600 East 156th Street

Environmental Assessment Statement

CEQR # 17DCP025X

ULURP #s 170140ZMX & N170141ZRX

Lead Agency:
New York City Department of City Planning (DCP)

Prepared for:
600 Associates, LLC

Prepared by:
Philip Habib & Associates

November 10, 2016

600 East 156th Street

Environmental Assessment Statement

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EAS FORM

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

FOR UNLISTED ACTIONS ONLY • *Please fill out and submit to the appropriate agency* (see instructions)

Part I: GENERAL INFORMATION

1. *Does the Action Exceed Any Type I Threshold in 6 NYCRR Part 617.4 or 43 RCNY §6-15(A) (Executive Order 91 of 1977, as amended)?* ☐ YES ☒ NO

If "yes," **STOP** and **complete the FULL EAS FORM**.

2. *Project Name* 600 East 156th Street

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency) 17DCP025X	BSA REFERENCE NUMBER (if applicable)
ULURP REFERENCE NUMBER (if applicable) 170140ZMX; N170141ZRX	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY New York City Department of City Planning (DCP)			NAME OF APPLICANT 600 Associates, LLC		
NAME OF LEAD AGENCY CONTACT PERSON Robert Dobruskin, AICP , Director, EARD			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Cara McAteer		
ADDRESS 120 Broadway			ADDRESS 902 Broadway, 13th Floor		
CITY New York	STATE NY	ZIP 10271	CITY New York	STATE NY	ZIP 10010
TELEPHONE 212-720-3420	EMAIL rdobrus@planning.nyc.gov		TELEPHONE 646-336-8278	EMAIL CMcAteer@phippsny.org	

5. *Project Description*

The applicant, 600 Associates, LLC, is seeking zoning map and text amendments from the New York City Planning Commission (CPC), in addition to public financing from the New York City Department of Housing Preservation and Development (HPD) and the New York City Housing Development Corporation (HDC), to facilitate the development of a predominantly residential apartment building at 600 East 156th Street (Bronx Block 2624, Lot 41) in the Melrose neighborhood of Bronx Community District (CD) 1. Specifically, the applicant is proposing (1) a zoning map amendment to rezone Bronx Block 2624, Lot 41 (the project site) from M1-1 to R8A ; and (2) a zoning text amendment to Appendix F of the Zoning Resolution of the City of New York to establish the project site as a Mandatory Inclusionary Housing (MIH) designated area subject to the affordability requirements of Option 1 of the MIH Program. The proposed project will be undergoing coordinated review with HPD and HDC.

The proposed actions would facilitate the redevelopment of the project site with an approximately 211,300-gsf building with 179,000 gsf of residential floor area and a 32,300-gsf charter school occupying the building's ground floor and cellar levels. The proposed project would have an FAR of 7.16, with approximately 6.52 FAR of residential use and approximately 0.62 FAR of community facility use. The building bulk would conform with all bulk and use requirements applicable in R8A (MIH) districts. The proposed project would include approximately 170 residential units and an approximately 350-seat charter school. While the exact income mix has not yet been determined, it is expected that the units would be affordable to low- and moderate-income households. The proposed project would replace an existing two-story building currently occupied by 90 public parking spaces and 2,700 sf of office space, as well as an at-grade vehicle storage lot, which currently occupy the approximately 23,000 sf project site.

The proposed project is expected to be completed and occupied by 2019.

Project Location

BOROUGH Bronx	COMMUNITY DISTRICT(S) 1	STREET ADDRESS 600 East 156th Street
TAX BLOCK(S) AND LOT(S) Block 2624, Lot 41 (formerly Lots 41 and 48-52)		ZIP CODE 10455
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Bounded by Eagle Avenue to the west (100 feet of street frontage),		

East 156th Street to the north (230 feet of street frontage), and Cauldwell Avenue to the east (100 feet of street frontage).

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY M1-1 | ZONING SECTIONAL MAP NUMBER 6c

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

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

☐ CITY MAP AMENDMENT ☐ ZONING CERTIFICATION ☐ CONCESSION
☒ ZONING MAP AMENDMENT ☐ ZONING AUTHORIZATION ☐ UDAAP
☒ ZONING TEXT AMENDMENT ☐ ACQUISITION—REAL PROPERTY ☐ REVOCABLE CONSENT
☐ SITE SELECTION—PUBLIC FACILITY ☐ DISPOSITION—REAL PROPERTY ☐ FRANCHISE
☐ HOUSING PLAN & PROJECT ☐ OTHER, explain:
☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:
SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

☐ VARIANCE (use)
☐ VARIANCE (bulk)
☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:
SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

***Department of Environmental Protection*:** ☐ YES ☒ NO If "yes," specify:

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

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

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

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

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

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

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

☒ SITE LOCATION MAP ☒ ZONING MAP ☒ SANBORN OR OTHER LAND USE MAP
☒ TAX MAP ☐ FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S)
☒ PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP

Physical Setting (both developed and undeveloped areas)

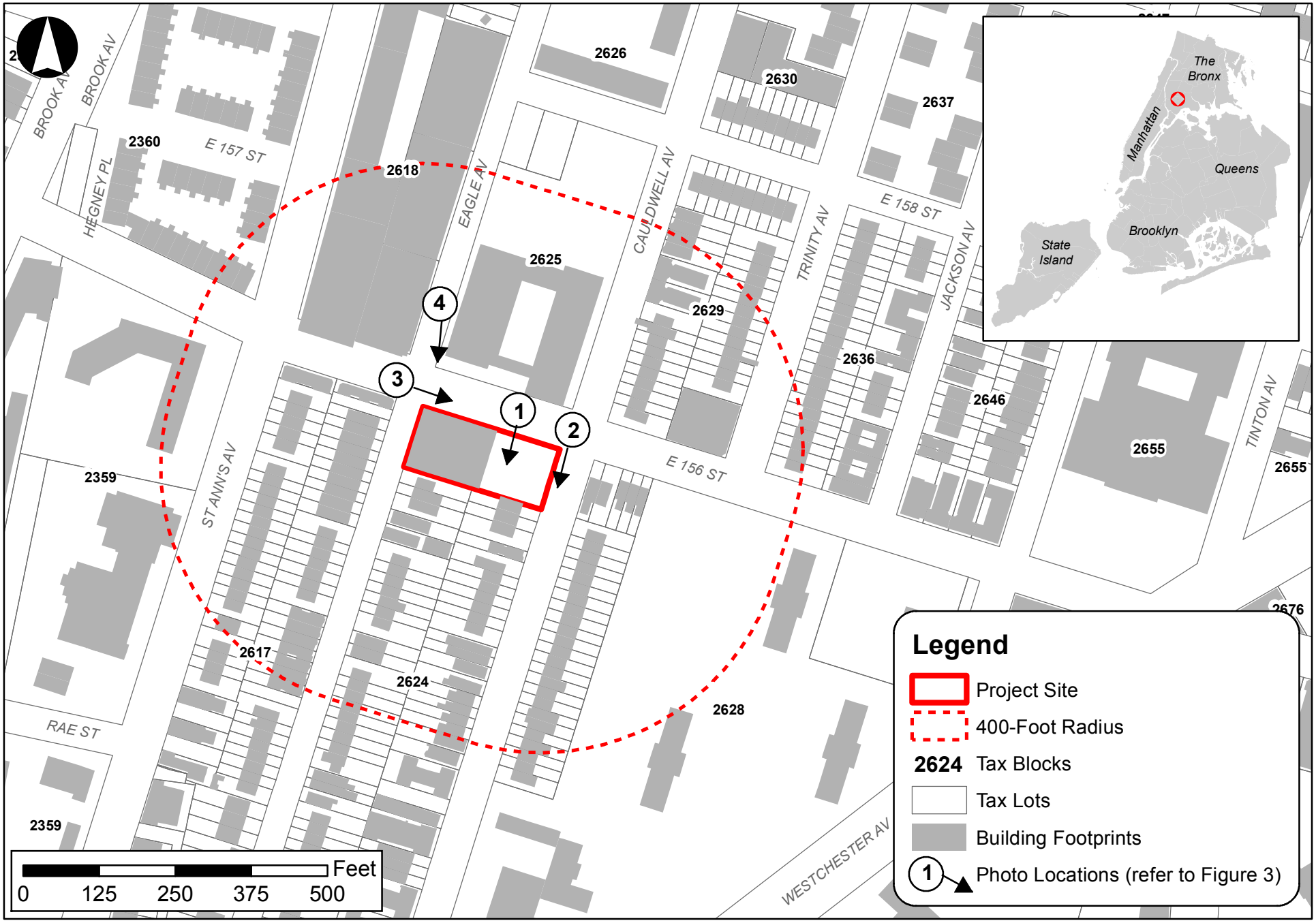
Total directly affected area (sq. ft.): 23,000 Waterbody area (sq. ft) and type: 0
Roads, buildings, and other paved surfaces (sq. ft.): 23,000 sf Other, describe (sq. ft.): 0

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

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 211,300 gsf
NUMBER OF BUILDINGS: 1 GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 211,300 gsf
HEIGHT OF EACH BUILDING (ft.): While the applicant is proposing a maximum building height of approximately 125', the RWCDS assumes a maximum building height of 145' NUMBER OF STORIES OF EACH BUILDING: 12

Does the proposed project involve changes in zoning on one or more sites? ☒ YES ☐ NO
If "yes," specify: The total square feet owned or controlled by the applicant: 23,000 sf
The total square feet not owned or controlled by the applicant: 0

Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility



600 East 156th Street EAS

Figure 1
Site Location Map

600 East 156th Street EAS

Figure 2
Tax Map

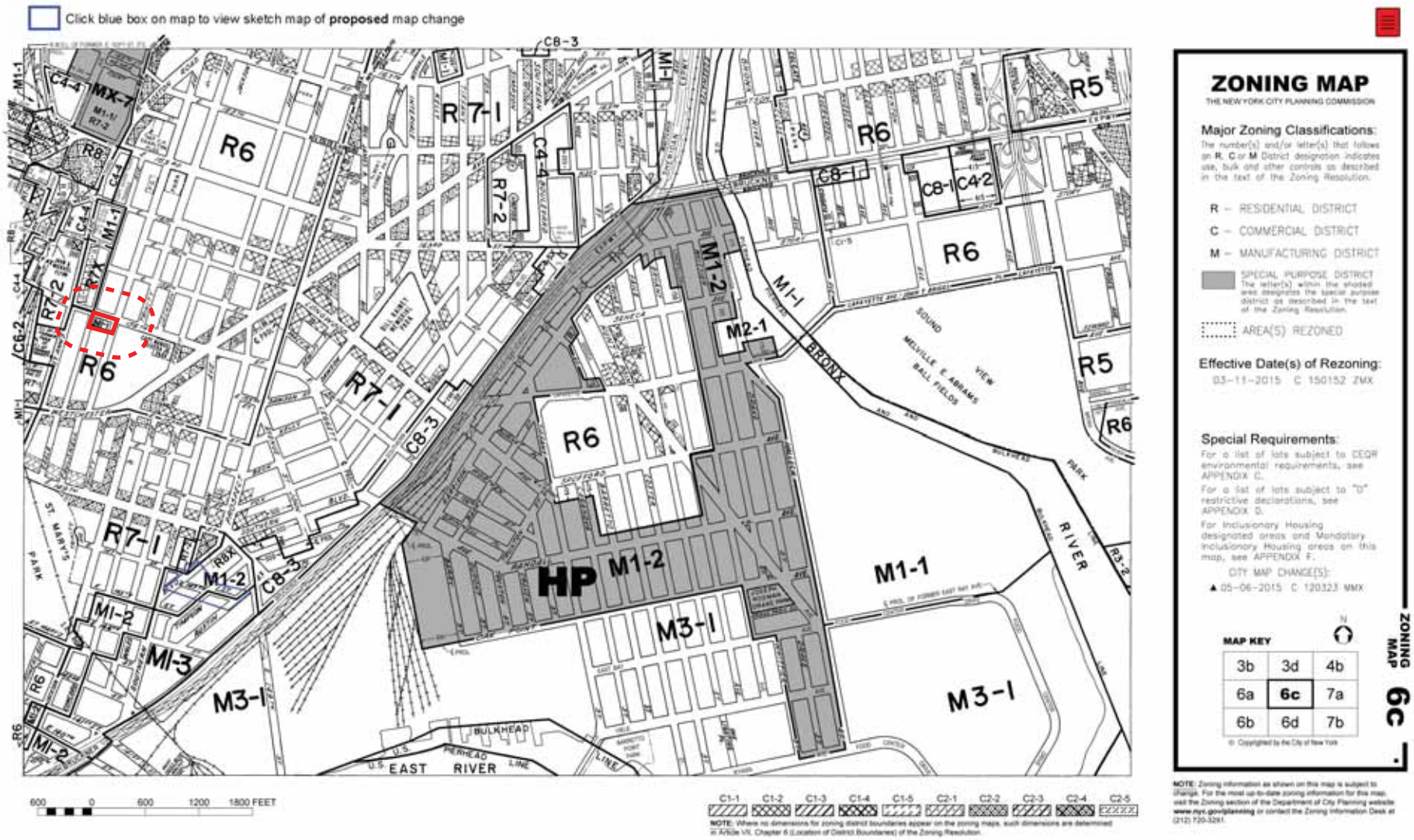
1. View south on E. 156th Street into existing project site open vehicle storage lot.

2. View south on Cauldwell Avenue from E. 156th Street (existing project site open vehicle storage lot on right).

3. View east on E. 156th Street from Eagle Avenue (existing project site building on right).

4. View south on Eagle Avenue from north of E. 156th Street (existing project site building in background).

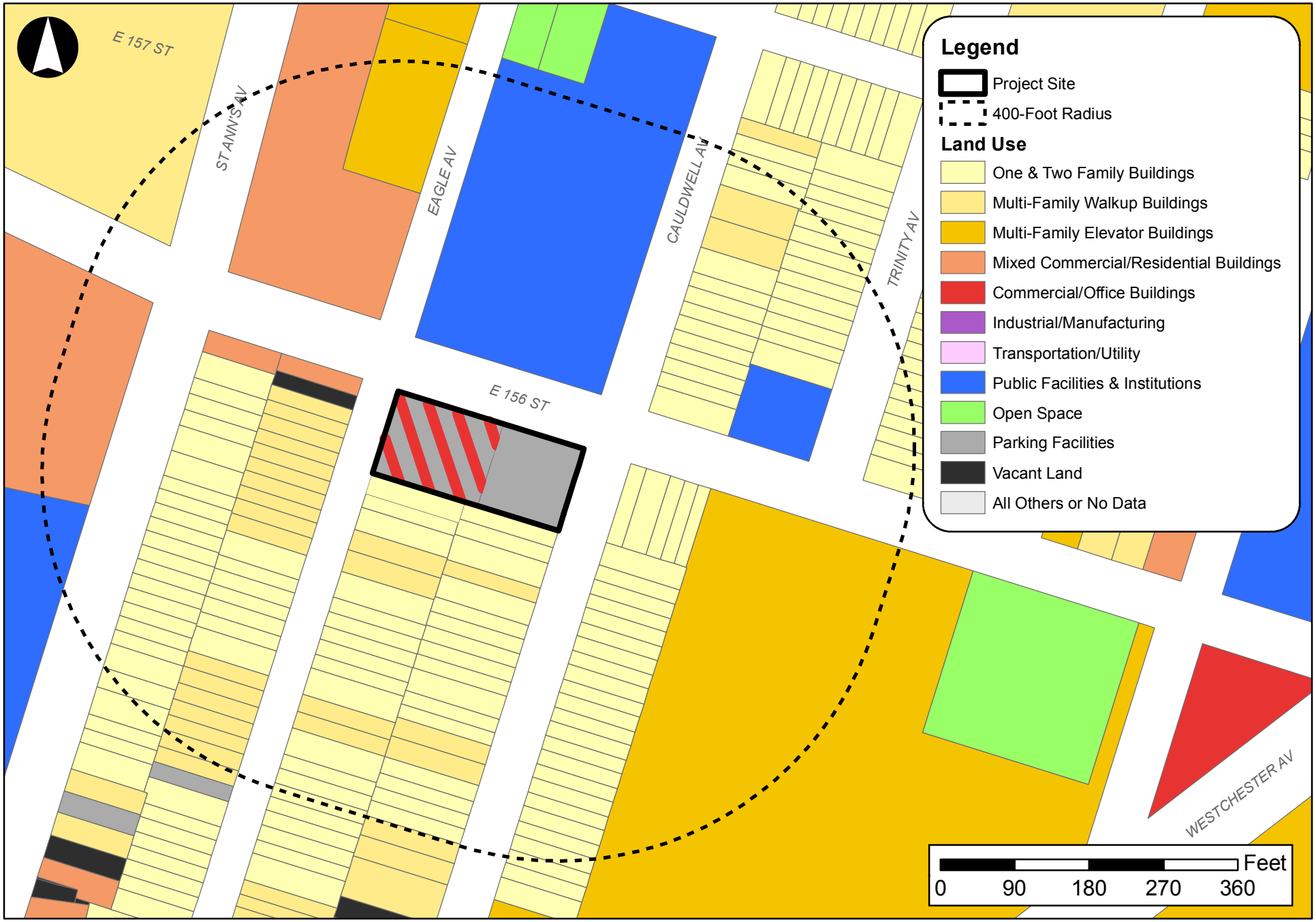
Figure 3
Project Site Photos



Project Site

400-Foot Radius

Figure 4
Zoning Map



600 East 156th Street EAS

Figure 5
Land Use Map

lines, or grading? ☒ YES ☐ NO

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

AREA OF TEMPORARY DISTURBANCE: 23,000 sq. ft. (width x length) VOLUME OF DISTURBANCE: TBD cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 23,000 sq. ft. (width x length)

Description of Proposed Uses (please complete the following information as appropriate)

	Residential	***Commercial***	***Community Facility***	***Industrial/Manufacturing***
Size (in gross sq. ft.)	179,000 gsf	0	32,300 gsf	0
Type (*e.g.,* retail, office, school)	170 affordable units	N/A	350-seat charter school	N/A

Does the proposed project increase the population of residents and/or on-site workers? ☒ YES ☐ NO

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 510 NUMBER OF ADDITIONAL WORKERS: 46

Provide a brief explanation of how these numbers were determined: Residents: based on 2010 Census average of 3.0 persons per household in Bronx CD 1; Workers: assumes one residential worker per 25 DU (7 residential workers) and one school employee per 9 seats (approx. 39 school staff)

Does the proposed project create new open space? ☐ YES ☒ NO If "yes," specify size of project-created open space: N/A sq. ft.

Has a No-Action scenario been defined for this project that differs from the existing condition? ☐ YES ☒ NO

If "yes," see Chapter 2, "Establishing the Analysis Framework" and describe briefly: N/A

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2019

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 24

WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ☒ YES ☐ NO IF MULTIPLE PHASES, HOW MANY? N/A

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: N/A

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

☒ RESIDENTIAL ☐ MANUFACTURING ☐ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ☒ OTHER, specify: Public Facilities & Institutions

Part II: TECHNICAL ANALYSIS

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

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

	YES	NO
1. *LAND USE, ZONING, AND PUBLIC POLICY*: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	☐	☒
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	☒	☐
(c) Is there the potential to affect an applicable public policy?	☒	☐
(d) If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach. See Attachment C		
(e) Is the project a large, publicly sponsored project?	☐	☒
○ If "yes," complete a PlaNYC assessment and attach. N/A		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	☐	☒
○ If "yes," complete the Consistency Assessment Form. N/A		
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?	☐	☒
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
○ **Child Care Centers:** Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	☒	☐
○ **Libraries:** Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	☐	☒
○ **Public Schools:** Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	☒	☐
○ **Health Care Facilities and Fire/Police Protection:** Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7		
(a) Would the proposed project change or eliminate existing open space?	☐	☒
(b) Is the project located within an under-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
○ If "yes," would the proposed project generate more than 50 additional residents or 125 additional employees?	☐	☐
(c) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
○ If "yes," would the proposed project generate more than 350 additional residents or 750 additional employees?	☐	☐
(d) If the project in located an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	☒	☐

	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?	☐	☒
6. *HISTORIC AND CULTURAL RESOURCES*: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	☐	☒
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	☒	☐
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See Attachment B		
7. *URBAN DESIGN AND VISUAL RESOURCES*: CEQR Technical Manual Chapter 10		
(a) Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	☒	☐
(b) Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning?	☐	☒
8. *NATURAL RESOURCES*: CEQR Technical Manual Chapter 11		
(a) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11?	☐	☒
○ If "yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	☐	☒
○ If "yes," complete the Jamaica Bay Watershed Form, and submit according to its instructions. N/A		
9. *HAZARDOUS MATERIALS*: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	☒	☐
(b) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	☐	☒
(c) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	☒	☐
(d) Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	☒	☐
(e) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (*e.g.*, gas stations, oil storage facilities, heating oil storage)?	☒	☐
(f) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint?	☐	☒
(g) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	☐	☒
(h) Has a Phase I Environmental Site Assessment been performed for the site?	☒	☐
○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: See Attachment B	☒	☐
10. *WATER AND SEWER INFRASTRUCTURE*: CEQR Technical Manual Chapter 13		
(a) Would the project result in water demand of more than one million gallons per day?	☐	☒
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens?	☐	☒
(c) If the proposed project located in a separately sewered area, would it result in the same or greater development than the amounts listed in Table 13-1 in Chapter 13?	☐	☐
(d) Would the proposed project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	☐	☒
(e) If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?	☐	☐

	YES	NO
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or 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?	☐	☒
11. *SOLID WASTE AND SANITATION SERVICES*: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): 8,020		
○ Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	☐	☒
(b) Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?	☐	☒
12. *ENERGY*: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): 30,776,910 MBtu		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
○ 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 peak hour. See Subsection 313 of Chapter 16 for more information.*	☐	☒
○ 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?	☐	☐
○ 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 Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed) See Attachment B	☐	☒
(c) Does the proposed project involve multiple buildings on the project site?	☐	☒
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	☐	☒
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18?	☐	☐
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) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	☐	☒
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		

	YES	NO
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	☒	☐
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary. See Attachment B		
18. *NEIGHBORHOOD CHARACTER*: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	☒	☐
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. See Attachment B, "Supplemental Screening"		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
o Construction activities lasting longer than two years?	☐	☒
o Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☐	☒
o Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☒	☐
o Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
o The operation of several pieces of diesel equipment in a single location at peak construction?	☒	☐
o Closure of a community facility or disruption in its services?	☐	☒
o Activities within 400 feet of a historic or cultural resource?	☐	☒
o Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
o Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	☐	☒
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. See Attachment B, "Supplemental Screening"		

20. *APPLICANT'S CERTIFICATION*

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

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

APPLICANT/REPRESENTATIVE NAME	DATE
Philip Habib, P.E.	November 10, 2016
SIGNATURE	

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

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

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

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

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

2. Are there any aspects of the project relevant to the determination of whether the project may have a significant impact on the environment, such as combined or cumulative impacts, that were not fully covered by other responses and supporting materials? ☐ ☒

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

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

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

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

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

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

TITLE	LEAD AGENCY
Deputy Director, EARD	NYC Department of City Planning
NAME	DATE
Olga Abinader	11/10/16
SIGNATURE	
Olga Abinader	

ATTACHMENT A

PROJECT DESCRIPTION

I. INTRODUCTION

The applicant, 600 Associates, LLC, is seeking zoning map and text amendments from the New York City Planning Commission (CPC), in addition to public financing from the New York City Department of Housing Preservation and Development (HPD) and the New York City Housing Development Corporation (HDC), to facilitate the development of an approximately 211,300 gross square foot (gsf) predominantly residential apartment building at 600 East 156th Street (Bronx Block 2624, Lot 41) in the Melrose neighborhood of Bronx Community District (CD) 1. The proposed project would include approximately 170 residential units and an approximately 32,300 gsf (350-seat) charter school. While the exact income mix has not yet been determined, it is expected that the units will be affordable to low- and moderate-income households. The proposed project would replace an existing 22,750-sf building containing public parking and office uses and an adjacent at-grade vehicle storage lot, which currently occupy the approximately 23,000 sf project site.

