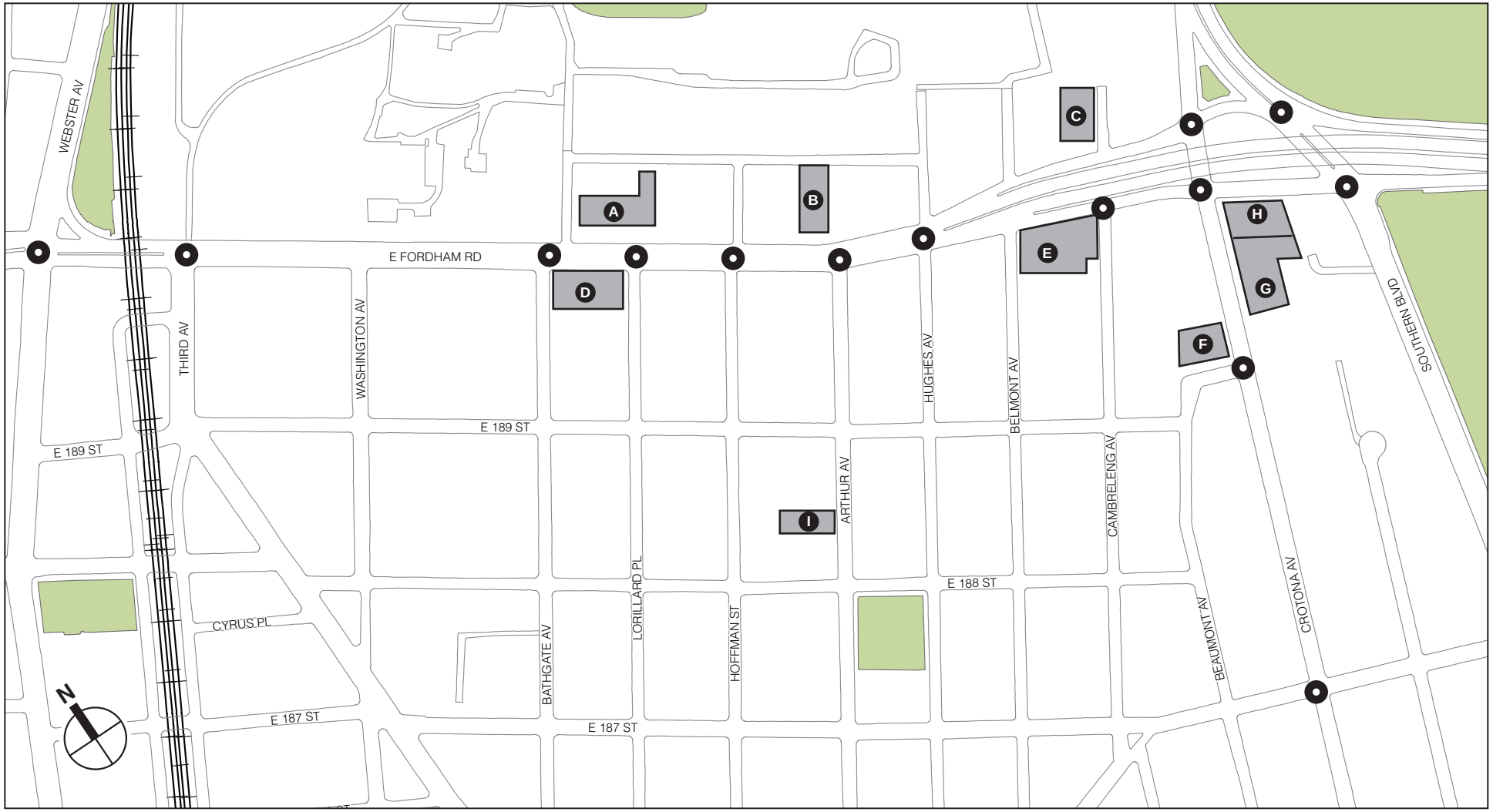
3.14.13



NOT TO SCALE

Incremental Traffic Volumes
Weekday PM Peak Hour
Figure 4

3.14.13



A *Projected Development Sites*

Recommended Traffic Analysis Locations

Traffic Analysis Locations
Figure 5

Table 6
Summary of Incremental Vehicle Trips

Intersection	AM	MD	PM	Recommended Analysis Location
East Fordham Rd North and Southern Blvd	**66**	**74**	40	✓
East Fordham Rd South and Southern Blvd	43	**115**	**118**	✓
East Fordham Rd North and Crotona Ave	**70**	**75**	43	✓
East Fordham Rd South and Crotona Ave	**111**	**156**	**113**	✓
East 189th St and Crotona Ave	**51**	**118**	**94**	✓
East 187th St and Crotona Ave	27	**128**	**104**	✓
East Fordham Rd and Cambreleng Ave	29	**65**	**60**	✓
East Fordham Rd and Belmont Ave	39	**60**	38	
East Fordham Rd and Hughes Ave	**63**	**111**	**94**	✓
East Fordham Rd and Arthur Ave	**62**	**103**	**93**	✓
East Fordham Rd and Hoffman St	**60**	**99**	**89**	✓
East Fordham Rd and Lorillard Pl	**82**	**101**	**82**	✓
East Fordham Rd and Bathgate Ave	**91**	**115**	**108**	✓
East Fordham Rd and Washington Ave	**81**	**109**	**99**	
East Fordham Rd and 3rd Ave	**81**	**109**	**99**	✓
East Fordham Rd and Webster Ave	**81**	**109**	**99**	✓

Note: Trip estimates shown above that are 50 or greater are bolded and highlighted.

TRANSIT

Subway

As summarized in **Table 5**, the Proposed Action is expected to generate 142, 199, and 203 person trips by subway during the weekday AM, midday, and PM peak hours, respectively. These trips were assigned to the Fordham Road Station at Jerome Avenue (No. 4 line), the Fordham Road Station at Grand Concourse (B and D lines), and the Pelham Parkway Station (No. 2 and No. 5 lines). Based on a preliminary distribution of subway trips, the project-generated peak hour subway trips are not expected to add 200 or more riders per line per direction or to a station during the weekday morning and evening peak hours; therefore, detailed subway line-haul and station analyses would not be required.