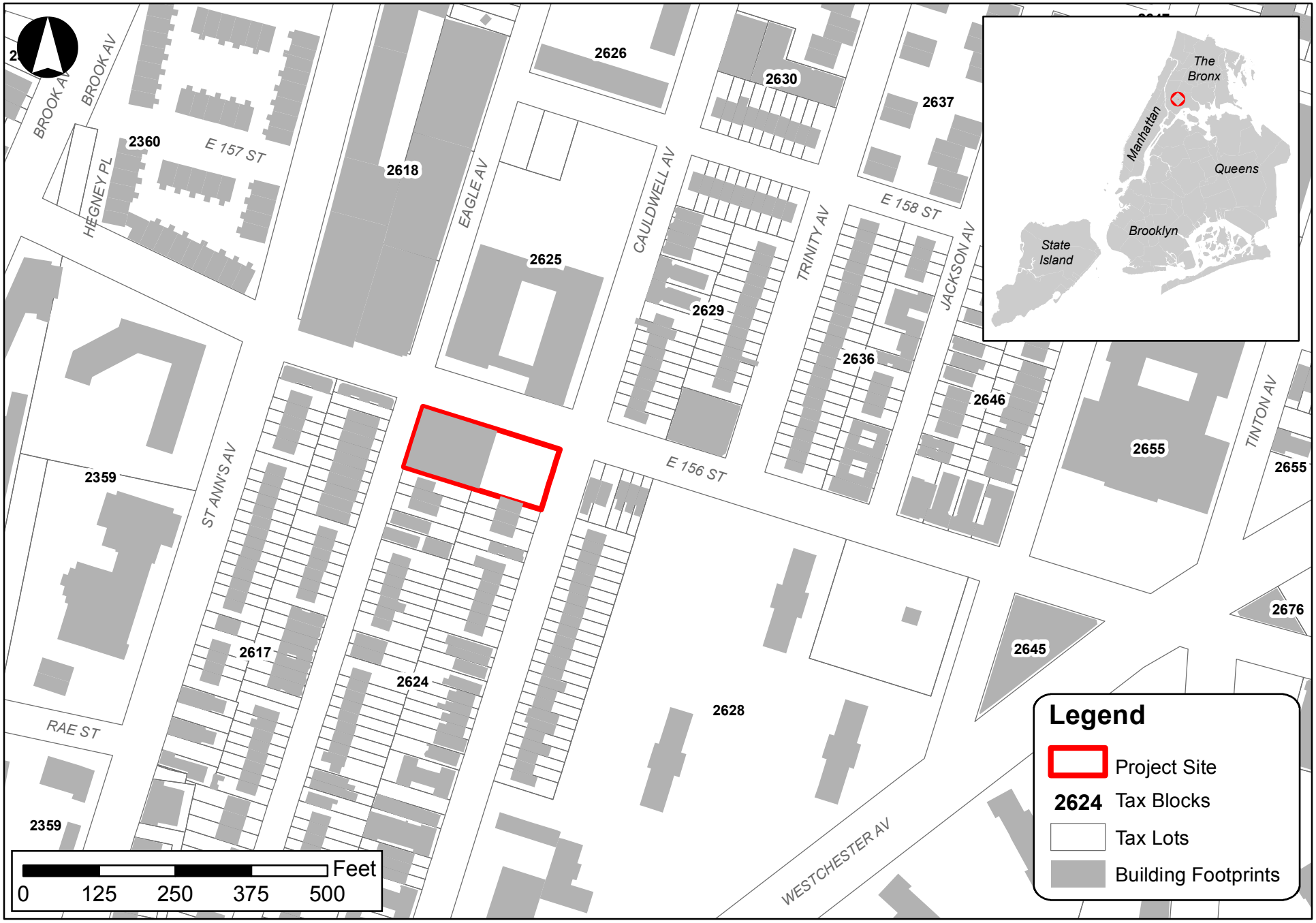
This attachment provides a summary and description of the proposed actions, including project site location, existing conditions of the project site, project purpose and need, project description, reasonable worst-cast development scenario (RWCDS) under No-Action and With-Action conditions, and the governmental approvals required. The attached supplemental studies examine the potential for the proposed actions to result in impacts in any City Environmental Quality Review (CEQR) technical areas, including separate attachments with detailed analyses of land use, zoning, and public policy; community facilities; open space; shadows; urban design and visual resources; transportation; and noise in Attachments C through I, respectively. All other preliminary screening assessments are summarized in Attachment B, "Supplemental Screening."

II. BACKGROUND AND EXISTING CONDITIONS

Project Site

The approximately 23,000-sf project site, which is coterminous with the proposed rezoning area, is located at 600 East 156th Street (Bronx Block 2624, Lot 41 (formerly Lots 41 and 48-52)) in the Melrose neighborhood of Bronx CD 1 (see Figure A-1). The project site fronts East 156th Street to the north (230 feet of street frontage) and Eagle and Cauldwell Avenues to the west and east, respectively (100 feet of frontage on each street). East 156th Street slopes down approximately 20 feet in elevation from east to west between Cauldwell and Eagle Avenues.

An M1-1 district is currently mapped on the project site; the district does not extend to the surrounding area, which is zoned for residential uses. M1-1 districts are often buffers between M2 or M3 districts and adjacent residential or commercial districts. M1 districts typically include light industrial uses, such a woodworking shops, repair shops, and wholesale service and storage facilities. Nearly all industrial uses are allowed in M1 districts if they meet the stringent M1 performance standards. Offices, hotels, and most



600 East 156th Street EAS

Figure A-1
Project Location

retail uses are also permitted. Certain community facilities, such as hospitals and schools, are allowed in M1 districts only by special permit, but houses of worship are allowed as-of-right.

As presented in Figure A-2, the project site is currently occupied by a two-story 22,750-sf building and open vehicle storage. The existing project site building is built to the lot line on both East 156th Street and Eagle Avenue and has a maximum building height of 26 feet; an 18-foot-tall structure adjoins the main structure along its eastern border. The approximately 22,750-sf building is currently occupied by a Use Group 8 public parking garage with a licensed capacity of 90 spaces, with second floor Use Group 6 office space above; Use Group 6 office space is also located within the one-story eastern portion of the building. The second floor office space is currently unoccupied, and was previously occupied by a lighting company. The Use Group 6 office space within the one-story eastern portion of the building comprises approximately 2,700 sf of the building's total floor area. Vehicle access to parking garage is provided on East 156th Street via separate entry/exit doors. The eastern portion of the project site is occupied by an open vehicle storage lot surrounded by a chain link fence with one vehicle entry/exit provided on East 156th Street. The eastern portion of the project site has a varied topography and is predominantly paved.

Surrounding Area

The project site is located in Melrose, in the south Bronx. Land uses in the vicinity of the project site are predominantly comprised of residential uses, reflecting the residential zoning districts mapped throughout the surrounding area.

Mapped residential districts in the vicinity of the project site include R6 (mapped on the remainder of Block 2624 and on the blocks to the west, east, north, and northeast of the project site), R7X and R7X/C2-3 (mapped on the block to the northwest of the project site), and R7-2 (mapped on the blocks west of St. Ann's Avenue). R6 districts are widely mapped in built-up medium-density areas in the Bronx and can range in character with a diverse mix of building types and heights, including large-scale "tower in the park" developments. The maximum permitted residential FAR in R6 districts ranges from 0.78 to 2.43, with a maximum community facility FAR of 4.8. R7X districts are governed by contextual Quality Housing bulk regulations. The flexibility of R7X regulations is exemplified by nine- to 13-story apartment buildings along major thoroughfares. The maximum permitted FAR for both residential and community facility uses in R7X districts is 5.0. C2-3 commercial overlays permit 2.0 FAR of commercial uses when mapped in R7X districts. R7-2 districts are medium-density apartment house districts. The maximum permitted residential FAR in R7-2 districts ranges from 0.87 to 3.44 pursuant to Height Factor Regulations, with maximum permitted residential FARs of 3.44 and 4.0 on narrow streets and wide streets, respectively, pursuant to Quality Housing regulations.

Residential uses in the area surrounding the project site represent a variety of building typologies, including two-story attached rowhouses occupying smaller lots, older five-story multi-family residential buildings with ground floor retail, the tower in the park-style Saint Mary's Park New York City Housing Authority (NYCHA) complex located one block east of the project site (comprising five 22-story buildings), the 18-story NYCHA Bronxchester Houses, located at the southwest corner of East 156th Street and St. Ann's Avenue, and the recently constructed eight-story residential buildings with ground floor retail that occupy the majority of the block bounded by St. Ann's and Eagle Avenues and East 156th and East 159th Streets; a 20-story mixed-use predominantly residential development with over 200 affordable DU development located on the east side of Brook Avenue at East 156th Street.

600 East 156th Street EAS

Figure A-2
Project Site Aerial

Apart from residential and ground floor retail uses, land uses in the proximity of the project site are limited to open space, community facility uses, and vacant/parking lots. The community facility uses include two schools (P.S. 157 – Grove Hill, which is located directly north of the project site and University Heights High School, which is located on the west side of St. Ann's Avenue), and a religious institution located at the northwest corner of East 156th Street and Trinity Avenue (to the northeast of the project site. The most proximate open space resource to the project site is Grove Hill Playground, located one block north of the project site on East 158th Street between Eagle and Cauldwell Avenues.

Several public transportation facilities serve the surrounding area. The Jackson Avenue (2/5) Station is located less than 0.2 miles to the southeast of the project site (on Westchester Avenue). The Bx4 and Bx4A also run along Westchester Avenue, with the closest bus stop to the project site located at the intersection of Westchester and Jackson Avenues. Both the Bx4 and Bx4A bus routes provide connections between the Hub and Westchester Square in the Bronx.

III. THE PROPOSED ACTIONS

ULURP Actions

The proposed project requires the following discretionary land use actions:

- ***Zoning Text Amendment:*** The applicant is proposing a zoning text amendment to Appendix F of the *Zoning Resolution of the City of New York* to establish the project site as a Mandatory Inclusionary Housing (MIH) designated area subject to the affordability requirements of Option 1 of the MIH Program (see Figure A-3). Option 1 requires that at least 25 percent of the residential floor area be reserved for residents with incomes averaging 60 percent AMI, with ten percent of the units affordable at 40 percent AMI.

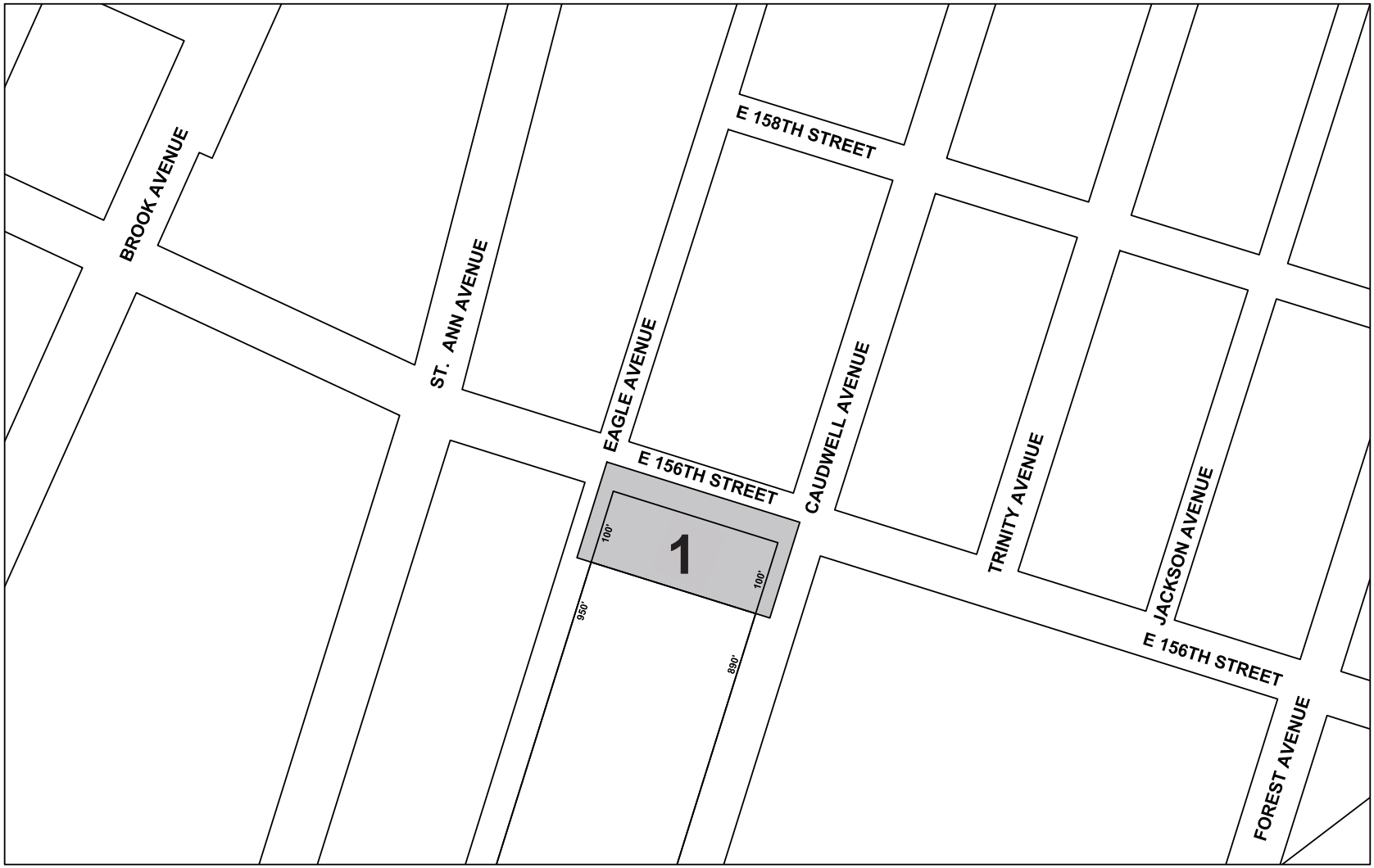
- ***Zoning Map Amendment:*** The applicant is proposing a zoning map amendment to rezone Bronx Block 2624, Lot 41 (the project site) from M1-1 to R8A (see Figure A-4 for zoning district boundary). Table A-1, below, compares the use and bulk requirements under the existing and proposed zoning districts. The proposed rezoning area is conterminous with the project site.

Table A-1: Comparison of Existing and Proposed Zoning

	Existing M1-1	Proposed R8A
Use Groups	4-14, 16, 17	1-4
Maximum FAR		
Residential	0.0	7.2[1]
Community Facility	2.4	6.5
Commercial	1.0	0.0
Manufacturing	1.0	0.0

Source: *Zoning Resolution of the City of New York.*
Notes:
[1] 7.2 FAR for provision of Inclusionary Housing pursuant to the MIH Program (ZR Section 23-90).

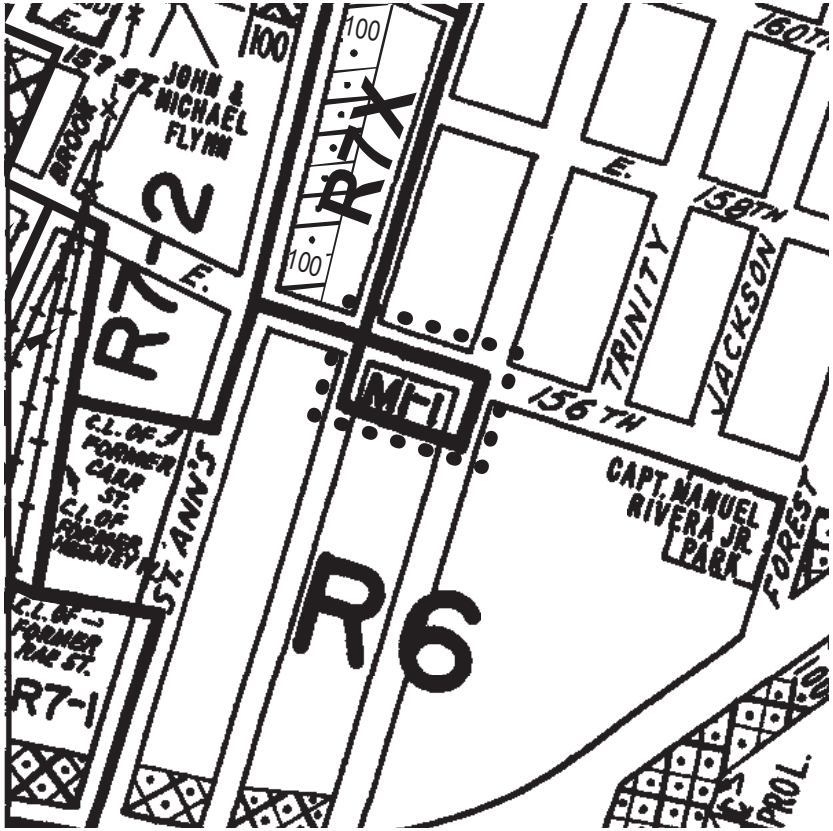
The proposed zoning map and text amendments are discretionary public actions that are subject to both the Uniform Land Use Review Procedure (ULURP) and City Environmental Quality Review (CEQR).



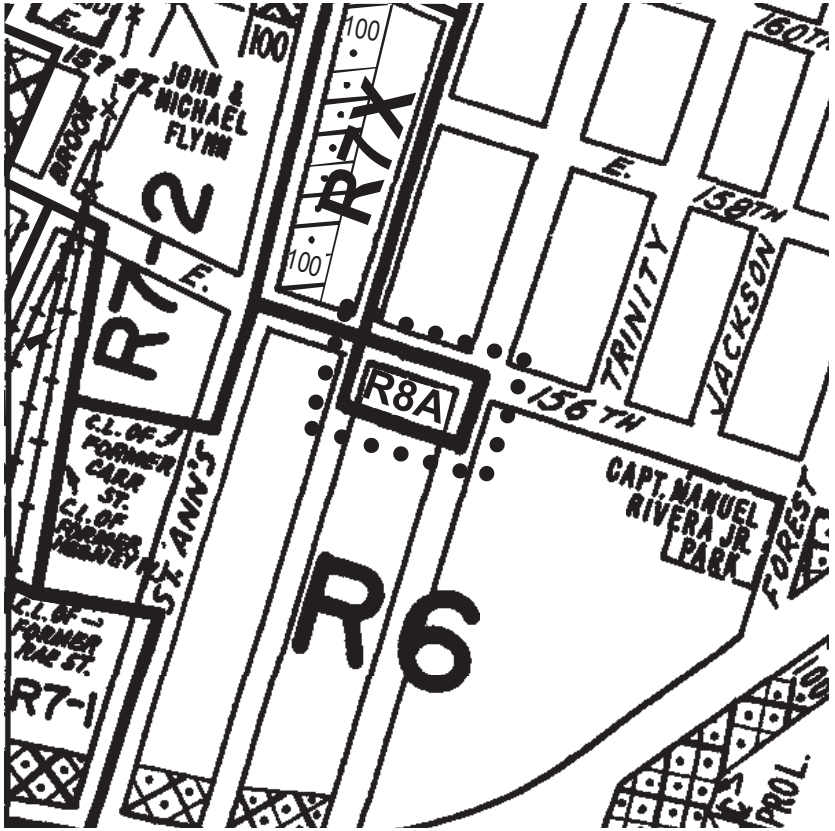
Mandatory Inclusionary Housing Area (MIHA)

X MIHA Program Option 1 [section 23-154 (d) (3)]

Figure A-3
Proposed MIH Area



CURRENT ZONING MAP



PROPOSED ZONING MAP
Rezoning M1-1 to R8A

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

NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.

PROJECT AREA

Figure A-4
Existing and Proposed Zoning

(E) Designations

As described in greater detail in Attachment B, "Supplemental Screening," and Attachment I, "Noise," of this document, the proposed actions include the placement of a hazardous materials and noise (E) designation (E-398) on the project site (Block 2624, Lot 1). The (E) designation is a mechanism that ensures no significant adverse impacts would result from a proposed action because of steps that would be undertaken prior to development of rezoned site. The hazardous materials and noise (E) designation that would be assigned to the project site as part of the proposed actions would: (1) ensure that the project site would not be developed unless remedial measures are implemented and that there would be no significant adverse hazardous materials impacts; and (2) specify the level of attenuation that the proposed project would need to provide to ensure that there would be no significant adverse noise impacts.

Additional Actions Not Subject to ULURP

In addition to the zoning map and text amendments described above, the applicant is seeking public financing from HPD and HDC, discretionary public actions that are subject to CEQR. It is anticipated that the public financing would be sought once the proposed zoning map and text amendments have been approved (expected December 2017), and would call for approved building permits from the New York City Department of Buildings (DOB). The anticipated public funding sources would also mandate the building uses planned for the project site (outlined in further detail below) and would satisfy the requirements of Option 1 of the MIH Program.

IV. PURPOSE AND NEED FOR PROPOSED ACTIONS

The proposed actions are intended to facilitate a new affordable residential development on the project site. Under the current M1-1 zoning, no new residential development is permitted. The proposed project is expected to provide approximately 170 units of affordable rental housing, along with an approximately 32,300-gsf (350-seat) charter school. This project would, according to the applicant, help to address the continuing need for affordable housing for a range of household income levels in Melrose and the surrounding neighborhoods. In addition, mapping the project site as an MIH-designated area would promote the creation of permanently affordable housing.

The existing M1-1 zoning designation mapped on the site is out of context with the surrounding area, which, as noted above, is predominantly mapped with residential zoning districts. The proposed R8A zoning district would facilitate the creation of a mix of residential and community facility uses at a scale appropriate to the project site. The R8A district would be an extension of the higher density residential districts mapped to the west of the project site, including the C6-2 (R8 equivalent), R7-2, and R7X districts mapped to the west of the site. The R8A district would facilitate development at a scale that is appropriate for the site and the surrounding area, which includes buildings ranging up to 22 stories in height.

The project site is currently occupied by an approximately 22,750-sf building and an open vehicle storage lot, which are out of character with the uses that surround the project site. The proposed project would add a substantial number of affordable dwelling units to a community that anticipates population growth and has a need for such affordable housing. The proposed rezoning would extend the existing residential uses that encompass the project site to the project site and would be consistent with the existing uses in the surrounding built environment.

V. DESCRIPTION OF THE PROPOSED PROJECT

The applicant, 600 Associates, LLC, is proposing the redevelopment of the project site (Bronx Block 2624, Lot 41 (formerly Lots 41 and 48-52)) with an approximately 211,300-gsf building with 179,000 gsf of residential floor area and a 32,300-gsf charter school occupying the building's ground floor and cellar levels. The proposed project would have an FAR of 7.16, with approximately 6.54 FAR of residential use and approximately 0.62 FAR of community facility use. The building bulk would conform with all bulk and use requirements applicable in R8A (MIH) districts.

As shown in Figure A-5, the proposed building would incorporate a variety of building heights ranging from nine to 12 stories, with a maximum height of approximately 125 feet. As R8A districts with Inclusionary Housing and qualifying ground floors allow for maximum building heights of 145 feet (or 14 stories), the proposed building's maximum building height would be approximately 20 feet less than the maximum building height permitted in the proposed R8A district. Along Eagle Avenue, the proposed project would have a nine to ten-story streetwall, with a 21-foot setback, before rising to 12 stories. On East 156th Street, the streetwall would include a ten-story portion at the corner of Eagle Avenue and East 156th Street, an eight-story portion midblock, and a 12-story portion at the corner of Cauldwell Avenue and East 156th Street. The streetwall along the proposed project's Cauldwell Avenue frontage would range from nine to 12 stories. It is currently envisioned that the proposed project would have brick facades with metal panel accents.

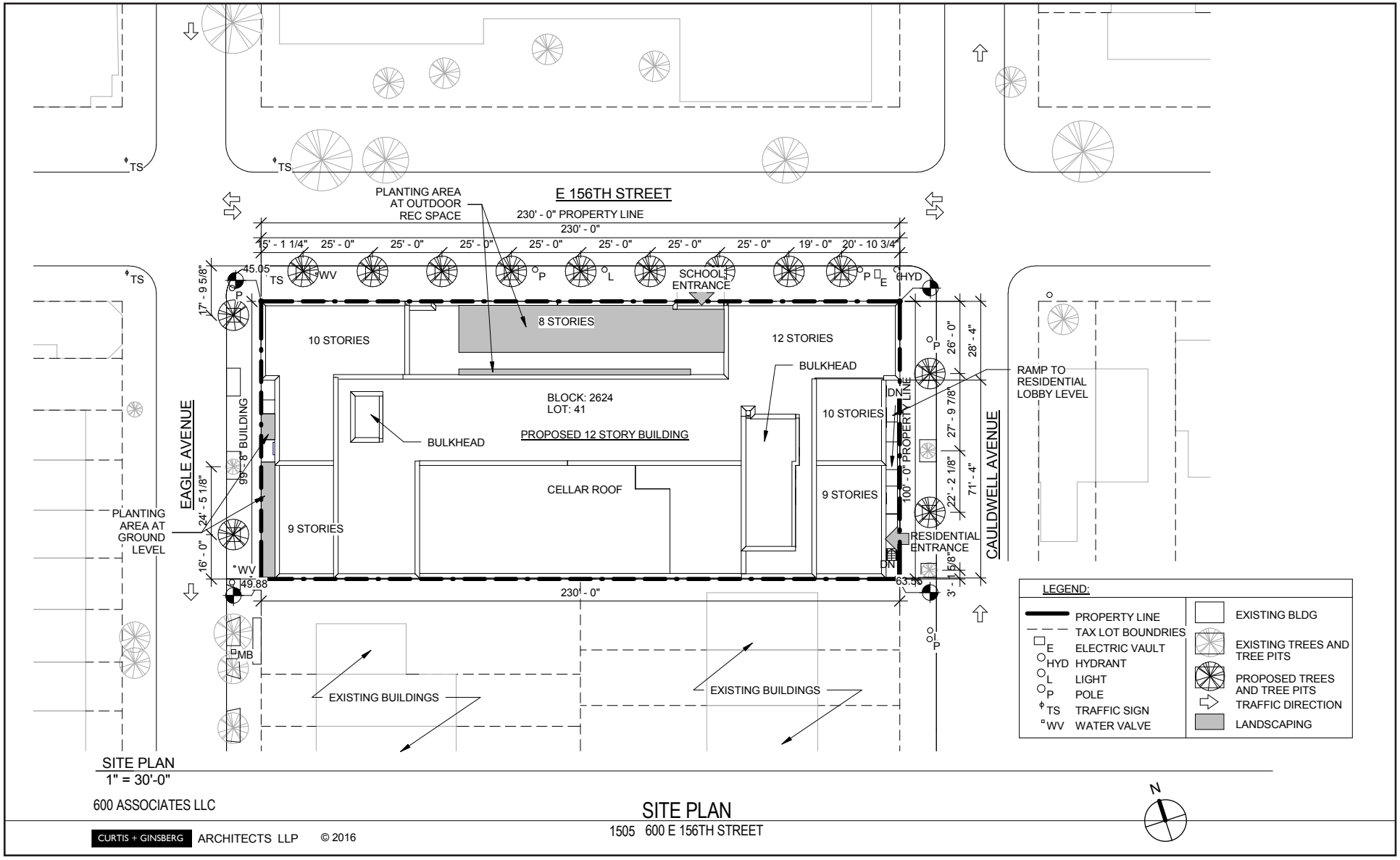
While the exact income mix has not yet been determined, it is expected that the units will be affordable to low- and moderate-income households.. The proposed residential units are expected to comprise a mix of studios, one-, two-, and three-bedroom apartments. The primary residential entrance would be located on Cauldwell Avenue. The residential component is also expected to include recreation rooms (amenity space) and a 2,808-sf outdoor recreation space, which would be located above the eighth floor on a portion of the building's East 156th Street frontage (refer to Figure A-6).

The specific charter school that would occupy the 32,300-gsf ground floor and cellar level space has not yet been determined but would be selected by Civic Builders, a tenant of the proposed project, prior to the completion of construction. Civic Builders has indicated their intent to select an existing charter school or charter management organization (CMO) with an existing state charter to occupy the space. The charter school, which would be accessed via East 156th Street, is expected to have a capacity of up to 350 seats. An approximately 1,392-sf classroom accessory to the proposed charter school would be located at grade in a rear courtyard. The charter school floor plan, presented in Figure A-7, has been developed in close coordination with Civic Builders.

As the project site is located within the Transit Zone, parking is not required for income-restricted housing units, pursuant to ZR Section 25-251. As the proposed project would include 170 income-restricted units, no parking is required pursuant to zoning; any units for households above 80 percent AMI would be expected to be few enough not to necessitate the provision of parking. In addition, pursuant to ZR Section 25-30, no parking is required for schools developed in R8A zoning districts. As such, and in accordance with zoning requirements, no accessory parking is proposed as part of the proposed project.

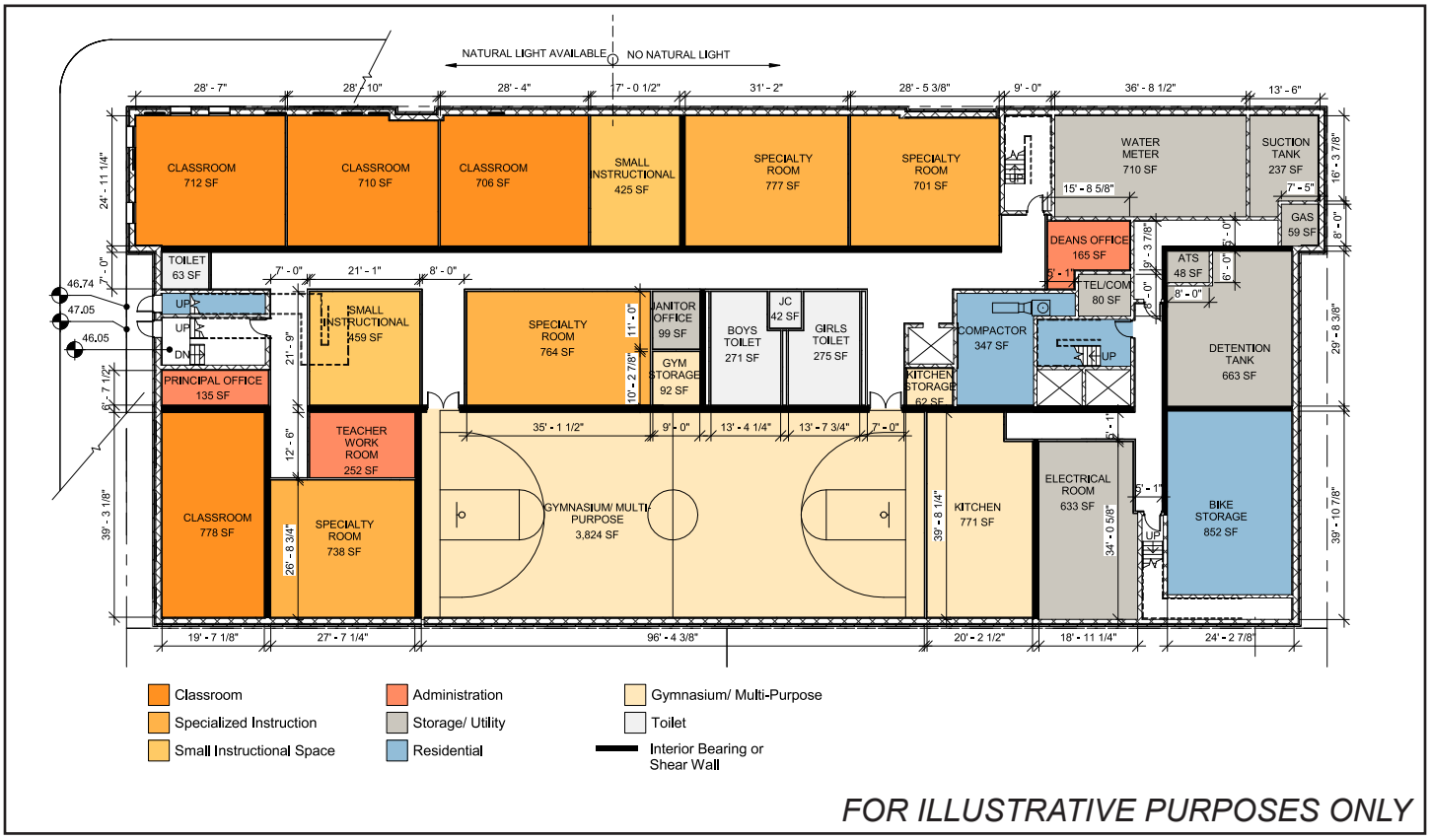
ILLUSTRATIVE RENDERING:
NORTH EAST CORNER

Figure A-5
Proposed Project - Illustrative Rendering

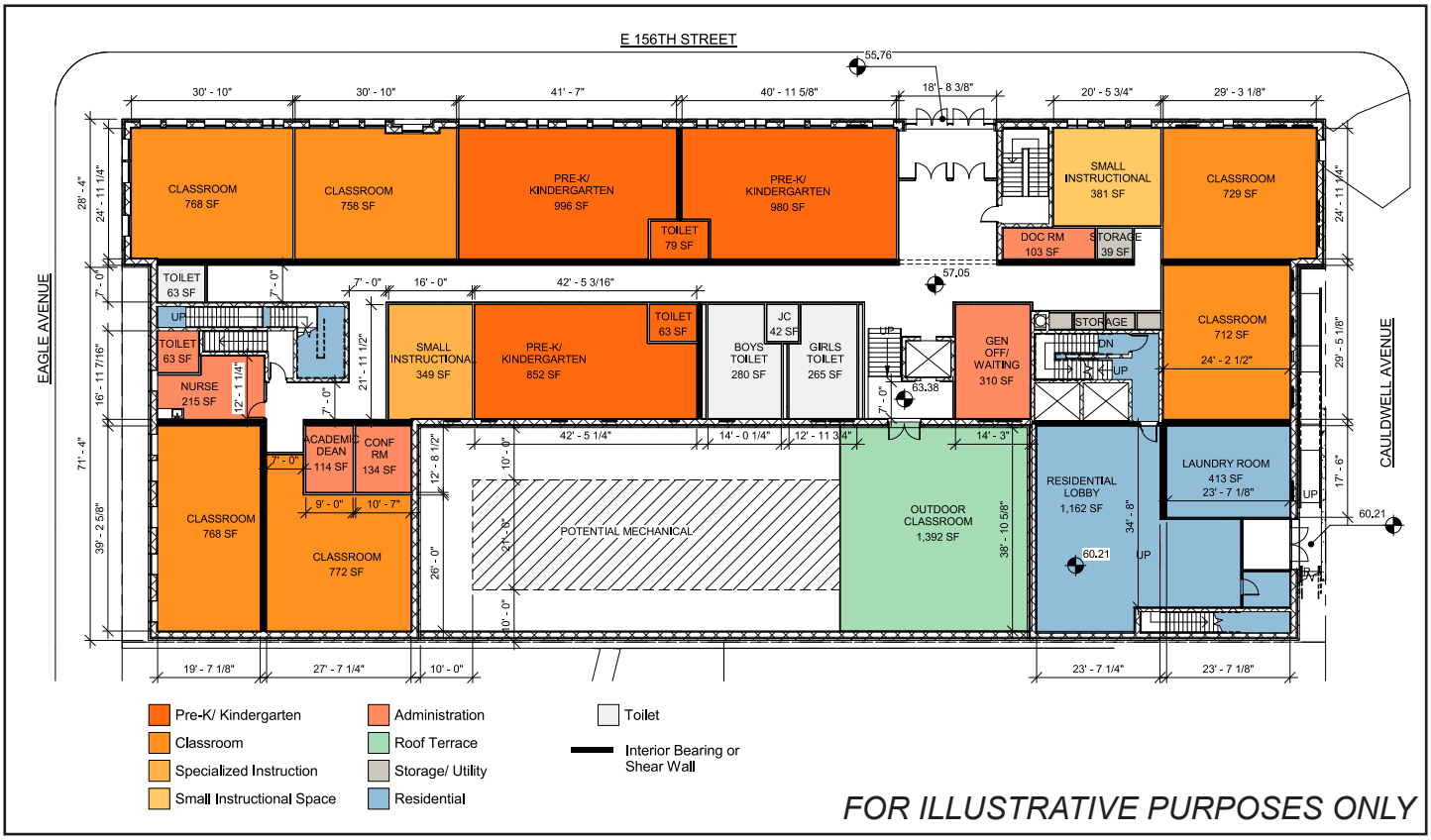


FOR ILLUSTRATIVE PURPOSES ONLY

Proposed Project - Charter School Floor Plans



Cellar Level



Ground Floor

VI. ANALYSIS FRAMEWORK AND RWCDS

Build Year

In order to assess the potential effects of the proposed actions, a RWCDS for both the future without the proposed actions ("No-Action") and the future with the proposed actions ("With-Action") conditions will be analyzed. As noted above, the applicant anticipates closing on the requested public financing in December 2017, accounting for New York City Department of City Planning (DCP) Pre-Application and Pre-Certification review time and public review under ULURP (approximately seven months). As the applicant has completed numerous buildings of a similar scale within 24-month construction schedules, it is anticipated that construction of the proposed project would be short-term (approximately 24-months) and would be built and occupied in 2019. In addition, as noted above, the requested public financing (anticipated closing in December 2017) would mandate a short-term construction schedule. Specifically, the applicant would face financial penalties from lenders and tax credit syndicators if the construction period were to continue beyond 2019. Accordingly, the RWCDS would use a 2019 Build Year for analysis purposes.

The future No-Action and With-Action scenarios identified the amount, type, and location of development that is expected to occur by 2019 without and with approval of the proposed actions. The incremental difference between the future No-Action and future With-Action scenarios is the basis for the impact category analyses of this Environmental Assessment Statement (EAS). Table A-2 provides a comparison of the 2019 No-Action and With-Action conditions.

Table A-2: Comparison of 2019 No-Action and With-Action Conditions

	No-Action	With-Action	Increment
Land Use			
Residential	0	179,000 gsf (170 DU)	+179,000 gsf (+170 DU)
Community Facilities – Charter School	0	32,300 gsf (350 seats)	+32,300 gsf (+350 seats)
Office	2,700 gsf	0	-2,700 gsf
Public Parking Spaces	90	0	-90
Population[1]			
Residents	0	510	+510
Workers	13	46	+33

Notes:

[1] Population estimates based on the following assumptions: 3.0 persons per household (based on 2010 Census data for Bronx CD 1), one residential employee per 25 DU, one employee per 50 parking spaces, one employee per 250 gsf of office space, and one employee per nine students.

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

In the future without the proposed actions, the project site's existing M1-1 manufacturing zoning would remain in place. Under the existing zoning, it is possible to develop the project site with a variety of uses including light industrial and manufacturing uses, limited community facility uses, and commercial uses such as office, hotels, and most retail uses; residential uses are not allowed. The maximum permitted FAR for the project site in the No-Action scenario is 1.0 for manufacturing and commercial uses and 2.4 for community facility uses. However, for this environmental review, absent the proposed actions, the

applicant has stated that the existing project site users would remain. As such, under the No-Action condition, the project site would include 90 public parking spaces, 2,700 gsf of office space (within the one-story eastern portion of the building), and open vehicle storage, as under existing conditions; it is conservatively assumed that the second floor vacant office space of the two-story portion of the existing project site building would remain unoccupied.

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

With the proposed zoning map change from M1-1 to R8A, residential and community facility uses would be permitted on the project site. The proposed R8A district would allow residential uses up to a maximum FAR of 7.2 pursuant to the MIH Program and community facilities up to 6.5 FAR.

By 2019 under the With-Action condition, it is expected that the applicant would complete the proposed project, which would be facilitated by the proposed actions, as previously stated. The proposed project would consist of an approximately 211,300-gsf predominantly residential building with a total of approximately 170 affordable residential units and an approximately 32,300-gsf charter school on the ground floor and cellar levels. The 170 affordable units assumes an average of approximately 1,050 gsf per dwelling unit, includes the proposed project's interior common spaces, and is based on HPD unit type requirements that the applicant must satisfy in order to receive the requested public financing. As such, number of DU that is being assumed for environmental review purposes represents the reasonable worst-case development scenario, based on the average minimum floor area required by HPD for publicly-sponsored affordable housing developments.