Bus

As presented in **Table 5**, the Proposed Action is expected to generate 128, 248, and 208 person trips by bus during the AM, midday, and PM peak hours, respectively. There are twelve bus routes (Bx1, Bx2, Bx9, Bx12, Bx12-SBS, Bx15, Bx17, Bx19, Bx22, Bx34, Bx41 and Bx55) with stops adjacent to or near the projected development sites. In addition, there are expected to be subway-to-bus transfer trips from the above mentioned subway stations. Allocation of these trips to the bus routes serving the stops near the subway stations (i.e., Bx12 and Bx12-SBS) shows that the Bx12 route would incur 50 or more peak hour riders in a single direction. Therefore, quantified bus line-haul analysis of the Bx12 will be performed for potential bus impacts for the weekday AM and PM peak hours.

PEDESTRIANS

As shown in **Table 5**, the projected peak hour pedestrian trips would exceed the CEQR analysis threshold of 200 pedestrians during all peak hours. Level 2 pedestrian trip assignments were individually developed for all the proposed development components and are discussed as follows:

- Auto Trips –Motorists would park at on-site parking facilities or at the nearest available public parking facilities and would walk to-and-from the projected development sites.
- Taxi Trips – Taxi patrons would get dropped off and picked up along East Fordham Road, Crotona Avenue, and Arthur Avenue.
- Bus Trips – Bus riders would use the Bx1, Bx2, Bx9, Bx12, Bx12-SBS, Bx15, Bx17, Bx19, Bx22, Bx34, Bx41, and Bx55 bus routes and would get on and off at the bus stops nearest to the projected development sites. It is anticipated that the riders on the north-south bus routes such as Bx1, Bx2,

Bx15, Bx34, Bx41, and Bx55 would transfer to the bus routes serving stops along East Fordham Road and get off near the projected development sites.