The proposed uses, which include 170 affordable housing units and a 350-seat charter school represent the RWCDS for the proposed actions; commercial uses would not be permitted under the proposed zoning. The applicant has stated that developing market rate units in place of the proposed community facility uses would not be feasible given existing and anticipated near-future market conditions. As such, if the community facility space were to be occupied by additional residential uses, these units would be affordable, would require additional HPD and HDC financing (a discretionary action), and would, therefore, require a subsequent environmental review. Furthermore, as approved DOB permits (consistent with the ULURP application and the CEQR review documents) will be required prior to public financing approval, the proposed uses, site plan, and massing outlined above would not change in the future and, therefore, represent the RWCDS for environmental review purposes.

As the specific grade levels that would be served by the proposed charter school has not yet been determined, for environmental review purposes, it is assumed that the charter school would serve elementary level students, which are associated with comparatively higher trip generation rates (due to parents accompanying students to school) and auto and walk shares, as compared to intermediate and high school students.

In terms of building bulk, the proposed project would have an FAR of 7.16, compared to a maximum permitted FAR of 7.2 pursuant to the proposed R8A (MIH) district, and, therefore, would be 0.04 FAR less than the maximum permitted density. While the proposed FAR is slightly less than the maximum FAR permitted, the applicant has indicated that this additional floor area cannot be reasonably added to the proposed project, while maintaining a practical unit layout that meets HPD design guidelines. As the maximum building height in R8A districts is 145 feet (or 14 stories) with a qualifying ground floor, the RWCDS for the proposed project will assume that the proposed project will rise to a maximum height of

145 feet (compared to the proposed project's maximum building height of 125 feet), as presented in Figure A-8.

Project Increment

As presented in Table A-2, compared to the No-Action condition, the proposed actions would result in the incremental development of 170 affordable DU and a 350-seat (32,300 gsf) charter school, as well as a net reduction of 2,700 gsf of office space and 90 public parking spaces. In terms of population, the proposed actions are expected to generate 510 incremental residents and 33 incremental employees, as compared to the 2019 No-Action condition.

VII. REQUIRED APPROVALS

The applicant requires zoning map and text amendments, as well as public financing approval, to implement the proposed project. The proposed zoning map and text amendments are discretionary public actions that are subject to both the Uniform Land Use Review Procedure (ULURP) and CEQR; the requested public funding is a discretionary public action that is subject to CEQR.

The City's ULURP process, mandated by Sections 197-c and 197-d of the New York City Charter, is designed to allow public review of ULURP applications at four levels: Community Board, Borough President, the CPC, and the City Council. The procedure has mandated time limits for review at each stage to ensure a maximum review period of approximately seven months. The process begins with certification by DCP that the ULURP application is complete. The application is then referred to the relevant Community Board (in this case Bronx Community Board 1). The Community Board has up to 60 days to review and discuss the proposal, hold a public hearing, and adopt an advisory resolution on the ULURP application. The Borough President then has up to 30 days to review the application. CPC then has up to 60 days, during which time a public hearing is help on the ULURP application. If CPC approved, the application is then forwarded to the City Council, which has 50 days to review the ULURP application.

The requested public financing would be closed in December 2017, subsequent to approval of the proposed zoning map and text amendments (the ULURP application) by the City Council. The sources for funding for the proposed project are expected to include funding from HPD and HDC and would call for approved building permits from DOB.

CEQR is a process by which agencies review discretionary actions for the purpose of identifying the effects those actions may have on the environment. The City of New York established CEQR regulations in accordance with the New York State Environmental Quality Review Act (SEQRA). In addition, the City has published a guidance manual for environmental review, the *CEQR Technical Manual*. CEQR rules guide environmental review through the following steps:

- *Establish a Lead Agency*. Under CEQR, the "lead agency" is the public entity responsible for conducting environmental review. The environmental review for the proposed actions is a coordinated review, with DCP serving as the lead agency for this project, and HPD and HDC are involved agencies under CEQR.
- *Environmental Review and Determination of Significance*. The lead agency will determine whether the proposed actions may have a significant impact on the environmental. To do so, an EAS must

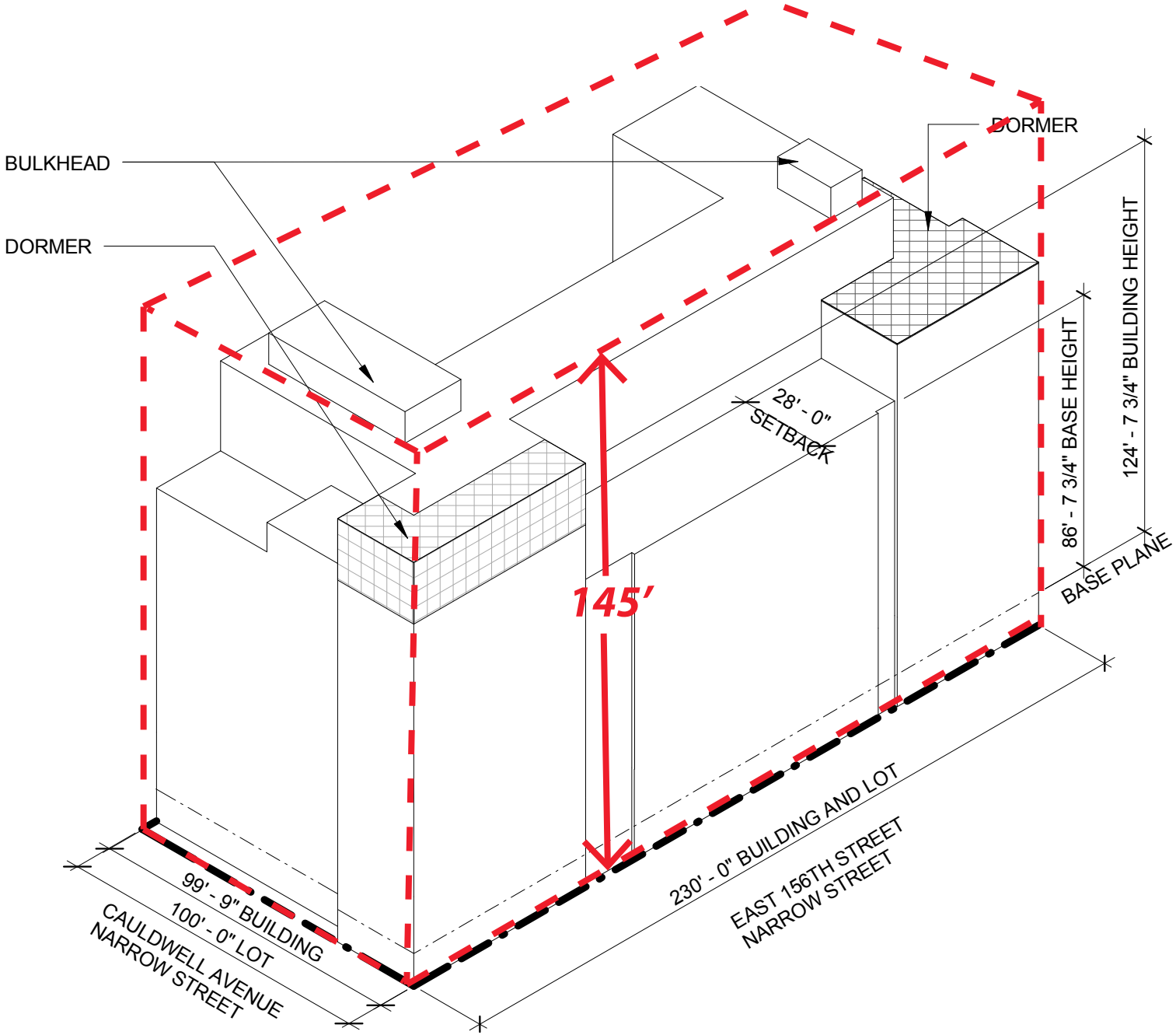


Figure A-8
RWCDS Massing

be prepared. This EAS will be reviewed by the lead agency, which will determine if the proposed actions and development would result in any significant adverse impacts on the environment.

ATTACHMENT B

SUPPLEMENTAL SCREENING

I. INTRODUCTION

This Environmental Assessment Statement (EAS) has been prepared in accordance with the guidelines and methodologies presented in the 2014 *City Environmental Quality Review* (CEQR) *Technical Manual*. For each technical area, thresholds are defined, which, if met or exceeded, require that a detailed technical analysis be undertaken. Using these guidelines, preliminary analyses were conducted for all aspects of the proposed actions to determine whether detailed analyses of any technical areas would be appropriate.

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

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

II. LAND USE, ZONING, AND PUBLIC POLICY

A detailed assessment of land use and zoning is appropriate if a proposed action would result in a significant change in land use or would substantially affect regulations or policies governing land use. An assessment of zoning is typically performed in conjunction with a land use analysis when the action would change the zoning on the site or result in the loss of a particular use. As the proposed actions include zoning map and text amendments that would facilitate the development of land uses that are not permitted under the project site's existing zoning, a land use and zoning assessment was prepared in accordance with *CEQR Technical Manual* methodology and is provided in Attachment C, "Land Use, Zoning, and Public Policy."

Table B-1: Summary of CEQR Technical Areas Screening

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

As shown in Attachment C, no significant adverse impacts on land use, zoning, or public policy, as defined by the guidelines for determining impact significant set forth in the *CEQR Technical Manual*, are anticipated in the 2019 future with the proposed actions in the primary and secondary study areas. Compared to the future without the proposed actions, the proposed actions would introduce new residential and community facility uses on the project site that would be compatible with adjacent land uses, which are predominantly residential and include a school directly north of the project site. The proposed actions would not directly displace any land uses so as to adversely affect surrounding land uses, nor would the proposed actions generate land uses that would be incompatible with land uses, zoning, or public policy in the secondary study area. The proposed actions would not create land uses or structures that would be incompatible with the underlying zoning, nor would the proposed actions cause a substantial number of existing structures to become nonconforming. The proposed actions would not result in land uses that conflict with public policies applicable to the primary or secondary study areas.

III. COMMUNITY FACILITIES AND SERVICES

Potential direct or indirect effects of a proposed action can trigger the need for analysis of community facilities. Direct effects occur if a project would "physically alter a community facility, whether by displacement or other physical change." Indirect effects occur if a project would add population to an

area, which may potentially affect service delivery. While no community facilities would be directly displaced by the proposed actions and subsequent proposed project, the proposed actions would facilitate the development of 170 affordable residential units. The *CEQR Technical Manual* provides density thresholds, which are used to make an initial determination of whether detailed studies are necessary to determine potential indirect impacts. These density thresholds are summarized in Table B-2.

Table B-2: Preliminary Screening Analysis Criteria

Community Facility	Threshold for Detailed Analysis	Minimum Number of Residential Units in the Bronx that Trigger Detailed Analyses
Public Elementary/Intermediate Schools	50 or more elementary/intermediate school students	90
Public High Schools	150 or more high school students	787
Libraries	More than five percent increase in ratio of residential units to libraries in the borough	682
Health Care Facilities (outpatient)	Introduction of sizeable new neighborhood	N/A
Child Care Centers (publicly funded)	More than 20 eligible children under age six based on number of low- to moderate-income units	141
Fire Protection	Introduction of sizeable new neighborhood	N/A
Police Protection	Introduction of sizeable new neighborhood	N/A

Source: *CEQR Technical Manual*

Public Schools

As the proposed actions would result in the incremental development of more than 90 DU, it is expected to generate more than 50 elementary and intermediate school students per *CEQR Technical Manual* criteria, and a detailed assessment of the potential impacts of the proposed actions on public schools is provided in Attachment D, "Community Facilities." As the proposed project would not exceed the threshold for a detailed high school analysis, the public school analysis is focused solely on public elementary and intermediate schools. As presented in Attachment D, the proposed actions would not result in significant adverse impacts on community facilities. The 170-DU development facilitated by the proposed actions is expected to generate 66 elementary school students and 27 intermediate school students in Sub-district 3 of Community School District (CSD) 7. While CSD 7, Sub-district 3 elementary and intermediate schools would operate over capacity in the future with the proposed actions (132.1 and 104.9 percent utilization rates, respectively), as under No-Action conditions, as the proposed actions would only increase the elementary and intermediate school utilization rates by 1.4 and 1.1 percentage points, respectively, no significant adverse school impacts would result, in accordance with *CEQR Technical Manual* impact criteria.

Child Care Facilities

The *CEQR Technical Manual* requires a detailed analysis of publicly-funded child care centers when a proposed action would produce substantial numbers of subsidized, low- to moderate-income affordable housing units that may therefore generate a sufficient number of eligible children to affect the availability of slots at group child care facilities. Typically, a proposed action that generates 20 or more eligible children under age six requires further analysis. As shown in Table B-2, above, based on *CEQR Technical*

Manual multipliers, 141 affordable housing units in the Bronx would yield more than 20 children under age six eligible for publicly-funded child care.

As the exact income mix of the 170 affordable units has not yet been determined, for conservative child care facilities analysis purposes, it is assumed that all 170 units would be affordable to households earning up to 80 percent AMI (the CEQR proxy for child care facility eligibility). As such, a detailed child care analysis is warranted and is provided in Attachment D. As outlined in Attachment D, the 170 DU introduced on the project site in the future with the proposed actions are expected to generate 24 publicly-funded child care-eligible students, increasing the study area child care facility utilization rate to 101.2 percent. While study area child care facilities would operate above capacity in the 2019 future with the proposed actions, as the proposed actions would only result in a 0.8 percent increase in the utilization rate (below the five percent impact threshold), no significant adverse impacts would result pursuant to *CEQR Technical Manual* methodology.

Libraries, Health Care Facilities, and Fire and Police Protection

As the proposed actions would not result in the introduction of a sizeable new neighborhood and would not result in a more than five percent increase in the ratio of residential units to libraries in the Bronx (i.e., would result in the development of fewer than 682 DU), analyses of fire and police protection, health care facilities, and libraries are not warranted, and significant adverse impacts are not anticipated in these technical areas.

IV. OPEN SPACE

An open space assessment may be necessary if a proposed action could potentially have a direct or indirect effect on open space resources in the project area. A direct effect would "physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value." An indirect effect may occur when the population generated by a proposed action would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. According to the guidelines established in the *CEQR Technical Manual*, if a project is not located within an area that is "underserved" or "well-served" by open space, a project that would generate fewer than 200 residents or 500 employees is typically not considered to have indirect effects on open space.

The proposed project would generate a net 510 residents on the project site and therefore requires further assessment pursuant to *CEQR Technical Manual* guidelines.[1] As the number of incremental employees generated by the proposed project would be 33, which is less than the *CEQR Technical Manual* analysis threshold of 500, an analysis of non-residential indirect open space impacts is not warranted and the analysis focuses solely on the potential for residential study area indirect open space impacts.

As shown in Attachment E, "Open Space," the proposed actions would not result in significant adverse open space impacts. While the residential open space study area would continue to have a shortfall of open space in the future with the proposed actions, the demand for open space generated by the proposed project would not significantly exacerbate the No-Action deficiency, with a decrease in the open space ratio of less than one percent as a result of the proposed actions. In addition, the population added

[1] Based on the average household size of 3.0 for Bronx Community District 1 (2010 U.S. Census).

as a result of the proposed actions is not expected to noticeably affect utilization of the area's open spaces. Most of the study area open space resources are only lightly utilized and are in good condition, and could therefore handle additional demand. Residents of the study area would also continue to use additional open space resources not included in the quantitative assessment. Therefore, while the proposed actions would result in an incremental decrease in open space ratios in the future, given the level of decrease anticipated, the existing low utilization of many of the study area's open spaces, and the availability of additional open spaces conservatively not included in the quantitative analysis, the proposed actions would not result in a significant adverse impact on open space. In addition, the proposed actions would not have a direct effect on any study area open spaces due to construction or operation.

V. SHADOWS

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

As outlined in Attachment A, "Project Description," under the reasonable worst-case development scenario (RWCDS), the project site would be developed with a building with a maximum height of 145 feet (the maximum permitted building height under the proposed R8A (MIH) zoning), approximately 119 feet taller than the maximum building height of the existing/No-Action building on the project site. As such, a detailed shadows analysis was conducted, which is provided in Attachment F, "Shadows." As outlined in Attachment F, the proposed actions would not result in significant adverse shadows impacts. While the proposed project would cast incremental shadows on a portion of the P.S. 157 – Grove Hill Playground, the shadows analysis determined that the duration and coverage of incremental shadows on the playground would not be significant or adverse. Project-generated incremental shadows would occur on only one analysis day (December 21) with a total shadow duration of one hour 56 minutes. The proposed project would not cast incremental shadows on the open space resource during the growing season, and, therefore, would not have the potential to significantly affect warm-weather-dependent vegetation located on the open space resource. Incremental shadows cast by the RWCDS massing for the proposed actions would be limited to the southern and eastern portions of the playground, which are predominantly paved. In addition, as the incremental shadow coverage would only occur on the December 21 analysis day, when temperatures would be colder and the use of the active recreational space would not be as high (compared to warmer months), they would not significantly affect the utilization or enjoyment of this open space resource. Therefore, the incremental shadows resulting from the proposed actions are not expected to result in significant adverse impacts to the usability of the P.S. 157 – Grove Hill Playground.

VI. HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources are defined as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. This includes properties that have been designated or are under consideration for designation as New York City Landmarks or Scenic Landmarks, or are eligible for such designation; properties within New York City Historic Districts; properties listed on the State

and/or National Register of Historic Places; and National Historic Landmarks. An assessment of architectural and/or archaeological resources is usually needed for projects that are location adjacent to historic or landmark structures or projects that require in-ground disturbance, unless such disturbance occurs in an area that has already been excavated.

According the *CEQR Technical Manual* guidelines, impacts on historic resources are considered on those sites affected by proposed actions and in the area surrounding identified development sites. The historic resources study area is therefore defined as the project site, as well as an approximately 400-foot radius around the project site. Archaeological resources are considered only in those areas where new excavation or ground disturbance is likely and would result in new in-ground disturbance, as compared to No-Action conditions (the project site).

Based on a letter provided by the New York City Landmarks Preservation Commission (LPC) on September 8, 2016 (included in Appendix I), there are no architecturally or archaeologically sensitive resources on the project site and no architecturally significant resources within 400 feet of the project site. As such, a historic resources assessment is not warranted, and no significant adverse impacts would result.

VII. URBAN DESIGN AND VISUAL RESOURCES

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

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

As the proposed actions include zoning map and text amendments that would change the permitted bulk allowed on the project site, a preliminary urban design analysis is required and is provided in Attachment G, "Urban Design and Visual Resources." As discussed therein, the proposed actions and subsequent development, while resulting in a notable change in the urban design of the study area, would not result in a significant adverse impact on the area's urban design and visual resources, as defined by the *CEQR Technical Manual*. Under the RWCDS, the proposed actions would facilitate the construction of a new 145-foot tall predominantly residential development comprised of 170 affordable dwelling units (DU) and a 350-seat charter school. The proposed project would replace existing auto-oriented uses that are currently located on the site, including a one- to two-story building and an open vehicle storage lot. The proposed project would enliven the streetscape and would serve as an extension of the residential and community-oriented uses in the surrounding area. While the RWCDS building would be taller than adjacent structures, the building would be consistent with the surrounding neighborhood context in terms of use and lot placement, forming a consistent streetwall with the mixed-use buildings lining East 156th

Street to the west of the project site. In addition, the proposed project would not notably alter views of study area visual resources.

VIII. HAZARDOUS MATERIALS

A hazardous material is any substance that poses a threat to human health or the environment. Substances that can be of concern include, but are not limited to, heavy metals, volatile and semi-volatile organic compounds, methane, polychlorinated biphenyls, and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic. According to the *CEQR Technical Manual*, the potential for significant impacts from hazardous materials can occur when: (a) hazardous materials exist on a site and (b) an action would increase pathways to their exposure; or (c) an action would introduce new activities or processes using hazardous materials. The proposed actions would redevelop Bronx Block 2624, Lot 41 with residential and community facility uses on a site that has been used by auto-related uses. As such, a hazardous materials assessment is warranted.

Phase I Environmental Site Assessment (ESA)

A Phase I Environmental Site Assessment (ESA) was prepared for the project site by CA Rich Consultants, Inc. in October 2015 (see Appendix II). Based on the site reconnaissance, database review, and historical investigation performed by MECC, the Phase I ESA noted the following Recognized Environmental Conditions (RECs) and other issues (OI) that do not meet the criteria to be identified as RECs:

- REC 1: Based on the Fire Insurance Sanborn maps from 1935 to at least 1944, the project site was occupied by a garage with two 550-gallon buried gasoline tanks. The 1947 map then shows the project site occupied by a brewery, but does not show the buried tanks. The 1951 Sanborn map then indicates that the site was occupied by W.G. Skylight, which, again, does not show the buried tank.
- REC 2: The City Directory indicates that the project site building was occupied by Garage Corp from 1927 to at least 1940. Additionally, it indicates that an Erection and Steel Partition Company occupied the building from 1956 to 1961. New York City Department of Buildings (DOB) records indicate that the project site is now identified as a garage/gas station and warehouse, and was indicated as a factory in 1952. New York City Department of Finance (DOF) records indicate that a portion of the project site (former Lot 41) was a manufacturer in 1980, and was owned by BP Industries in 1985. DOF records also indicate that a portion of the project site (former Lot 49) was a manufacturer.
- REC 3: The historical database search indicates that the surrounding area includes multiple brownfields, dry cleaners, engineering controls, institutional controls, historical auto stations, and historical dry cleaners.
- OI 1: Based on the age of the existing building on the project site, asbestos is likely present in some of the building materials, especially in the underlying layers of the tar roofing materials, pipe insulation, and vinyl floor tiles.
- OI 2: Based on the age of the existing building on the project site, lead-based paint is likely present in some of the building materials, especially in the underlain lower layers of paint.