- Subway Trips – Subway riders were assigned to the Fordham Road Station at Jerome Avenue (No. 4 line), the Fordham Road Station at Grand Concourse (B and D lines), and the Pelham Parkway Station (No. 2 and No. 5 lines.) It is anticipated that a majority of the subway riders would transfer to the Bx12 or Bx12-SBS to reach the projected development sites.
- Walk-Only Trips – Pedestrian walk-only trip assignments were developed by distributing project-generated person trips to surrounding pedestrian facilities (i.e., sidewalks, corner reservoirs, and crosswalks) based on the origin and destination (OD) data as well as the land use characteristics of the surrounding neighborhood.

The pedestrian trip assignments are shown in **Figures 6 through 8**. Based on the above assignment of pedestrian trips and the Level 2 assessment criteria, 13 sidewalks, 6 crosswalks, and 12 corners are recommended for detailed analysis, as shown in **Figure 9** and summarized in **Table 7.**

Table 7
Pedestrian Level 2 Screening Analysis Results
Recommended Analysis Locations

Pedestrian Elements	AM	MD	PM	Recommended Analysis Locations
E. Fordham Rd and Southern Blvd				
South Sidewalk between Southern Blvd and Crotona Ave	91	**277**	**218**	✓
E. Fordham Rd and Crotona Ave				
South Crosswalk	130	**456**	**319**	✓
Southeast Corner	188	**729**	**491**	✓
Southwest Corner	183	**571**	**403**	✓
East Sidewalk between E. Fordham Road and E.189th Street (North of Bx17 Bus Stop)	131	**436**	**326**	✓
South Sidewalk between Crotona Ave and Southern Blvd.	120	**588**	**352**	✓
East Sidewalk between E. Fordham Road and E.189th Street (South of Bus Stop)	**204**	**815**	**619**	✓
E. Fordham Rd and Cambreleng Ave				
South Crosswalk	108	**249**	**206**	✓
Southeast Corner	131	**385**	**279**	✓
Southwest Corner	163	**433**	**317**	✓
South Sidewalk between Cambreleng Ave and Crotona Ave	127	**385**	**278**	✓
South Sidewalk between Cambreleng Ave and Belmont Ave	**212**	**585**	**414**	✓
E. Fordham Road and Belmont Ave				
South Crosswalk	101	**370**	**248**	✓
Southeast Corner	**227**	**741**	**491**	✓
Southwest Corner	177	**662**	**428**	✓
South Sidewalk between Belmont Ave and Cambreleng Ave	**239**	**764**	**505**	✓
E. Fordham Rd and Hughes Ave				
South Crosswalk	77	**283**	**182**	✓
Southeast Corner	164	**622**	**401**	✓
Southwest Corner	158	**617**	**392**	✓
South Sidewalk between Hughes Ave and Belmont Ave	171	**624**	**409**	✓
E. Fordham Rd and Arthur Ave				
South Crosswalk	99	**371**	**235**	✓
Southeast Corner	103	**382**	**242**	✓
Southwest Corner	101	**406**	**250**	✓
South Sidewalk between Hughes Ave and Arthur Ave	107	**383**	**247**	✓
South sidewalk between Arthur Ave and Hoffman St	90	**380**	**231**	✓
E. Fordham Rd and Hoffman St				
South Crosswalk	87	**321**	**206**	✓
Southeast Corner	101	**316**	**227**	✓
Southwest Corner	89	**308**	**206**	✓
E. Fordham Rd and Lorillard Pl				
South Sidewalk between Lolillard Pl and Hoffman St	79	**300**	188	✓
E.189th Street and Cambreleng Ave				
North Sidewalk between Cambereleng Ae and Beaumont Ave	80	**401**	**264**	✓
North Sidewalk between Crotona Ave and Beaumont Ave	188	**599**	**455**	✓

Notes:
✓ denotes pedestrian elements recommended for detailed analysis.
Pedestrian trip estimates shown above that are 200 or greater are bolded and highlighted.



A *Rezoning Site*

◆ *Bus Stops*

NOT TO SCALE

Incremental Pedestrian Volumes
Weekday AM Peak Hour
Figure 6



A *Rezoning Site*

◆ *Bus Stops*

NOT TO SCALE

Incremental Pedestrian Volumes
Weekday MD Peak Hour
Figure 7



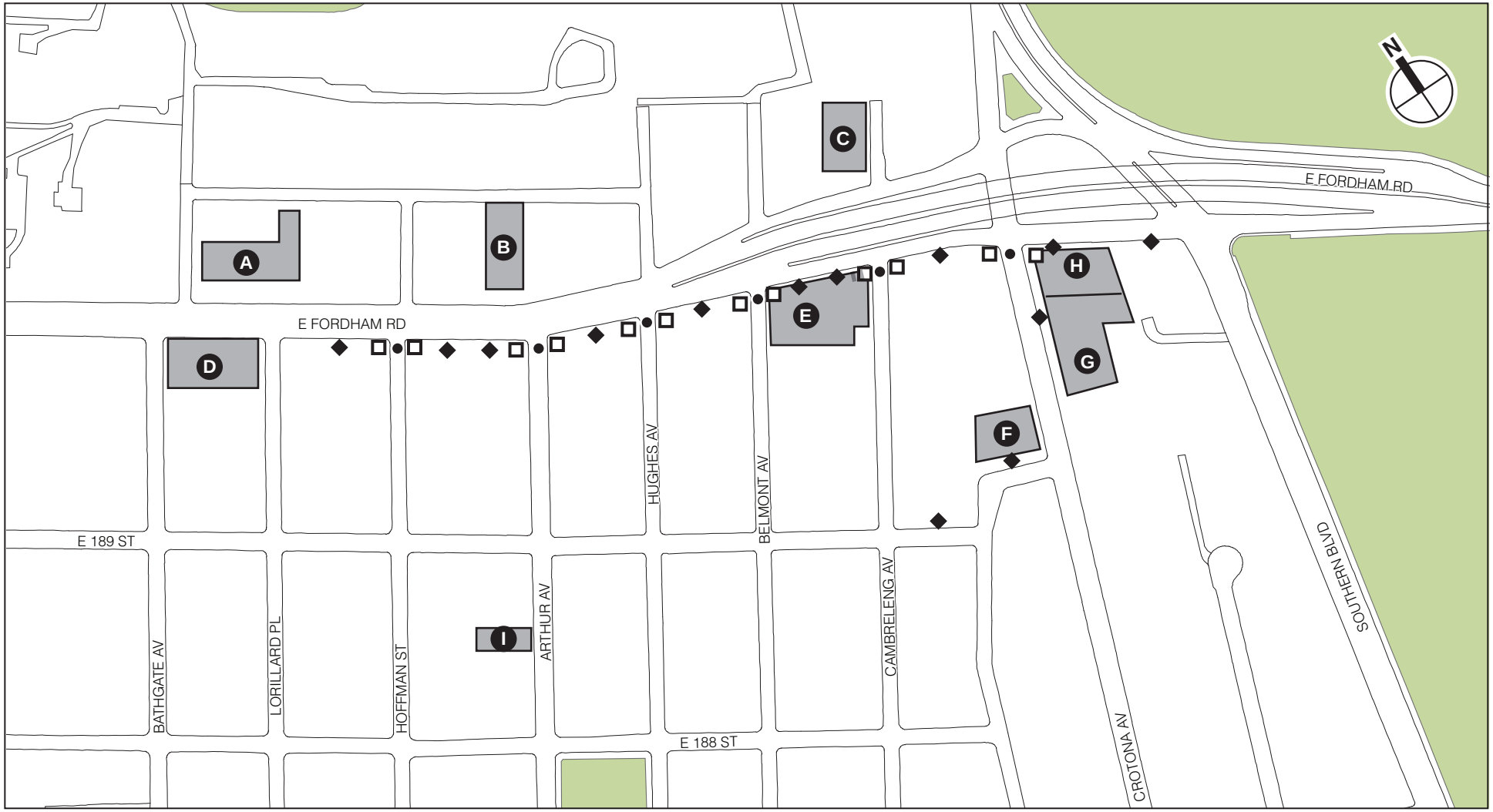
A *Rezoning Site*

◆ *Bus Stops*

NOT TO SCALE

Incremental Pedestrian Volumes
Weekday AM Peak Hour
Figure 8

3.14.13



A *Project Development Sites*

Sidewalk

Corner

Crosswalk

Pedestrian Analysis Locations
Figure 9

APPENDIX 2

LPC CORRESPONDENCE LETTER

NYC 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 / 77DCP017X
Project: EAST FORDHAM ROAD REZONING
Date received: 7/17/2012

Comments:

Properties with no Archaeological or Architectural significance:

1) ADDRESS: 528 EAST FORDHAM ROAD, BBL: 2030590032
2) ADDRESS: 540 EAST FORDHAM ROAD, BBL: 2030590036