Based on the findings of the Phase I ESA, CA Rich Consultants recommended that: (1) a ground penetrating radar (GPR) survey be conducted to locate any suspect buried tanks; (2) a Phase I Environmental Site Investigation (ESI) be conducted; (3) a vapor encroachment study be conducted; (4) an Asbestos Containing Material (ACM) survey be performed and appropriate measures be taken to protect the health

and safety of building occupants or workers during activities that may disturb the ACM; and (5) a lead-based paint survey be performed.

Phase II Environmental Site Investigation (ESI)

Based on the findings and recommendations of the Phase I ESA, CA Rich Consultants prepared a Phase II ESI in December 2015 (see Appendix II). The Phase II ESI included a utility clearance/geophysical survey; soil vapor sampling and analysis; soil sampling and analysis; and report preparation. The Phase II ESI identified petroleum, solvent, metals, pesticides, and polychlorinated biphenyl (PCB) contamination throughout the project site. Based on the conclusions of the Phase II ESI, CA Rich Consultants recommended the following:

- An application should be submitted to the New York State Department of Environmental Conservation (NYSDEC) for enrollment in the NYSDEC Brownfield Cleanup Program (BCP). Additionally, a Remedial Investigation Work Plan (RIWP) should be submitted to the NYSDEC once the BCP application is approved.
- The RIWP should include installation of groundwater monitoring wells within the fractured bedrock, as groundwater was not encountered above the soil/bedrock interface during this investigation. A Remedial Investigation Report (RIR) should be submitted to the NYSDEC summarizing the investigation activities and include a Qualitative Exposure Assessment for contaminants of concern within all impacted media along the identified receptors.
- Based on the RIR, a Remedial Action Work Plan (RAWP) should be prepared for the project site. The RAWP should incorporate remediation of the project site concurrent with redevelopment. The RAWP should include the excavation and removal of impacted on-site soils/fill materials, as needed, for the proposed new building's foundation. In addition, groundwater monitoring and/or treatment along with engineering and institutional controls may be deemed necessary following completion of the Remedial Investigation. The RAWP should also include removal of any suspect Underground Storage Tanks (USTs), hydraulic lifts, fill ports, and vents in accordance with NYSDEC regulations. Also, lead and asbestos should be tested and abated, if necessary, prior to building demolition, and all construction and demolition should be properly disposed of in accordance with applicable regulations.

Brownfield Cleanup Program (BCP)

The project site was accepted into NYSDEC's BCP (NYSDEC Site No. C203085). The BCP is a voluntary program in which a property owner/developer enters into an agreement with NYSDEC to conduct investigation and remediation in accordance with a variety of requirements, including public participation. Following the cleanup, with, if required, the implementation of deed restrictions to ensure the performance of institutional and engineering controls, NYSDEC issues a Certificate of Completion indicating cleanup has been achieved consistent with the proposed site use.

As the project site has been accepted into the NYSDEC BCP, all cleanup and remedial activities on the site would be completed prior to construction of the proposed project, and the project site would be fully remediated, vacant, and ready for development prior to construction of the proposed project, no significant adverse impacts related to hazardous materials would result from construction activities on the project site associated with the proposed project. Following construction, there would be no potential for significant adverse hazardous materials impacts as a result of the proposed project.

Based on the applicant's proposal to construct subject to NYSDEC BCP requirements, the New York City Department of Environmental Protection (DEP) concurred that the incorporation of all testing and remedial measures under NYSDEC BCP requirements would ensure that there would be no potential for significant adverse hazardous materials impacts as a result of the proposed project. DEP further requested that, upon completion of the cleanup and remedial activities pursuant to the NYSDEC BCP, a Professional Engineer-certified (P.E.-certified) Remedial Closure Report indicating that all NYSDEC BCP remedial requirements have been property implemented be submitted to DEP for review.

Assessment

As noted above, as the project site would be subject to NYSDEC BCP requirements and it is the applicant's intent to fully remediate the site in accordance with NYSDEC BCP requirements prior to construction of the proposed project. However, as the BCP is a voluntary program, an (E) designation (E-398) will be assigned to project site to ensure that the project site would not be developed unless remedial measures are implemented, should the application fall out of the voluntary BCP. The text of the hazardous materials (E) designation for the project site (Block 2624, Lot 41) would be as follows:

Task 1-Sampling Protocol

The applicant submits to OER, for review and approval, a Phase I of the site along with a soil, groundwater and soil vapor testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, specific sources of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2-Remediation Determination and Protocol

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

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

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

With this (E) designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted.

IX. TRANSPORTATION

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

The *CEQR Technical Manual* identified minimum development densities that have the potential to result in significant adverse impacts to traffic conditions and therefore require a detailed traffic analysis. As shown in Table 16-1 of the *CEQR Technical Manual*, actions with a single or multiple land use(s) that would result in fewer than fifty peak hour vehicle trips are generally unlikely to cause significant adverse impacts. As the proposed project would exceed the Level 1 screening threshold and would introduce a new school warranting a pedestrian safety assessment, a detailed transportation analysis was prepared for the proposed actions, which is included in Attachment H, "Transportation."

As presented in Attachment H, , the anticipated level of new transportation demand generated by the proposed project is not expected to result in any significant adverse impacts to traffic, parking, transit or pedestrian conditions in the vicinity of the project site. Detailed traffic and transit (subway and bus) analyses were screened out, and three pedestrian elements were analyzed as part of the detailed pedestrian analysis. The detailed pedestrian analysis determined that the East 156th Street's south sidewalk (between Eagle and Cauldwell Avenues) would deteriorate from level of service (LOS) A under No-Action conditions to LOS B under With-Action conditions. As the No-Action average pedestrian space at this sidewalk would exceed 44.3 sf per pedestrian in both peak hours, and the With-Action average pedestrian space would remain well above 40.0 sf per pedestrian (the *CEQR Technical Manual* significant impact criteria), this would not be considered a significant adverse impact. The two analyzed corners would continue to operate at LOS A under With-Action conditions, as under No-Action conditions. As such, the proposed actions would not result in significant adverse pedestrian impacts.

There were no intersections located within the surrounding area that were identified as high accident location. However, the applicant will work with the New York City Department of Transportation (DOT) School Safety Engineering Office and follow any guidance that they have on maximizing student safety in the vicinity of the school. With these precautions in place it is anticipated that conditions in the vicinity of the project site would continue to remain safe for pedestrians and vehicles.

X. AIR QUALITY

Stationary Sources

Heating and Hot Water Systems

Actions can result in stationary source air quality impacts when they create new stationary sources of pollutants that can affect surrounding uses (such as emission stacks form industrial plants or exhaust from

boiler stack(s) used for heating/hot water, ventilation, or air conditioning [HVAC] systems of a building); or when they locate new sensitive uses (schools, hospitals, residences) near such stationary sources.

The proposed project would use fossil fuels for HVAC purposes. Emissions from the HVAC system of the proposed project may affect air quality levels at other nearby existing land uses. According to *CEQR Technical Manual* guidelines, the impacts of these emissions would be a function of fuel type, stack height, building size, and location of each emissions source relative to nearby sensitive land uses. A preliminary HVAC screening analysis was conducted herein to determine whether the proposed project would result in the potential for significant adverse air quality impacts. The preliminary screening analysis was conducted using Figure 17-3 of the *CEQR Technical Manual*, which was specifically developed to predict the threshold of development size below which a project would not likely have a significant impact. Figure 17-3 indicates the size of the proposed development and distance to the nearest building of a height similar to or greater than the stack height of the proposed building. If the distance between the source and receptor buildings is less than or equal to the threshold distance (i.e., falls above the curve on the nomograph), further analysis is required using the U.S. Environmental Protection Agency's (EPA's) AERSCREEN or AERMOD models. If the source building is taller than the receptor building or the distance between the two buildings falls below the applicable curve provided in the *CEQR Technical Manual* nomographs, a potential significant impact due to boiler stack emissions is unlikely and no further analysis is needed.

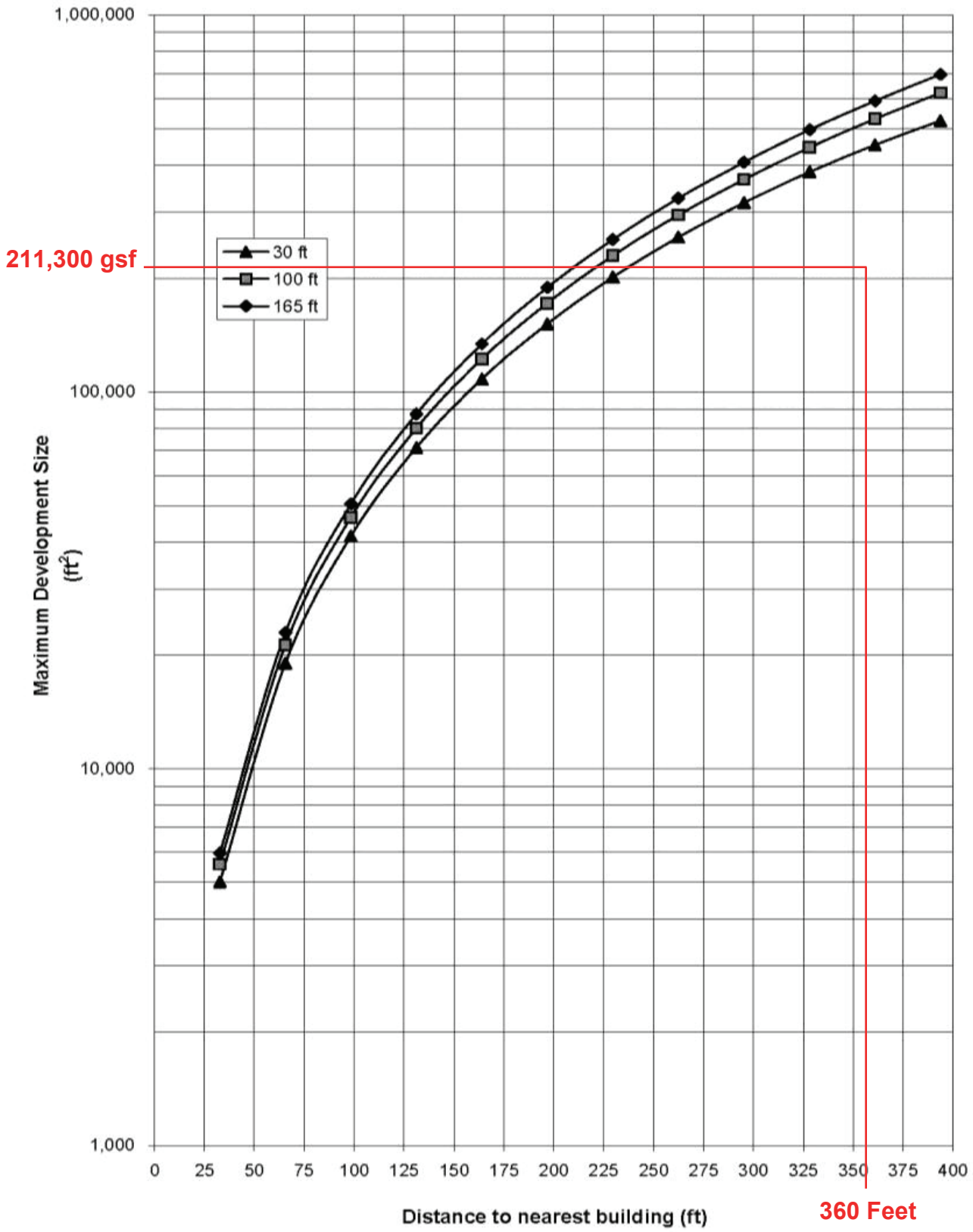
A survey of existing residential land uses and other sensitive receptor sites within 400 feet of the project site was conducted through field observation and use of the New York City Open Accessible Space Information System (OASIS) mapping network system. The closest residential building of similar or greater height to the RWCDS building (i.e., approximately 145 feet or taller) that could be affected by HVAC emissions generated by the proposed project is the 22-story NYCHA Bronxchester Houses, located at the southwest corner of East 156th Street and St. Ann's Avenue, approximately 360 feet to the west of the project site. As this building is the closest sensitive receptor of similar or greater height, if the proposed project would not cause significant impacts at this site, no impacts would occur at sensitive receptors located further from the project site.

To determine whether a detailed project-on-existing HVAC analysis is warranted, an air quality nomograph screening was performed using Figure 17-3 of the *CEQR Technical Manual*, as described above. The nomograph screening was performed based on an anticipated minimum distance between the proposed project's HVAC stack and the NYCHA Bronxchester Houses (located at the southwest corner of East 156th Street and St. Ann's Avenue), as well as the proposed project's total gross floor area (211,300 gsf). Based on the nomograph screening presented in Figure B-1, it was determined that the proposed project's HVAC system would not result in significant adverse impacts on this sensitive receptor (the closest sensitive receptor). As such, a detailed HVAC analysis is not warranted.

Industrial Sources

To assess air quality impacts on the proposed project associated with emission from nearby industrial sources, an investigation of industrial sources was conducted. Based on a review of area land uses, there are no industrial sources within 400 feet of the project site (refer to Attachment C, "Land Use, Zoning, and Public Policy"). As such, an industrial source air quality analysis is not warranted, and no significant adverse impacts would result.

Figure 17-3:
Stationary Source Screen



Mobile Sources

As stated in the *CEQR Technical Manual*, a project—whether site-specific or generic—may result in significant mobile source air quality impacts when they increase or cause a redistribution of traffic, create any other mobile sources of pollutants, or add new users near mobile sources. According to the *CEQR Technical Manual* screening threshold criteria for the City, if 170 or more project-generated vehicles pass through an intersection in any given peak period or if a project would result in a substantial number of local or regional diesel vehicle trips, there is the potential for mobile air quality impacts and a detailed analysis is required.

As presented in Attachment H, "Transportation," the proposed project would not result in 170 or more project-generated vehicle trips through any intersection, nor would the proposed project result in a substantial number of local or regional diesel vehicle trips. As such, no significant adverse mobile source air quality impacts are anticipated, and a detailed analysis is not warranted.

Parking Facilities

As stated in the *CEQR Technical Manual*, projects that would result in parking facilities may require a microscale air quality analysis. As the proposed project would not include a parking facility, a detailed mobile source parking garage analysis is not warranted, and the proposed actions would not result in a significant adverse mobile source parking garage analysis.

XI. NOISE

A noise analysis examines an action for its potential effects on sensitive noise receptors (which can be both indoors and outdoors), including the effects on the interior noise levels of residential, commercial, and certain community facility uses, such as hospitals, schools, and libraries. The principal types of noise sources affecting the City are mobile sources (primarily motor vehicles), stationary sources (typically machinery or mechanical equipment associated with manufacturing operations or building HVAC systems) and construction noise (e.g., trucks, bulldozers, power tools, etc.). An initial impact screening would consider whether a proposed action would generated any mobile or stationary source noise, or would be located in an area with high ambient noise levels. As the proposed project would not include an outdoor play area/playground, a detailed playground noise analysis is not warranted for the proposed actions.

As the proposed actions would introduce new sensitive uses, a detailed noise analysis was conducted in compliance with *CEQR Technical Manual* guidelines to determine whether traffic generated by the proposed project would have the potential to result in significant noise impacts and determine the level of building attenuation necessary to ensure that the proposed project's interior noise levels satisfy applicable interior noise criteria. As presented in Attachment I, "Noise," noise from the increased traffic volumes generated by the proposed project would not cause significant adverse noise impacts, as the noise levels increases would fall well below the applicable *CEQR Technical Manual* significant adverse impact threshold (3.0 dBA).

Based on the noise analysis presented herein, the maximum predicted L_{10} noise levels adjacent to the project site are expected to be 71.0 along the site's Eagle Avenue frontage, 71.9 along the site's East 156th Street frontage, and 71.2 dBA along the site's Cauldwell Avenue frontage. To ensure acceptable interior

noise levels for the proposed project's residential and community facility uses, 28 dBA of attenuation is needed. The noise attenuation specifications for the proposed project would be mandated through the assignment of an (E) designation (E-398) to the project site (Bronx Block 2624, Lot 41). With implementation of this level of attenuation, as required per the (E) designation to be assigned to the project site, the proposed project would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines of 45 dBA for residential uses and community facility uses. Therefore, the proposed actions would not result in any significant adverse noise impacts related to building attenuation requirements.

XII. PUBLIC HEALTH

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

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

As detailed in the analyses provided in this EAS, the proposed actions would not result in significant adverse impacts in the areas of air quality, water quality, hazardous materials, or noise. Therefore, the proposed project does not have the potential to result in significant adverse public health impacts, and no further assessment is warranted.

XII. NEIGHBORHOOD CHARACTER

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

The proposed actions would not adversely affect any component of the surrounding area's neighborhood character. The proposed actions would facilitate the redevelopment of an underutilized lot into a productive residential and community facility development by 2019. The proposed project would not conflict with the surrounding activities, nor would they significantly impact land use patterns. The proposed zoning map amendment is intended to encourage residential development in an appropriate location surrounded by existing residential uses. The proposed residential uses would further expand

housing options in the area and the proposed charter school would increase the availability of convenient amenities and services to the neighborhood.

Moreover, the proposed actions are not expected to result in any significant adverse impacts on the technical areas relating to neighborhood character, including land use, socioeconomic conditions, urban design and visual resources, historic and cultural resources, transportation, and noise. Therefore, the proposed actions and the resultant proposed project would not result in a significant adverse impact to neighborhood character.

XIII. CONSTRUCTION

Although temporary, construction impacts can include noticeable and disruptive effects from an action that is associated with construction or could induce construction. Determination of the significance of the construction impacts and the need for mitigation is generally based on the duration and magnitude of the impacts. Construction impacts are usually important when construction activity could affect traffic conditions, archaeological resources, the integrity of historic resources, community noise patterns, and/or air quality conditions.

Construction of the proposed project is expected to occur within a 24-month period, with construction completed in 2019. Most construction activity would take place Monday through Friday, although the delivery and installation of certain equipment could occur on weekend days. Hours of construction are regulated by DOB and apply in all areas of the City. In accordance with those regulations, almost all work would occur between 7 AM and 6 PM on weekdays, although some workers would arrive and begin to prepare work areas before 7 AM. Occasionally, Saturday or overtime hours could be required to complete time-sensitive tasks. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from DEP under the New York City Noise Code.

Construction activities may result in short-term disruption of both traffic and pedestrian movements in the vicinity of the project site. This would occur primarily due to the potential temporary loss of curbside lanes from the staging of equipment and the movement of materials to and from the project site. Most construction traffic would take place outside of the AM and PM traffic peak hours in vicinity of the project site due to typical construction hours. Additionally, construction may at times result in temporary closings of sidewalks adjacent to the project site in order to accommodate construction vehicles, equipment, and supplies. The construction site would be surrounded by construction fencing and barriers as required by DOB, which would limit the effects of construction on nearby land uses. While it is anticipated that some sidewalks immediately adjacent to construction sites would be closed to accommodate heavy loading areas for at least several months of the construction period for each site, detailed Maintenance and Protection of Traffic (MPT) plans for each construction site must be submitted for approval to the New York City Department of Transportation's (DOT's) Office of Construction Mitigation and Coordination (OCMC), the entity that insures critical arteries are not interrupted, especially in peak travel periods. Given the limited duration of any obstructions, these conditions would not result in significant adverse impacts on traffic and transportation conditions.

Noise associated with construction would be limited to typical construction activities and would be subject to compliance with the New York City Noise Code and the United States Environmental Protection Agency (EPA) noise emission standards for construction equipment. These controls and the temporary nature of

construction activity would assure that there would be no significant adverse noise impacts associated with construction activity.

While construction of the proposed project would result in temporary disruption in some of the surrounding area, including noise, dust, and traffic associated with the delivery of materials and arrival of workers on the project site, the incremental effects of construction of the proposed project, if any, would be negligible. Therefore, no impacts from construction are expected as a result of the proposed actions.

ATTACHMENT C

LAND USE, ZONING, AND PUBLIC POLICY

I. INTRODUCTION

600 Associates, LLC (the "applicant") is seeking zoning map and text amendments from the New York City Planning Commission (CPC), in addition to public financing from the New York City Department of Housing Preservation and Development (HPD) and the New York City Housing Development Corporation (HDC) (the "proposed actions"), to facilitate the development of an approximately 211,300 gross square foot (gsf) predominantly residential apartment building at 600 East 156th Street in the Melrose neighborhood of Bronx Community District (CD) 1.

A detailed assessment of land use and zoning is appropriate if a proposed action would result in a significant change in land use or would substantially affect regulations or policies governing land use. An assessment of zoning is typically performed in conjunction with a land use analysis when the action would change the zoning on the site or result in the loss of a particular use. As the proposed actions includes zoning map and text amendments, a detailed assessment of land use, zoning, and public policy is warranted and is provided in this attachment. The assessment considers the effects of the proposed actions on the land use study area, as well as the proposed actions' potential effects on zoning and public policy in the study area.

II. PRINCIPAL CONCLUSIONS

No significant adverse impacts on land use, zoning, or public policy, as defined by the guidelines for determining impact significant set forth in the *CEQR Technical Manual*, are anticipated in the 2019 future with the proposed actions in the primary and secondary study areas. Compared to the future without the proposed actions, the proposed actions would introduce new residential and community facility uses on the project site that would be compatible with adjacent land uses, which are predominantly residential and include a school directly north of the project site. The proposed actions would not directly displace any land uses so as to adversely affect surrounding land uses, nor would the proposed actions generate land uses that would be incompatible with land uses, zoning, or public policy in the secondary study area. The proposed actions would not create land uses or structures that would be incompatible with the underlying zoning, nor would the proposed actions cause a substantial number of existing structures to become nonconforming. The proposed actions would not result in land uses that conflict with public policies applicable to the primary or secondary study areas.

III. METHODOLOGY

As mentioned above, the proposed actions include zoning map and text amendments, which would affect land use, zoning and public policy, as well as public financing approval. Land use, zoning, and public policy are addressed and analyzed for two geographical areas for the proposed actions. For the purpose of this assessment, the primary study area encompasses the project site (Bronx Block 2624, Lot 41 (formerly Lots

41 and 48-52)), which is located along the south side of East 156th Street between Eagle and Cauldwell Avenues. The secondary study area encompasses areas that have the potential to experience indirect impacts as a result of the proposed actions. The secondary study area extends an approximate 400-foot radius from the boundary of the primary study area. The secondary study area is generally bound by East 158th Street to the north, Trinity Avenue to the east, St. Ann's Avenue to the west, and a line approximately 500 feet south of East 156th Street to the south. Both the primary and secondary study areas have been established in accordance with *CEQR Technical Manual* guidelines and can be seen in Figure C-1.

The analysis of land use, zoning, and public policy first provides a description of the existing land use, zoning, and public policy conditions in the study areas. Existing land uses in the primary and secondary study area were determined based on the New York City Primary Land Use Tax Lot Output (PLUTO) data files for 2016 and March 2016 field visits. New York City Zoning and Land Use (ZoLa), New York City Zoning maps, and the *Zoning Resolution of the City of New York* were consulted to describe existing zoning districts in the study areas. Relevant public policy documents, recognized by the New York City Department of City Planning (DCP) and other City agencies were utilized to describe existing public policies pertaining to the primary and secondary study areas.

Next, the analysis projects land use, zoning, and public policy conditions in the 2019 Build Year without the proposed actions. This is the "No-Action" or "future without the proposed actions" condition, which is developed by identifying proposed developments and other relevant changes anticipated to occur in the primary and secondary study areas within this time frame. The No-Action condition describes the baseline conditions in the study areas against which the proposed actions' incremental changes are measured. Finally, the analysis projects land use, zoning, and public policy conditions in 2019 with the completion of the proposed project. This is the "With-Action" or "future with the proposed actions" condition.

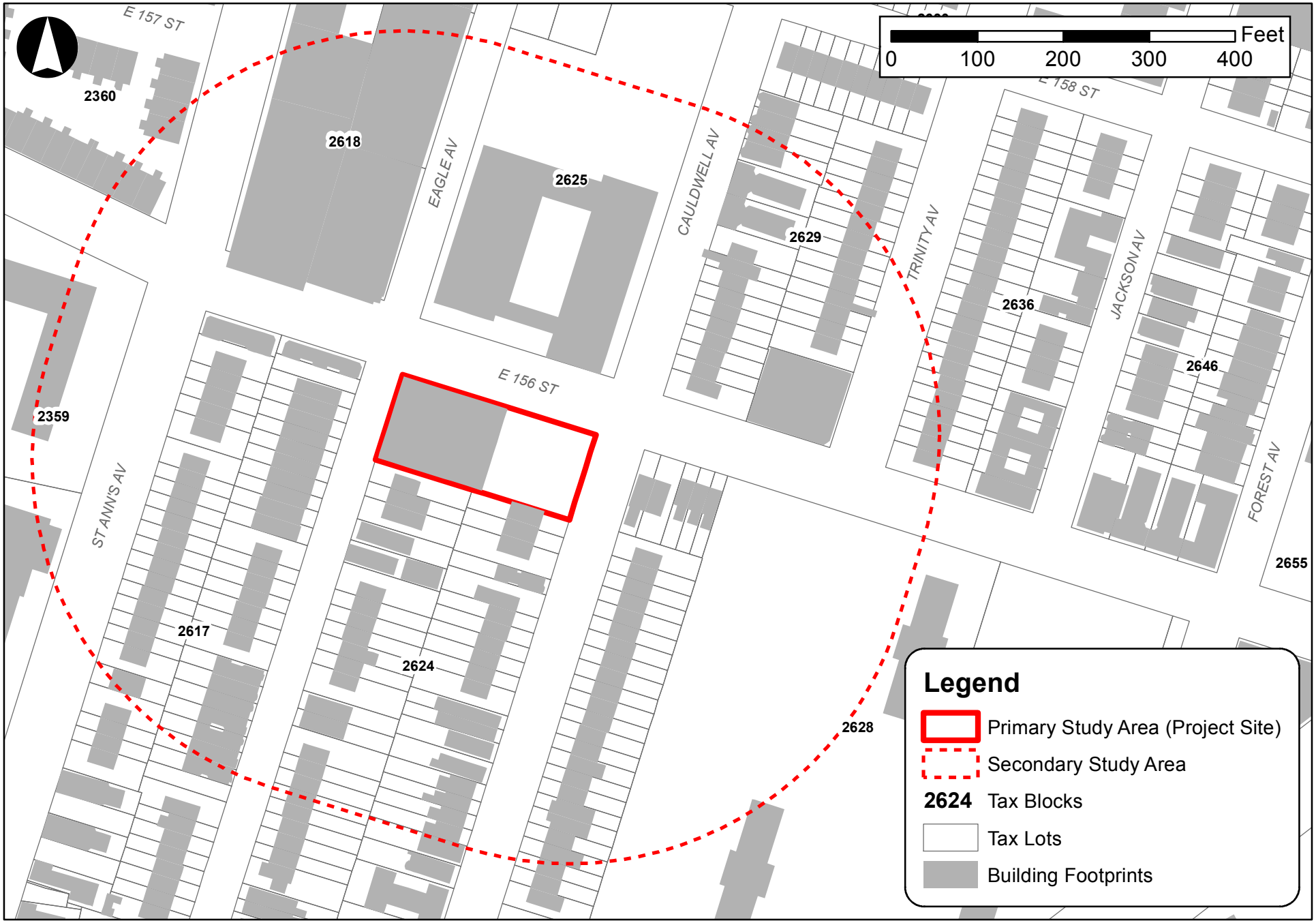
IV. PRELIMINARY ASSESSMENT

Land Use and Zoning

A preliminary assessment, which includes a basic description of existing and future land uses and zoning, should be provided for all projects that would affect land use or would change the zoning on a site, regardless of the project's anticipated effects. However, under *CEQR Technical Manual* guidelines, if a detailed assessment is required in the technical areas of socioeconomic conditions, neighborhood character, transportation, air quality, noise, infrastructure, or hazardous materials, a detailed land use assessment is appropriate. This EAS provides detailed assessments of community facilities, open space, shadows, urban design, transportation, and noise. Therefore, a detailed assessment of land use and zoning is warranted and provided in Section V below.

Public Policy

According to the *CEQR Technical Manual*, a project that would be located within areas governed by public policies controlling land use, or that has the potential to substantially affect land use regulation or policy controlling land use, requires an analysis of public policy. A preliminary assessment of public policy should identify and describe any public policies, including formal plans or published reports that pertain to the



600 East 156th Street EAS

Figure C-1
Land Use Study Area

study area. If the proposed project could potentially alter or conflict with identified policies, a detailed assessment should be conducted; otherwise, no further analysis of public policy is necessary.

The primary study area is not located in an urban renewal area, a designated Industrial Business Zone (IBZ), a Business Improvement District (BID), the coastal zone boundary, a designated historic district, or within an area defined by an adopted 197-a plan. As such, no significant material changes to existing regulations or policy would occur as a result of the proposed actions, and a detailed analysis of public policy is not warranted.

V. DETAILED ASSESSMENT

Existing Conditions

Primary Study Area (Project Site)

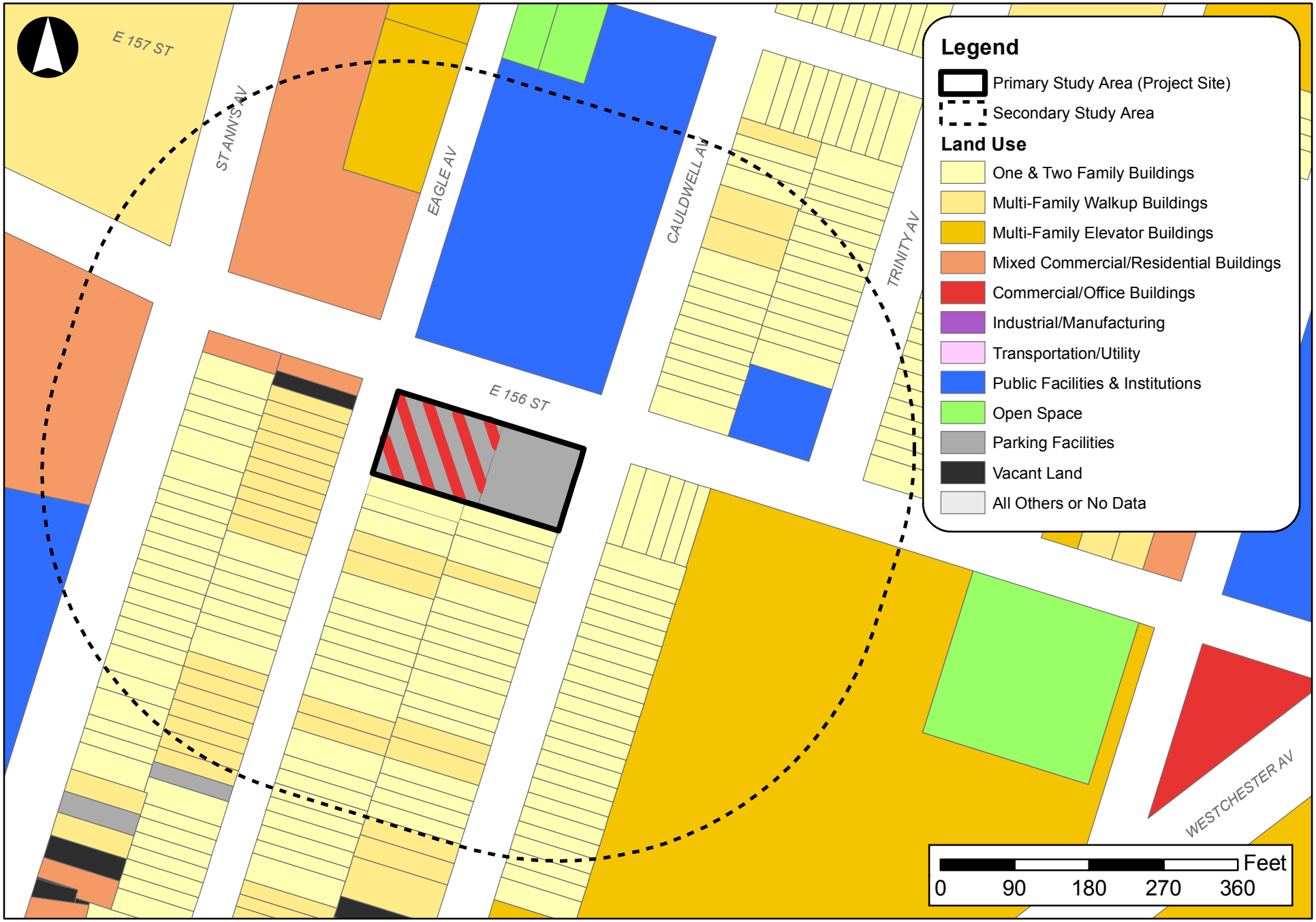
Land Use

The approximately 23,000-sf project site, which is coterminous with the primary study area, is located at 600 East 156th Street (Bronx Block 2624, Lot 41 (formerly Lots 41 and 48-52)) in the Melrose neighborhood of Bronx CD 1. The project site fronts East 156th Street to the north (230 feet of street frontage) and Eagle and Cauldwell Avenues to the west and east, respectively (100 feet of frontage on each street).

The project site is currently occupied by a two-story 22,750-sf building and open vehicle storage. The approximately 22,750-sf building is currently occupied by a Use Group 8 public parking garage with a licensed capacity of 90 spaces, with second floor Use Group 6 office space above; Use Group 6 office space is also located within the one-story eastern portion of the building. The second floor office space is currently unoccupied, and was previously occupied by a lighting company. The Use Group 6 office space within the one-story eastern portion of the building comprises approximately 2,700 sf of the building's total floor area. The eastern portion of the project site is occupied by an open vehicle storage lot (refer to Figure C-2).

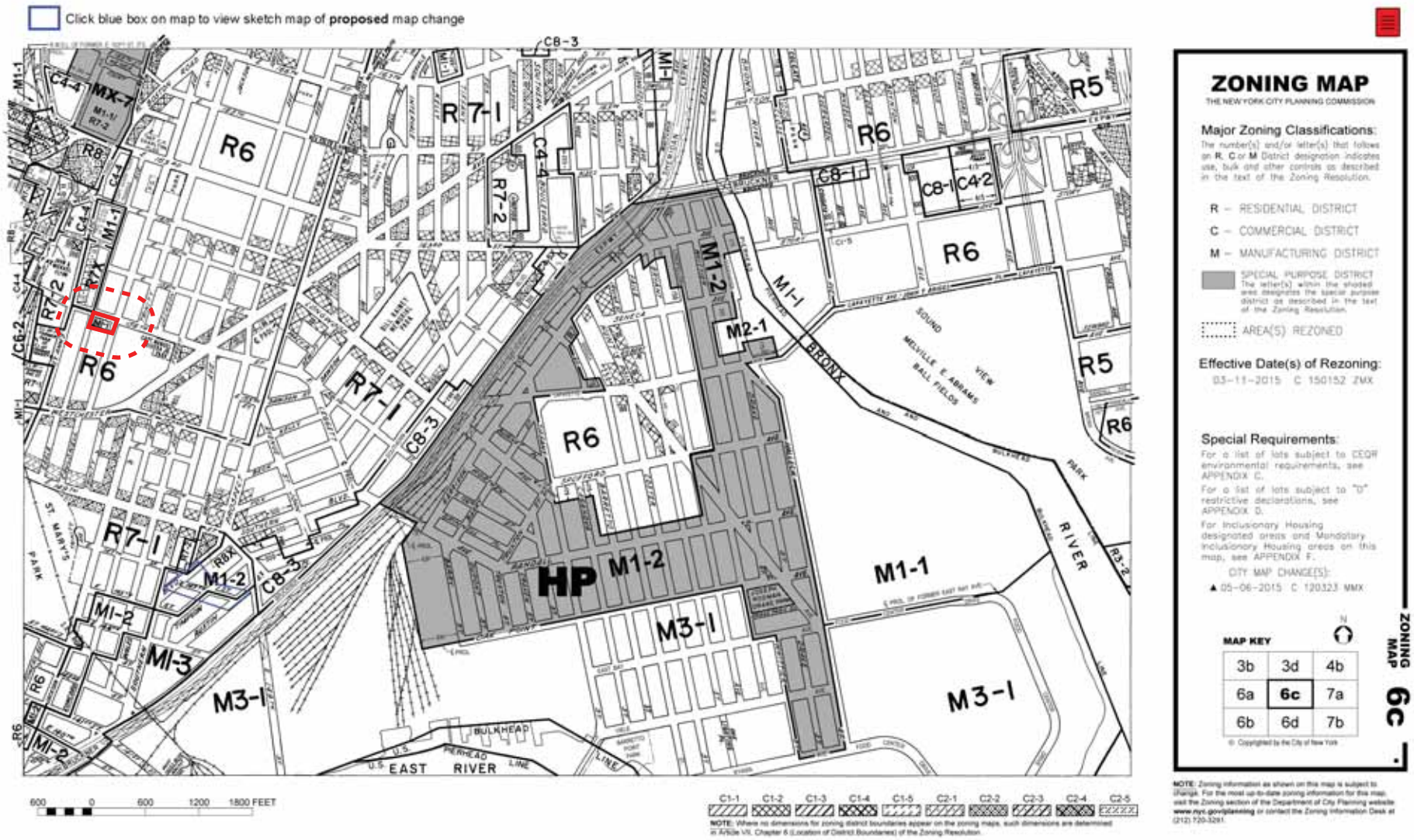
Zoning

As shown in Figure C-3, an M1-1 district is currently mapped on the project site; the district does not extend to the surrounding area, which is zoned for residential uses (see Figure C-3). M1-1 districts are often buffers between M2 or M3 districts and adjacent residential or commercial districts. M1 districts typically include light industrial uses, such a woodworking shops, repair shops, and wholesale service and storage facilities. Nearly all industrial uses are allowed in M1 districts if they meet the stringent M1 performance standards. Offices, hotels, and most retail uses are also permitted. Certain community facilities, such as hospitals and schools, are allowed in M1 districts only by special permit, but houses of worship are allowed as-of-right.



600 East 156th Street EAS

Figure C-2
Study Area Land Uses



Primary Study Area (Project Site)

Secondary Study Area

Figure C-3
Study Area Zoning

Secondary Study Area

Land Use

As shown in Figure C-2 and Table C-1, land uses in the secondary study area are predominantly residential, with a few mixed commercial/residential and institutional uses. There are no commercial/office, industrial, transportation/utility, open space, or parking facilities present in the secondary study area.

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

Land Use	Number of Lots	Percentage of Total Lots (%)	Lot Area (sf)	Percentage of Total Lot Area (%)	Building Area (sf)	Percentage of Total Building Area (%)
Residential	130	96.3	297,209	73.0	340,923	61.2
One & Two-Family Residential	*104*	*77.0*	*222,788*	*54.7*	*140,255*	*25.2*
Multi-Family Walkup Buildings	*25*	*18.5*	*56,047*	*13.8*	*107,028*	*19.2*
Multi-Family Elevator Buildings	*1*	*0.7*	*18,374*	*4.5*	*93,640*	*16.8*
Mixed Commercial/Residential Buildings	2	1.5	4,232	1.0	18,442	3.3
Commercial/Office Buildings	0	0.0	0	0.0	0	0.0
Industrial/Manufacturing	0	0.0	0	0.0	0	0.0
Transportation/Utility	0	0.0	0	0.0	0	0.0
Public Facilities & Institutions	2	1.5	103,810	25.5	197,807	35.5
Open Space	0	0.0	0	0	0	0.0
Parking Facilities	0	0.0	0	0	0	0.0
Vacant Land	1	0.7	1,784	0.4	0	0.0
Total	*135*	*100.0*	*407,035*	*100.0*	*557,172*	*100.0*

Source: 2016 PLUTO data; March 2016 field visits.

Residential uses comprise a total of 96.3 percent of the secondary study area lots, and also represent the majority of the subarea's lot area and building area; one- and two-family residential buildings are the most prevalent, followed by multi-family walkup buildings, and multi-family elevator buildings. One- and two-family residential buildings and multi-family walkup buildings are both found adjacent to and across the street from the project site (primary study area); the one multi-family elevator building located predominantly within the boundaries of the secondary study area is located at 759 Eagle Avenue (to the northwest of the project site). This eight-story 5.1-FAR multi-family residential building was constructed in 2012 and comprises 93,640 sf with 80 residential units. Two mixed residential/commercial buildings are located immediately west of the project site, fronting the south side of East 156th Street between St. Ann's and Eagle Avenues. Both buildings are four stories in height; the building fronting St. Ann's Avenue has a built FAR of 4.53, while the building fronting Eagle Avenue has a built FAR of 4.16.

The two institutional uses in the secondary study area are located on the north side of East 156th Street and include P.S. 157 – Grove Hill, which is located directly north of the project site between Eagle and Cauldwell Avenues, and a religious institution located at the northwest corner of East 156th Street and Trinity Avenue (to the northeast of the project site).

There is one vacant lot in the secondary study area, which comprises a 1,784 sf lot fronting Eagle Avenue south of East 156th Street.

Zoning

As shown in Figure C-3, the secondary study area encompasses R6, R7-2, R7X, and R7X/C2-3 districts.

The majority of the secondary study area mapped with an R6 district3. R6 districts are widely mapped in built-up medium-density areas in Brooklyn, Queens, and Bronx. The character of R6 districts can range from neighborhoods with a diverse mix of building types and heights to large-scale "tower in the park" developments. Developers in R6 districts can choose between two sets of bulk regulations. Standard height factor regulations, introduced in 1961, produce small multi-family buildings on small zoning lots and, on larger lots, tall buildings that are set back from the street. Optional Quality Housing regulations produce height lot coverage buildings within height limits that often reflect the scale of older, pre-1961 apartment buildings in the neighborhood. Under height factor regulations, the maximum permitted residential floor area ranges from 0.78 (for a single story building) to 2.43 at a typical height of 13 stories; the open space ratio (OSR) ranges from 27.5 to 37.5. Under Quality Housing regulations, the maximum permitted FAR is 3.0 on wide streets outside of the Manhattan Core and 2.2 on narrow streets. Community facility uses are permitted up to 4.8 FAR in R6 districts under both height factor and Quality Housing regulations.

An R7-2 district is mapped west of St. Ann's Avenue. R7 districts are medium-density apartment house districts mapped in much of the Bronx. As in R6 districts, developers in R7-1 districts can choose between height factor and Quality Housing bulk regulations. Under height factor regulations, the FAR in R7-1 districts ranges from 0.87 to a high of 3.44; the OSR ranges from 15.5 to 25.5. Under Quality Housing regulations, the maximum permitted FAR is 4.0 on wide streets outside of the Manhattan Core and 3.44 on narrow streets. Community facility uses are permitted up to 4.8 FAR in R7-1 districts under both height factor and Quality Housing regulations.