3) ADDRESS: 2465 ARTHUR AVENUE, BBL: 2030660053
4) ADDRESS: ARTHUR AVENUE, BBL: 2030660054
5) ADDRESS: 650 EAST FORDHAM ROAD, BBL: 2030910017
6) ADDRESS: 660 EAST FORDHAM ROAD, BBL: 2030910020
7) ADDRESS: 662 EAST FORDHAM ROAD, BBL: 2030910022
8) ADDRESS: 666 EAST FORDHAM ROAD, BBL: 2030910024
9) ADDRESS: 668 EAST FORDHAM ROAD, BBL: 2030910026
10) ADDRESS: 711 EAST 189 STREET, BBL: 2030910087
11) ADDRESS: 2500 CROTONA AVENUE, BBL: 2031150025
12) ADDRESS: 730 EAST FORDHAM ROAD, BBL: 2031150028
13) ADDRESS: 545 EAST FORDHAM ROAD, BBL: 2032730301
14) ADDRESS: 591 EAST FORDHAM ROAD, BBL: 2032730261
15) ADDRESS: 2533 CAMBRELENG AVENUE, BBL: 2032730203
16) ADDRESS: 2535 CAMBRELENG AVENUE, BBL: 2032730204
17) ADDRESS: 2537 CAMBRELENG AVENUE, BBL: 2032730205
18) ADDRESS: 2539 CAMBRELENG AVENUE, BBL: 2032730206
19) ADDRESS: 2541 CAMBRELENG AVENUE, BBL: 2032730207