To the northwest of the project site, an R7X district is mapped on the block bounded by East 156th Street, Eagle Avenue, St. Ann's Avenue, and East 159th Street, with a C2-3 commercial overlay mapped to a depth of 100 feet along the block's St. Ann's Avenue frontage. R7X districts are governed by Quality Housing bulk regulations. This secondary study area R7X district was established as part of the 2009 St. Ann's Avenue Rezoning (ULURP No. 050018ZMX); the block was previously zoned M1-1. The maximum residential and community facility FAR in R7X districts is 5.0. Under the C2-3 commercial overlay mapped on a portion of the block, commercial uses are permitted up to a maximum FAR of 2.0. In mixed-use buildings commercial uses are limited to one or two floors and must always be located below the residential use.

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

Primary Study Area (Project Site)

In the 2019 future without the proposed actions, the existing M1-1 zoning district currently mapped on the project site would remain and no changes to the land uses occupying the project site would occur. As such, the project site would include 90 public parking spaces, 2,700 gsf of office space, and open vehicle storage, as under existing conditions.

Secondary Study Area

There are no known or anticipated developments or proposals to alter zoning in the secondary study area in the 2019 future without the proposed actions.

For the purposes of other analyses that have larger study areas that the defined land use secondary study area, future No-Action developments beyond a 400-foot radius were identified (see Figure C-4). As presented in Table C-2, below, within approximately a half-mile of the project site there are a total of 13 developments anticipated to be completed by the 2019 analysis year. Combined, these projects are expected to introduce 1,539 residential units, 261,178 gsf of community facility uses, and 151,562 gsf of commercial uses. All of the anticipated study area No-Action residential developments are expected to be comprised of affordable residential units.

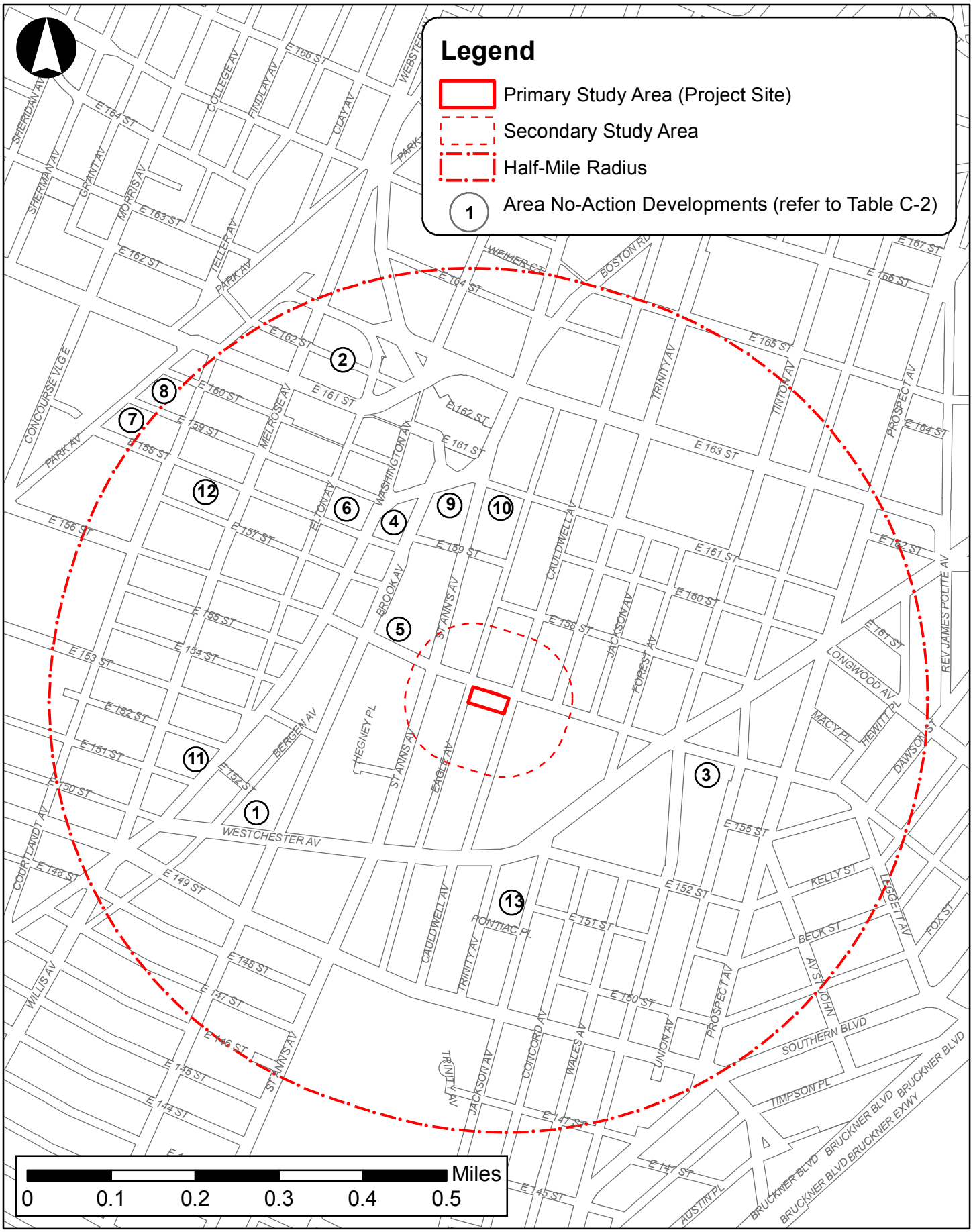
Table C-2: No-Action Developments Planned for Completion by 2019 within a ½-Mile Radius of the Project Site

Map No.[1]	Project Name/Address	Development Program
1	La Central	634 DU; 150,700 gsf of community facility uses; 44,500 gsf of commercial uses[2]
2	Melrose Commons North (Sites B & C)	496 DU; 59,486 gsf of community facility uses; 38,038 gsf of commercial uses
3	766 Westchester Avenue	38,300 gsf of commercial uses
4	Cornerstone Round 3 Site B2	74 DU; 3,656 gsf of commercial uses
5	Brook 156	42 DU
6	Addition to Courtlandt (Melrose Commons URA Site 31)	8 DU
7	Addition to Park (Melrose Commons URA Site 23)	8 DU
8	3160 Park Avenue	152 DU; 21,400 gsf of commercial uses
9	3146 Third Avenue	34,000 gsf of community facility uses; 1,000 gsf of commercial uses
10	861 Eagle Avenue	78 DU; 10,000 gsf of community facility uses
11	411 East 151st Street	10 DU; 2,254 gsf of community facility uses; 2,744 of commercial uses
12	373 East 157th Street	12 DU
13	The Jackson Residences	25 DU; 4,738 gsf of community facility uses; 1,924 of commercial uses
	Totals	1,539 DU; 261,178 gsf of community facility uses; 151,562 gsf of commercial uses

Sources: Previous environmental assessments, PHA site visits, DOB BIS.
Notes:
[1] Refer to Figure C-4.
[2] Reflects the program for Buildings A-D of the La Central development, which are expected to be completed and occupied by 2019.

One development is planned for construction immediately outside of the secondary study area: the eight-story, 42-unit Brook 156 residential building at East 156th Street and Brook Avenue. Another notable nearby development planned in proximity to the secondary study area is La Central, a 1.1 million gsf, five-building mixed-use development planned between Bergen and Brook Avenues (to the west of the secondary study area). By the 2019 analysis year, four of the project's five buildings are expected to be completed and occupied, introducing a total of 634 affordable residential units, 150,700 gsf of community facility uses (including 160 supportive housing units), and 44,500 gsf of commercial uses just one block west of the secondary study area. This, along with the other known and anticipated developments in the

Figure C-4
Area No-Action Developments



surrounding area are consistent with the ongoing recent trend toward new mixed-use and residential development in the greater Melrose neighborhood.

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

In the 2019 future with the proposed actions, the proposed actions, which include zoning map and text amendments, in addition to public financing approval, would be approved. As facilitated by the proposed actions, the project site would be redeveloped with an approximately 211,300 gsf building comprising 170 affordable DU and a 32,300-gsf (350-seat) charter school.

Primary Study Area (Project Site)

Land Use

The proposed actions would result in changes to land use within the primary study area by introducing residential and community facility uses to the project site. These uses would be consistent with uses already present in the surrounding area. As described above, the project site is located in a predominantly residential neighborhood, which includes several existing community facility uses, including a public elementary school (P.S. 157 – Grove Hill) directly north of the project site. The proposed project is expected to complement these existing land uses.

The proposed actions would not generate land uses that would be incompatible with surrounding uses, nor would they displace land uses in such a way as to adversely affect surrounding land uses. Therefore, the proposed actions would support land use trends, and no significant adverse land use impacts are expected.

Zoning

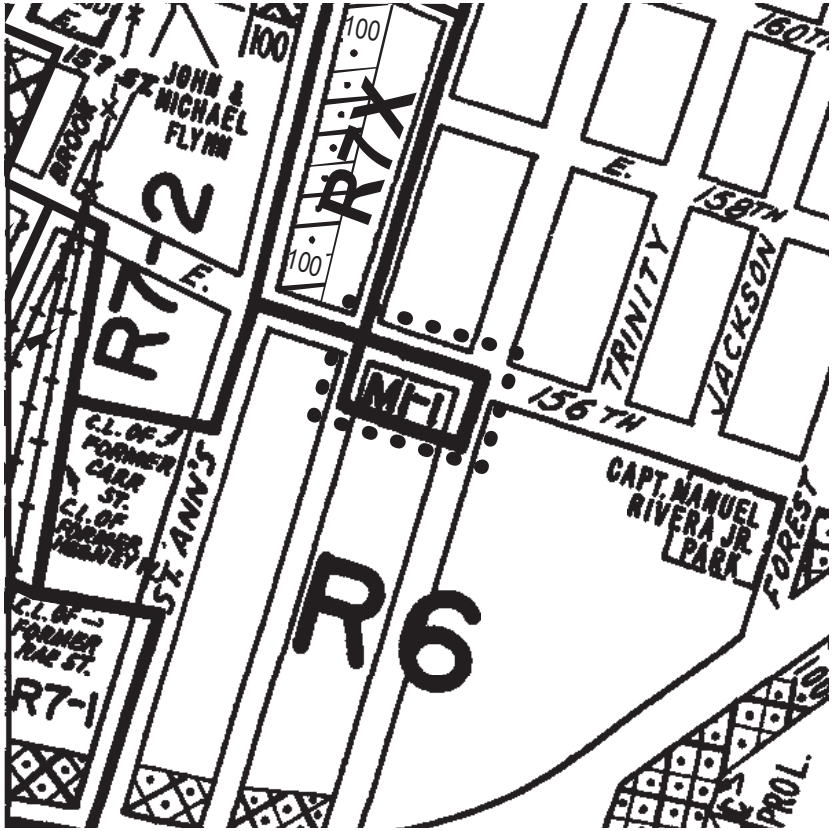
In the future with the proposed actions, the primary study area would be rezoned from M1-1 to R8A (MIH) (see Figures C-5 and C-6). As shown in Table C-3, the proposed R8A (MIH) zoning would increase the allowable maximum density to 7.2 FAR for residential uses and 6.5 for community facility uses; under the proposed zoning, commercial and manufacturing uses would no longer be permitted in the primary study area.

Table C-3: Comparison of Existing and Proposed Zoning

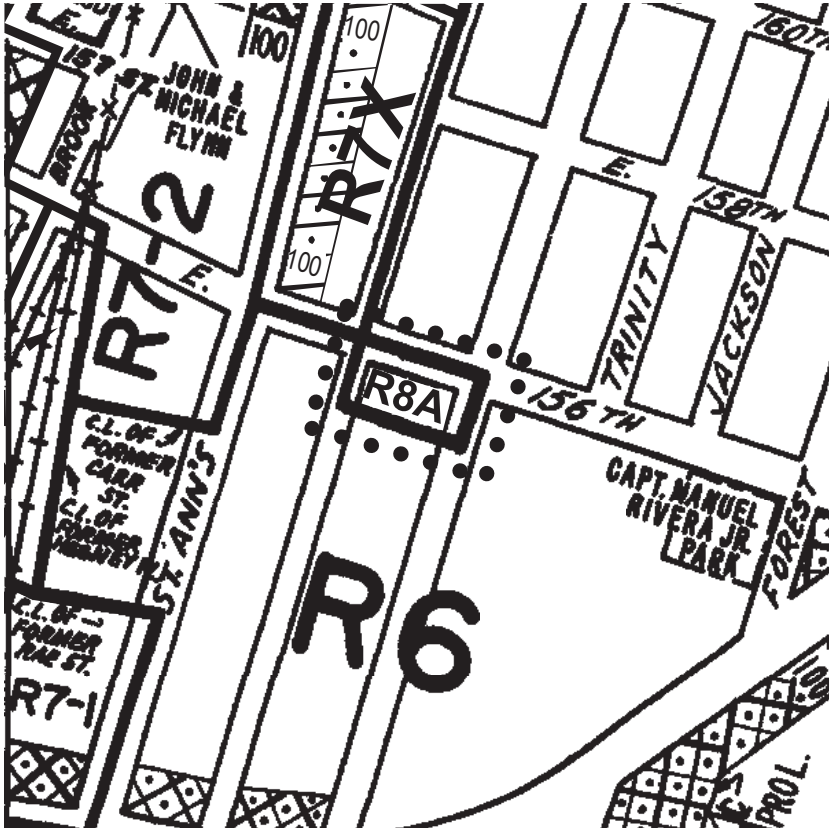
	Existing M1-1	Proposed R8A
Use Groups	4-14, 16, 17	1-4
Maximum FAR		
Residential	0.0	7.2[1]
Community Facility	2.4	6.5
Commercial	1.0	0.0
Manufacturing	1.0	0.0

Source: *Zoning Resolution of the City of New York.*
Notes:
[1] 7.2 FAR for provision of Inclusionary Housing pursuant to the MIH Program (ZR Section 23-90).

The existing M1-1 zoning designation mapped on the project site is out of context with the surrounding area, which, as noted above, is predominantly mapped with residential zoning districts. The proposed R8A



CURRENT ZONING MAP



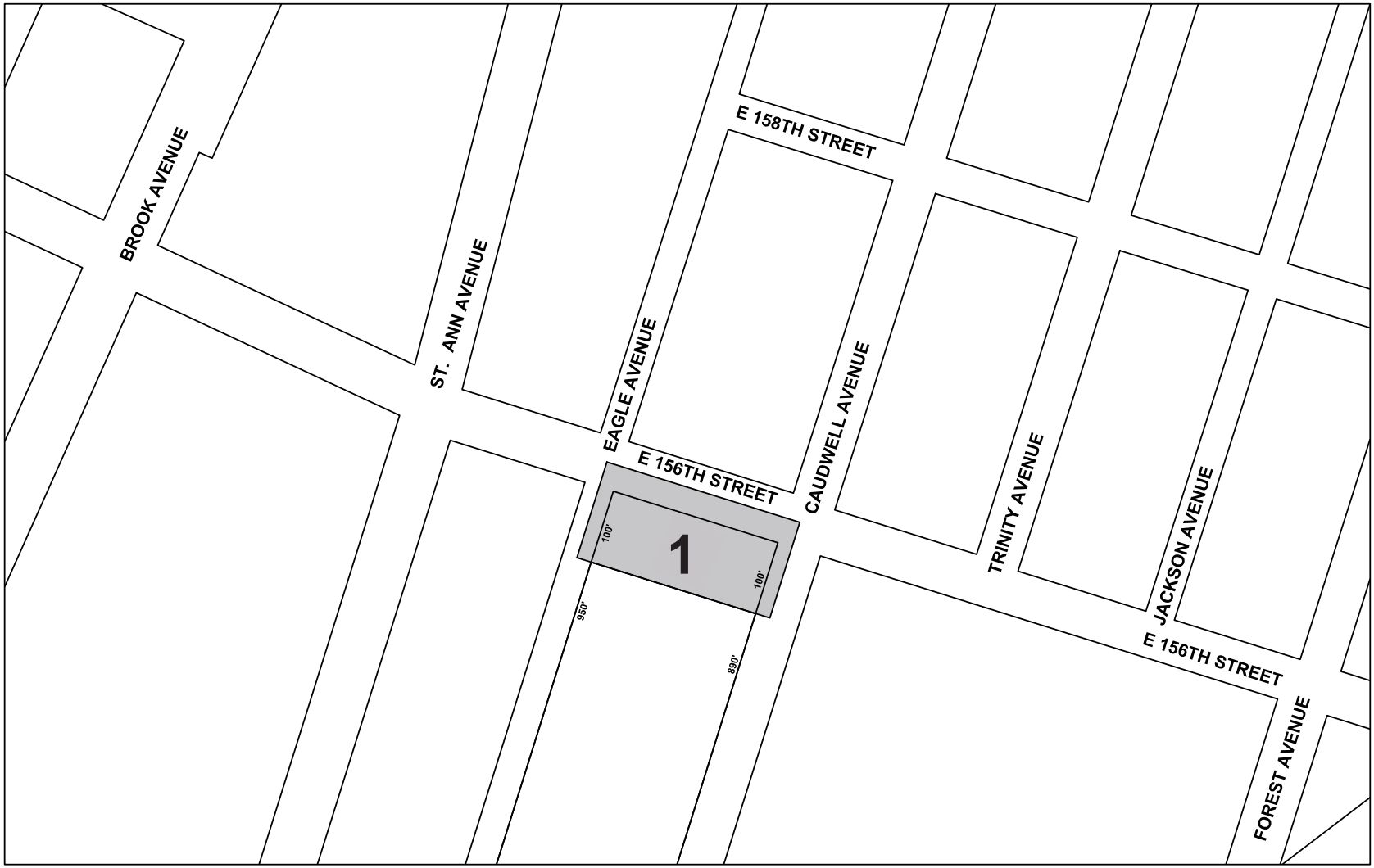
PROPOSED ZONING MAP
Rezoning M1-1 to R8A

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

NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.

PROJECT AREA

Figure C-5
Existing and Proposed Zoning



Mandatory Inclusionary Housing Area (MIHA)

X MIHA Program Option 1 [section 23-154 (d) (3)]

Figure C-6
Proposed MIH Area

zoning district would facilitate the creation of a mix of residential and community facility uses at a scale appropriate to the project site. The R8A district would be an extension of the higher density residential districts mapped to the west of the primary study area, including the C6-2 (R8 equivalent), R7-2, and R7X districts mapped to the west of the site.

Secondary Study Area

The secondary study area would not undergo any changes as a result of the proposed actions. The proposed actions would have no direct effect on land use or zoning in the secondary study area. As noted above, the secondary study area is predominantly comprised of residential uses, as well as a few public facilities/institutions and commercial uses. Therefore, the proposed actions would not introduce any new land uses that would be compatible with their surroundings. The proposed zoning map and text amendments would be in keeping with the City's land use, zoning, and public policy objectives for the area. The proposed R8A (MIH) district would facilitate the development of affordable housing and would be consistent with the higher density residential zoning districts that are mapped in the secondary study area. For these reasons, the proposed actions would not represent a significant adverse impact on land use and zoning in the secondary study area, in accordance with the criteria set forth in the *CEQR Technical Manual.*

ATTACHMENT D

COMMUNITY FACILITIES

I. INTRODUCTION

The *City Environmental Quality Review* (CEQR) *Technical Manual* defines community facilities as public or publicly-funded facilities including schools, libraries, day care centers, health care facilities, and fire and police protection services. This attachment examines the potential effects of the proposed development by 2019 on the capacity and provision of services by those community facilities.

A project can affect community facility services when it physically displaces or alters a community facility (direct effect) or causes a change in population that may affect the services delivered by a community facility (indirect effect), which could happen if a facility is already over utilized, or if a project is large enough to create a demand that could not be met by the existing facility/facilities. The CEQR analysis examines potential impacts on existing facilities and generally focuses in detail on those services that the City is obligated to provide to any member of the community. This analysis is not a needs assessment for new or additional services. Service providers like schools or libraries conduct their own needs assessments on a continuing basis.

As described in Attachment A, "Project Description," the proposed actions would facilitate the construction of up to 170 affordable dwelling units (DU) and an approximately 32,300-gsf (350-seat) charter school at 600 East 156th Street (the "project site"). As the exact income mix of the 170 affordable units has not yet been determined, for conservative child care facilities analysis purposes, it is assumed that all 170 units would be affordable to households earning up to 80 percent Area Median Income (AMI), i.e., the CEQR proxy for child care facility eligibility. No community facilities are located on the project site under existing conditions. Accordingly, as there would be no direct effects to existing community facilities resulting from the proposed actions, this analysis concentrates on the potential for indirect effects.

The analysis of community facilities has been conducted in accordance with the guidelines established in the *CEQR Technical Manual*. The demand for community services generally stems from the introduction of new residents to an area. In general, size, income characteristics, and the age distribution of a new population are factors that could affect the delivery of services. The *CEQR Technical Manual* provides guidelines or thresholds that can be used to make an initial determination of whether a detailed study is necessary to determine potential impacts.

As discussed in Attachment B, "Supplemental Screening," based on the conservative assumption that 100 percent of the proposed project's residential units would be affordable to households earning up to 80 percent AMI, the proposed actions and subsequent development exceed the *CEQR Technical Manual* threshold in the areas of public elementary and intermediate schools and child care facilities. Therefore, a detailed analysis of these services is provided below. The population anticipated to be introduced as a result of the proposed project would not exceed the *CEQR Technical Manual* thresholds requiring detailed analysis of other community facilities, including high schools, libraries, health care facilities, and fire and police protection services.