8/6/2012

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 28025_FSO_DNP_07182012.doc

APPENDIX 3

NOISE

East Fordham Road Noise PCE Screen				Project Generated			Build PCE					Project Generated			Build PCE					Project Generated			Build PCE		
Site	Corresponding Intersection	Existing PCE	No Build PCE	Auto	Taxi	Truck	Project Generated PCE	Project PCE + No Build PCE	10 * Log (Total PCE/No Build PCE)	Existing PCE	No Build PCE	Auto	Taxi	Truck	Project Generated PCE	Project PCE + No Build PCE	10 * Log (Total PCE/No Build PCE)	Existing PCE	No Build PCE	Auto	Taxi	Truck	Project Generated PCE	Project PCE + No Build PCE	10 * Log (Total PCE/No Build PCE)
								(with Build L10 above)								(with new L10 above)									(with new L10 above)
1)E 191st Street	**18**								64.0								57.5								60.8
	SB	**123.36364**	123.3636	6	2	0	8	131	0.3	**381.33333**	381.3333	2	9	0	11	392	0.1	**112**	112	3	5	0	8	120	0.3
2) Hughes & E Fordham Rd	**18**								73.5								67.5								65.2
		84.285714	84.28571	6	2	0	8	92	0.4	**104**	104	2	9	0	11	115	0.4	**112**	112	3	5	0	8	120	0.3
3) E Fordham Road & Bathgate	**35**								72.7								70.6								71.1
		43.615385	43.61538	9	2	0	11	55	1.0	**78**	78	5	0	0	5	83	0.3	**120.6**	120.6	13	1	0	14	135	0.5
4) Hughes btw E Fordham & E 189th	**18**								68.7								68.9								67.9
		870.37037	870.3704	1	4	1	25	895	0.1	**1477.0588**	1477.059	11	11	0	22	1499	0.1	**1281**	1281	16	6	0	22	1303	0.1
5) Crotona btw E Fordham & Beaumont	**6**								69.3								68.6								72.7
		1219.2	1219.2	37	12	1	69	1288	0.2	**945.23684**	945.2368	60	37	0	97	1042	0.4	**1643.9004**	1643.9	53	24	1	97	1741	0.2
6) Belmont btw E Fordham & E 189th	**13**								67.9								65.4								65.7
		36	36	16	4	1	33	69	2.8	**53**	53	13	4	0	17	70	1.2	**52**	52	7	3	0	10	62	0.8
7) Arthur btw E 189th & E 188th	**22**								70.7								65.2								63.6
		1204.1892	1204.189	4	0	0	4	1208	0.0	**1137.9412**	1137.941	2	4	0	6	1144	0.0	**1030.6154**	1030.615	8	2	0	10	1041	0.0
8) E Fordham Road & Crotona	**5**								73.5								72.2								75.7
		2394.4959	2394.496	86	19	5	204	2598	0.4	**2643.4138**	2643.414	101	55	3	215	2859	0.3	**3864**	3864	77	33	2	150	4014	0.2

East Fordham Road Field Traffic Counts	AM								20min Total Volume	1-hour PCE	MD								20min Total Volume	1-hour PCE	PM								20min Total Volume	1-hour PCE
1)E 191st Street	Auto		Medium		Heavy		Bus				Auto		Medium		Heavy		Bus				Auto		Medium		Heavy		Bus			
	53.63636	0.909091	5.363636	0.090909	0	0	0	0	59	123.3636	80.88889	0.777778	23.11111	0.222222	0	0	0	0	104	381.3333	112	1	0	0	0	0	0	0	112	112
2) Hughes & E Fordham Rd																														
	56.89286	0.964286	2.107143	0.035714	0	0	0	0	59	84.28571	104	1	0	0	0	0	0	0	104	104	112	1	0	0	0	0	0	0	112	112
3) E Fordham Road & Bathgate																														
	25.61538	0.948718	1.384615	0.051282	0	0	0	0	27	43.61538	78	1	0	0	0	0	0	0	78	78	62.53333	0.933333	4.466667	0.066667	0	0	0	0	67	120.6
4) Hughes btw E Fordham & E 189th																														
	142.7407	0.759259	17.40741	0.092593	0	0	27.85185	0.148148	188	870.3704	264.4118	0.852941	27.35294	0.088235	18.23529	0.058824	0	0	310	1477.059	251.625	0.825	30.5	0.1	7.625	0.025	15.25	0.05	305	1281
5) Crotona btw E Fordham & Beaumont																														
	729.6727	0.957576	18.47273	0.024242	0	0	13.85455	0.018182	762	1219.2	589.7632	0.960526	16.15789	0.026316	0	0	8.078947	0.013158	614	945.2368	659.917	0.929461	17.67635	0.024896	5.892116	0.008299	26.51452	0.037344	710	1643.9
6) Belmont btw E Fordham & E 189th																														
	36	1	0	0	0	0	0	0	36	36	53	1	0	0	0	0	0	0	53	53	52	1	0	0	0	0	0	0	52	52
7) Arthur btw E 189th & E 188th																														
	418.2973	0.891892	25.35135	0.054054	0	0	25.35135	0.054054	469	1204.189	300.5882	0.823529	64.41176	0.176471	0	0	0	0	365	1137.941	269.9231	0.846154	24.53846	0.076923	0	0	24.53846	0.076923	319	1030.615
8) E Fordham Road & Crotona																														
	1053.393	0.938017	9.280992	0.008264	4.640496	0.004132	55.68595	0.049587	1123	2394.496	918.9425	0.908046	40.71264	0.04023	8.724138	0.008621	43.62069	0.043103	1012	2643.414	1416	0.923679	36	0.023483	18	0.011742	63	0.041096	1533	3864

APPENDIX 4

INCLUSIONARY HOUSING TEXT AMENDMENT

East Fordham Road Rezoning

Matter in underline is new, to be added;

Matter in ~~strikeout~~ is to be deleted;

Matter with # # is defined in Section 12-10;

* * * indicates where unchanged text appears in the Zoning Resolution;

* * *

Article 2
Residence District Regulations

Chapter 3
Bulk Regulations for Residential Buildings in Residence Districts

* * *

23-144

In designated areas where the Inclusionary Housing Program is applicable

In #Inclusionary Housing designated areas#, as listed in the table in this Section, the maximum permitted #floor area ratios# shall be as set forth in Section 23-952 (Floor area compensation in Inclusionary Housing designated areas). The locations of such areas are specified in APPENDIX F (Inclusionary Housing Designated Areas) of this Resolution.

Community District	Zoning District
Bronx Community District 1	R6A R7-2 R7A R7X R8A
Bronx Community District 3	R6A R7A R7X R8X
Bronx Community District 4	R8A R9D
Bronx Community District 6	R8X
Bronx Community District 7	R7D
Brooklyn Community District 1	R6 R6A R6B R7A R7-3
Brooklyn Community District 2	R7A R8A R9A
Brooklyn Community District 3	R7A R7D
Brooklyn Community District 6	R7-2
Brooklyn Community District 7	R7A R8A
Brooklyn Community District 14	R7A
Manhattan Community District 3	R7A R8A R9A
Manhattan Community District 6	R10
Manhattan Community District 7	R9A R10
Manhattan Community District 9	R7D R9X
Queens Community District 1	R7A

* * *

APPENDIX F

Inclusionary Housing Designated Areas

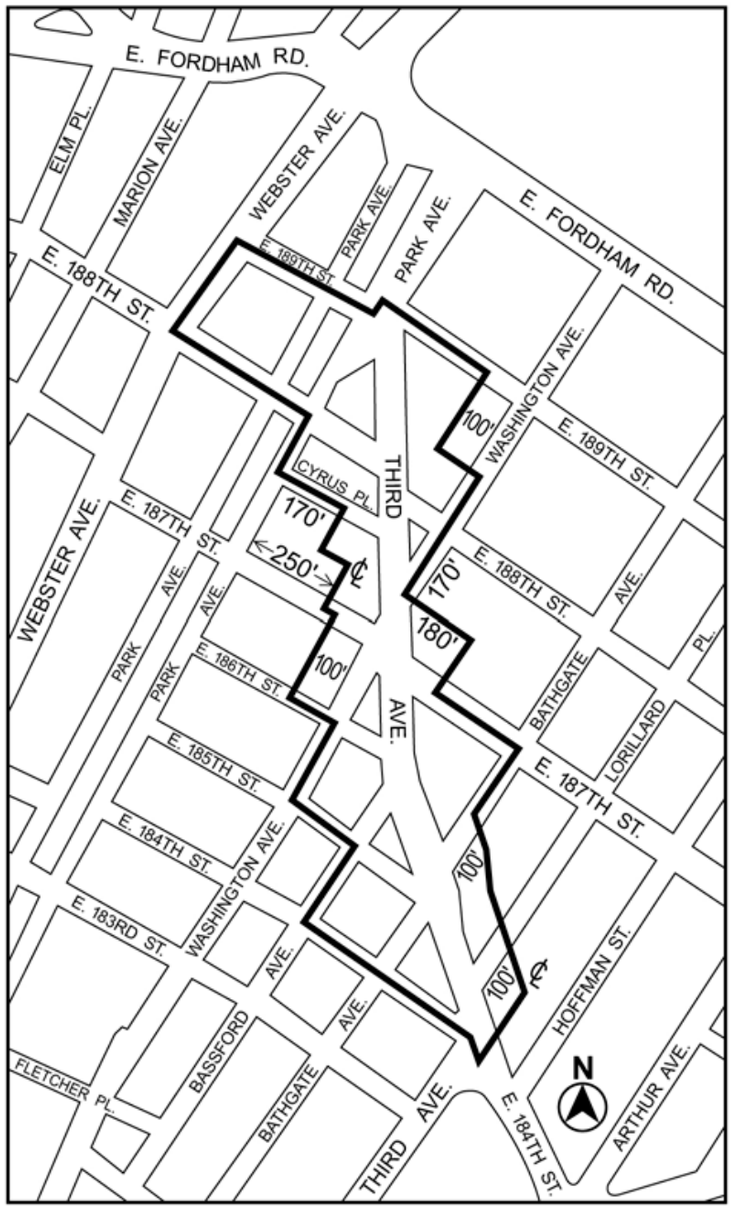
APPENDIX F
Inclusionary Housing Designated Areas

The boundaries of #Inclusionary Housing designated areas# are shown on the maps listed in this Appendix F. The #Residence Districts# listed for such areas shall include #Commercial Districts# where #residential buildings #or the #residential# portion of #mixed buildings# are governed by the #bulk# regulations of such #Residence Districts#. Where #Inclusionary Housing designated areas# are mapped in #Commercial Districts#, the residential district equivalent has instead been specified for each map.

Table of
Inclusionary Housing Designated Areas by
Zoning Map

Zoning Map	Community District	Maps of Inclusionary Housing Designated Areas
1d	Bronx CD 7	Map 1
3b	Bronx CD 4	Map 1
3c	Bronx CD 6	Maps 1 - 3
3c	Bronx CD 7	Map 1
3d	Bronx CD 3	Map 1
3d	Bronx CD 6	Maps 2 - 5
5d	Manhattan CD 7	Map 1
6a	Manhattan CD 9	Map 1, Map 2
6a	Manhattan CD 10	Map 1
6a	Manhattan CD 11	Map 1
6a	Bronx CD 1	Map 1
6a	Bronx CD 4	Map 1
6b	Manhattan CD 10	Map 1
6b	Manhattan CD 11	Map 1
8b	Manhattan CD 4	Map 1
8c	Manhattan CD 4	Map 2
8c	Manhattan CD 7	Map 2
8d	Manhattan CD 4	Map 3, Map 4
8d	Manhattan CD 5	Map 1
8d	Manhattan CD 6	Map 1
8d	Queens CD 2	Map 3
9a	Queens CD 1	Map 1
9b	Queens CD 1	Map 2
9b	Queens CD 2	Map 1
9d	Queens CD 2	Map 1, Map 2
12a	Manhattan CD 1	Map 1
12c	Manhattan CD 3	Map 1
12c	Brooklyn CD 1	Map 1, Map 2
12d	Brooklyn CD 1	Map 2, Map 3
12d	Brooklyn CD 2	Map 1, Map 4
12d	Brooklyn CD 3	Map 3
13a	Brooklyn CD 1	Map 1, Map 2
13b	Brooklyn CD 1	Map 2, Map 4

EXISTING
(TO BE DELETED)
~~Map 1(10/13/ 10)~~
~~Portion of Community District 6, The Bronx~~



PROPOSED
TO REPLACE EXISTING
Map 1
Portion of Community District 6, The Bronx