II. PRINCIPAL CONCLUSIONS

The proposed actions would not result in significant adverse impacts on community facilities. The 170-DU development facilitated by the proposed actions is expected to generate 66 elementary school students and 27 intermediate school students in Sub-district 3 of Community School District (CSD) 7. While CSD 7, Sub-district 3 elementary and intermediate schools would operate over capacity in the future with the proposed actions (114.6 and 119.5 percent utilization rates, respectively), as under No-Action conditions, as the proposed actions would only increase the elementary and intermediate school utilization rates by 1.4 and 1.1 percentage points, respectively, no significant adverse school impacts would result, in accordance with *CEQR Technical Manual* impact criteria.

In regards to child care facilities, the 170 DU introduced on the project site in the future with the proposed actions are expected to generate 24 publicly-funded child care-eligible students, increasing the study area child care facility utilization rate to 101.2 percent. While study area child care facilities would operate over capacity in the 2019 future with the proposed actions, as the proposed actions would only result in a 0.8 percent increase in the utilization rate (below the five percent impact threshold), no significant adverse impacts would result pursuant to *CEQR Technical Manual* methodology.

III. PUBLIC ELEMENTARY AND INTERMEDIATE SCHOOLS

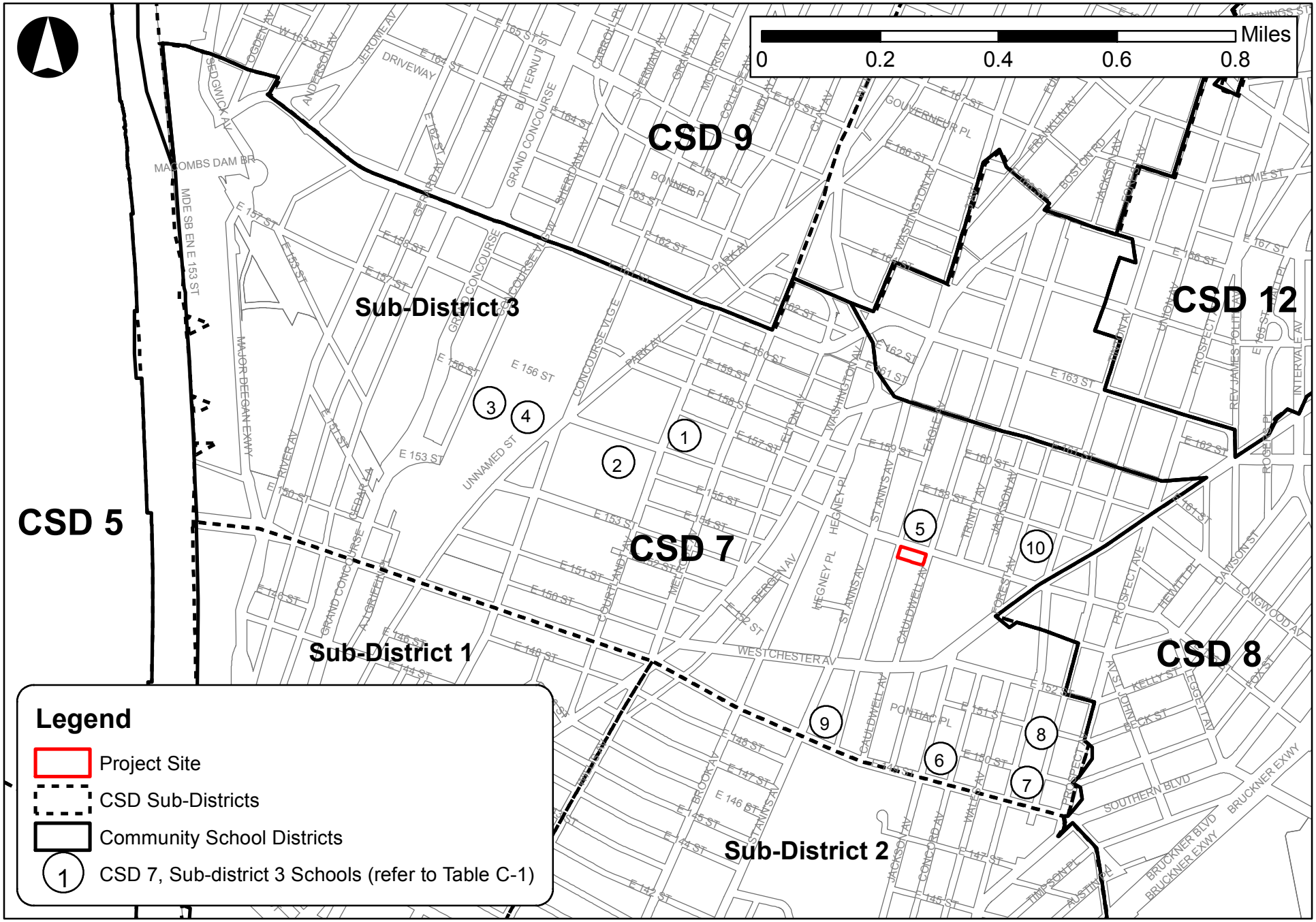
Methodology

According to the guidelines presented in the *CEQR Technical Manual*, a schools analysis focuses on potential impacts on public schools operated by the New York City Department of Education (DOE). Therefore, private and parochial schools within the study area are not included in the analysis of schools presented in this attachment.

Based on the multipliers presented in Table 6-1a of the *CEQR Technical Manual*, the proposed project would result in the introduction of approximately 93 new elementary and intermediate school students (66 elementary and 27 intermediate school students), which exceeds the threshold of 50 students for detailed analysis. The proposed project would also add an estimated 32 new high school students compared to No-Action conditions, which would not trigger the *CEQR Technical Manual* threshold of 150 students for detailed analysis of high schools. Therefore, the following schools analysis focuses on elementary and intermediate school levels only.

Pursuant to *CEQR Technical Manual* guidelines, this analysis assesses the potential effects of the proposed project on elementary and intermediate schools located within the study area, defined as Sub-district 3 of CSD 7 (see Figure D-1). Children residing in the proposed project would most likely attend the elementary and intermediate schools in this study area. The following schools analysis presents the most recent capacity, enrollment, and utilization rates for elementary and intermediate schools in the study area. Future No-Action conditions are then predicted based on enrollment projections and proposed development projects,[1] and the future utilization rate for school facilities is calculated by adding the estimated enrollment from proposed residential developments in the schools study area to DOE's projected enrollment and then comparing that number with projected school capacity. DOE's most recent

[1] School Construction Authority, *Projected New Housing Starts as Used in 2015-2019 Enrollment Projection*.



600 East 156th Street EAS

Figure D-1
Schools Study Area

enrollment projections (Actual 2014, Projected 2015-2024) are posted on the New York City School Construction Authority's (SCA's) website.[2] In addition, any new school projects identified in the DOE 2015-2019 Five-Year Capital Plan (and/or subsequent amendments) are included if construction has begun. According to the *CEQR Technical Manual*, some schools may be included in the analysis if they are in the DOE Five-Year Capital Plan but are not yet under construction if the lead agency, in consultation with the SCA, concurs that it is appropriate. As the CEQR quantitative indirect school impact analysis does not include charter school facilities, the proposed project's 350-seat charter school is not included in the quantitative analysis.

Impacts are identified if the proposed project would result in: (1) a collective utilization rate of the elementary and/or intermediate schools in the sub-district study area that is equal to or greater than 100 percent in the With-Action Condition; and (2) an increase of five percent or more in the collective utilization rate between the future No-Action and With-Action conditions.

Existing Conditions

Elementary Schools

As described above, elementary schools in New York City are located in geographically defined school districts. As shown in Figure D-1, the project site is located within the boundaries of CSD 7, Sub-district 3. Analyzed schools located in CSD 7, Sub-district 3 serving elementary students can generally be defined by one of two categories: elementary or K-8 schools. Elementary schools (PS) serve pre-kindergarten or kindergarten through 5th grades and K-8 schools serve pre-kindergarten or kindergarten through 8th grades. For analysis purposes, the elementary and the PS component of K-8 schools have been combined.

It should be noted that one school building within the study area houses more than one school organization: the Performance School and the Concourse Village Elementary School are both located at 750 Concourse Village West. Additionally, several schools listed in Table D-1 serve grades K-8: PS/MS 29 Melrose School, PS/MS 31 William Lloyd Garrison, and PS 5 Port Morris. In such instances, the school's elementary school seat breakdown was provided by the SCA. Capacity and enrollment information for all public schools serving elementary students in CSD 7, Sub-district 3 is provided in Table D-1.

As shown in Figure D-1 and Table D-1, there are nine public schools located within Sub-district 3 of CSD 7 that serve elementary students, including six elementary schools and three schools serving both elementary and intermediate levels. The nearest elementary school to the project site is P.S. 157 – Grove Hill, which is located at 757 Cauldwell Avenue, directly north of the project site. As CSD 7 is a full elementary choice district with no zoned schools, the project site is not zoned to any specific elementary schools.

Table D-1 provides the existing capacity, enrollment, and utilization figures for elementary schools within Sub-district 3 of CSD 7 during the 2014-2015 academic year. As shown in Table D-1, the nine schools within CSD 7, Sub-district 3 that serve elementary levels had a target capacity of 4,496 seats and enrollment of 4,249 students, for a utilization of approximately 94.5 percent and 247 available seats.

[2] Enrollment projections by the Grier Partnership were used: http://www.nycsca.org.

While not included in the quantitative analysis pursuant to the *CEQR Technical Manual*, it should be noted that there are two charter schools in CSD 7, Sub-district 3 that serve elementary students: the Bronx Global Learning Institute for Girls Charter School and Kipp Academy Charter School.

Table D-1: 2014-2015 Public Elementary and Intermediate School Enrollment, Capacity, and Utilization in CSD 7, Sub-district 3

Map No.[1]	Name	Address	Enrollment	Target Capacity	Available Seats	Utilization (%)
Elementary Schools						
1	P.S./I.S. 29 – Melrose School (P.S. Component)	758 Courtlandt Ave.	478[2]	520[2]	42	91.9
2	P.S. 1 – Courtlandt School	335 E. 152nd St.	707	915	208	77.3
3	Performance School	750 Concourse Village West	143	103	-40	138.8
	Concourse Village Elementary School		275	254	-21	108.3
4	P.S./I.S. 31 – The William Lloyd Garrison (P.S. Component)	250 E. 156th St.	460[2]	498[2]	38	92.4
5	P.S. 157 – Grove Hill	757 Cauldwell Ave.	655	692	37	94.7
6	P.S. 5 – Port Morris (P.S. Component)	564 Jackson Ave.	512[2]	429[2]	-83	119.3
7	P.S. 25 – The Bilingual School	811 E. 149th St.	490	442	-48	110.9
8	P.S. 161 – Ponce de Leon	628 Tinton Ave.	529	643	114	82.3
Total Elementary Schools in Sub-district 3 of CSD 7			**4,249**	**4,496**	**247**	**94.5**
Intermediate Schools						
1	P.S./I.S. 29 – Melrose School (I.S. Component)	758 Courtlandt Ave.	272[2]	296[2]	24	91.9
4	P.S./I.S. 31 – The William Lloyd Garrison (I.S. Component)	250 E. 156th St.	269[2]	291[2]	22	92.4
	J.H.S. 151 – Lou Gehrig		253	393	140	64.4
6	P.S. 5 – Port Morris (I.S. Component)	564 Jackson Ave.	287[2]	241[2]	-46	119.1
9	J.H.S. 162 – Lola Rodriguez de Tio	600 Saint Ann's Ave.	375	378	3	99.2
10	I.S. 298 – Academy of Public Relations	778 Forest Ave.	352	355	3	99.2
	I.S. 296 – South Bronx Academy of Applied Media		349	491	142	71.1
Total Intermediate Schools in Sub-district 3 of CSD 7			**2,157**	**2,445**	**288**	**88.2**

Notes:
[1] Map numbers correspond to Figure D-1.
[2] P.S./I.S. breakdown provided by DCP.
Source: New York City Department of Education, Enrollment-Capacity-Utilization Report, 2014-2015 School Year.

Intermediate Schools

Analyzed schools located in CSD 7, Sub-district 3 serving intermediate students can generally be defined by one of three categories: intermediate, secondary, and K-8 schools. Intermediate schools (IS) serve 6th

through 8th grades; secondary schools serve 6th through 12th grades; and K-8 schools serve pre-kindergarten or kindergarten through 8th grades. For analysis purposes, the intermediate and IS components of K-8 schools and secondary schools have been combined.

Table D-1 shows the existing capacity, enrollment, and utilization figures for intermediate schools within CSD 7, Sub-district 3. As shown in Table D-1, in the 2014-2015 academic year there were seven public schools within the study area that served intermediate students, including four intermediate school and three schools serving both elementary and intermediate levels. The zoned middle schools for the project site are I.S. 296 – South Bronx Academy for Applied Media and I.S. 298 – Academy of Public Relations; these are also the intermediate schools located most proximate to the project site at 778 Forest Avenue, two blocks east of the project site.

As shown in Table D-1, CSD 7, Sub-district 3 had a target capacity of 2,445 intermediate school seats in the 2014-2015 academic year and an enrollment of 2,157 students, for a total utilization of approximately 88.2 percent and 288 available seats.

While not included in the quantitative analysis pursuant to the *CEQR Technical Manual*, it should be noted that there are two charter schools in CSD 7, Sub-district 3 that serve elementary students: the Bronx Global Learning Institute for Girls Charter School and Kipp Academy Charter School. Similarly, elementary and intermediate schools that draw students from a large area (*i.e.* borough) are also excluded from the analysis. As such, the Hostos-Lincoln Academy of Science, which shares a building with J.H.S 162 – Lola Rodriguez de Tio and is open to all New York City residents, is not included in the analysis.

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

In the 2019 future without the proposed actions, future utilization of public elementary and intermediate schools serving the study area would be affected by changes in enrollment mainly due to: (1) aging of the existing student body and new arrivals born in the area or moving to it; and (2) changes in capacity, or number of available seats, in the schools as a result of planned construction of new schools or building additions.

Capacity Changes

As outlined in the *CEQR Technical Manual*, No-Action school capacity changes considered in a community facilities analysis include information on proposed and adopted "Significant Changes in School Utilization" and the DOE's Five Year Capital Plan.

On March 11, 2013, the Panel for Educational Policy approved the phase-out and replacement of Performance School (07X385), which is located at 750 Concourse Village West. Performance School will be phased out gradually over the next several years, closing completely in June 2016. In conjunction with the phase-out, it is anticipated that the existing capacity of Concourse Village Elementary School, the Bronx Global Learning Institute for Girls, and the District 75 School that are co-located with the performance school will increase. Per DOE's January 2013 *Educational Impact Statement: The Proposed Phase-Out of Performance School (07X385) Beginning in 2013-2014*, the Concourse Village Elementary School's capacity is expected to increase to 541 by the 2016-2017 academic year, 287 seats over the school's existing target capacity (see Table D-1). Combined with the phase out of the Performance School, these anticipated capacity changes will result in a net increase of 184 elementary school seats. While the capacity of the building's District 75 School and Bronx Global Learning Institute for Girls are also expected

to increase, these schools are not included in the quantitative analysis, pursuant to *CEQR Technical Manual* methodology.

No intermediate school capacity changes are anticipated within CSD 7, Sub-district 3 by 2019 in the future without the proposed actions.

Enrollment Changes

Estimates of future enrollment are derived from the latest available DOE enrollment projection data for CSD 7, Sub-district 3 for 2019 (Actual 2014, Projected 2015-2024), including pre-K and special education enrollment. In the 2019 future without the proposed actions, DOE projections show that demand for public elementary schools in CSD 7, Sub-district 3 is expected to increase by approximately 1.2 percent (to 4,300), whereas intermediate enrollment is forecasted to increase by approximately 14.2 percent (to 2,464). The enrollment projections focus on natural growth of the City's student population and other population increases and do not account for new residential developments planned for the area (i.e., No-Action projects).

A considerable amount of new residential development is also planned in the study area by the analysis year of 2019. Using numbers derived from the SCA's Projected New Housing Starts for Sub-district 3 of CSD 7, approximately 997 new elementary school students and 431 new intermediate school students are expected to be added to the study area by the 2019 analysis year. As such, 2019 projected elementary and intermediate school enrollment in the future without the proposed actions would increase to 5,440 and 2,705, respectively.

Elementary Schools

As discussed above, in the 2019 future without the proposed actions, CSD 7, Sub-district 3 elementary school enrollment is expected to increase to 5,297, while capacity will increase to 4,680 seats. Based on these changes, elementary schools in Sub-district 3 of CSD 7 are expected to be operating above capacity (approximately 113.2 percent utilization), with a shortfall of 617 seats (see Table D-2).

Table D-2: 2019 No-Action Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization in CSD 7, Sub-district 3

	2019 Projected Enrollment[1]	Students Generated from Development in No-Action	Total Projected Enrollment in No-Action	Projected Capacity[2]	Seats Available	Utilization (%)
Elementary Schools	4,300	997	5,297	4,680	-617	113.2
Intermediate Schools	2,464	431	2,895	2,445	-450	118.4

Notes:
[1] DOE Enrollment Projections (Actual 2014, Projected 2015-2024).
[2] Reflects increase in elementary school capacity by approximately 184 seats.

Intermediate Schools

As shown in Table D-2, with no changes to CSD 7, Sub-district 3 intermediate school capacity anticipated in the 2019 future without the proposed actions and intermediate school enrollment expected to increase to 2,895, the utilization rate for intermediate schools in CSD 7, Sub-district 3 is expected to increase to approximately 118.4 percent, with a shortfall of 450 seats.

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

As described in Attachment A, "Project Description," under the RWCDS, the proposed actions would facilitate the construction of up to 170 residential units on the project site by 2019. Based on *CEQR Technical Manual* student generation rates, the estimated school age population generated by these 170 residential units would include 66 elementary school students and 27 intermediate school students.

Elementary Schools

In the future with the proposed actions, elementary schools in Sub-district 3 of CSD 7 would continue to operate above capacity as under No-Action conditions. As shown in Table D-3, the addition of 66 elementary school students generated by the proposed actions would increase the utilization by approximately 1.4 percentage points to 114.6 percent. The proposed actions would somewhat exacerbate the projected 2019 overcrowded conditions in elementary schools in Sub-district 3 of CSD 7. However, the *CEQR Technical Manual* states that if the impact assessment finds that if a proposed actions would cause an increase in utilization of less than five percent in a sub-district, no significant impact would occur. As the proposed actions would generate 66 elementary school students and would result in an increase of only 1.4 percentage points over the No-Action condition, no significant adverse impacts on elementary schools would result, per the criteria of the *CEQR Technical Manual*.

Table D-3: 2019 With-Action Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization for CSD 7, Sub-district 3

	2019 No-Action Total Projected Enrollment	New Students Generated by Proposed Actions	Total Future With-Action Projected Enrollment	Projected Capacity	Seats Available	Utilization (%)	Increase in Utilization (%) from No-Action condition
Elementary Schools	5,297	66	5,363	4,680	-683	114.6	+1.4
Intermediate Schools	2,895	27	2,922	2,445	-477	119.5	+1.1

Intermediate Schools

As shown in Table D-3, the addition of 27 intermediate school students to CSD 7, Sub-district 3 would increase intermediate school enrollment to 2,992 in the With-Action condition. As under No-Action conditions, CSD 7, Sub-district 3 intermediate schools would operate above capacity, with the proposed actions expected to increase the study area intermediate school utilization by 1.1 percentage points to 119.5 percent. There would be a shortfall of 477 seats in the future with the proposed actions.

The proposed actions would somewhat exacerbate the projected 2019 overcrowded conditions in intermediate schools in Sub-district 3 of CSD 7. However, the *CEQR Technical Manual* states that if the impact assessment finds that if a proposed actions would cause an increase in utilization of less than five percent in a sub-district, no significant impact would occur. As the proposed actions would generate 27 intermediate school students and would result in an increase of only 1.1 percentage points over the No-Action condition, no significant adverse impacts to intermediate schools would occur, per the criteria of the *CEQR Technical Manual*.

It is expected that the DOE will continue to monitor enrollment trends within CSD 7 and its sub-districts, as new housing units identified in the No-Action and With-Action conditions are developed and will plan

for new capacity or administrative actions to accommodate new students accordingly. Measures utilized by the DOE to address increased intermediate school enrollment could include: relocating administrative functions to other sites, thereby freeing up space for classrooms; making space within the study area available to the DOE; restructuring or reprogramming existing school space within the district; or providing for new capacity by constructing a new school or an addition to an existing school.

III. PUBLICLY FUNDED CHILD CARE FACILITIES

Methodology

The New York City Administration for Children's Services (ACS) provides subsidized child care in center-based group child care, family-based child care, informal child care, and Head Start programs. Publicly financed child care services are available for income-eligible children up through the age of 12. The CEQR analysis focuses on services for children under age six, as eligible children aged six through 12 are expected to be in school for most of the day.

Families eligible for subsidized child care must meet financial and social eligibility criteria established by ACS. In general, children in families that have incomes at or below 200 percent of the federal poverty level, depending on family size, are financially eligible, although in some cases eligibility can go up to 275 percent. The family must also have an approved "reason for care," such as involvement in a child welfare case or participation in a "welfare-to-work" program. Head Start is a federally funded child care program that provides children with half-day and full-day early childhood education; program eligibility is limited to families with incomes at 130 percent or less than the federal poverty level.

The City's affordable housing market is pegged to AMI, rather than the federal poverty level. Since family incomes at or below 200 percent of the federal poverty level fall under 80 percent of AMI, for the purposes of CEQR analysis, the number of housing units expected to be subsidized and targeted for incomes of 80 percent AMI or below is used as a proxy for eligibility. This provides a conservative assessment of demand, since eligibility for subsidized child care is not defined strictly by income, but also takes into account family size and other reasons for care (e.g., low-income parent(s) in school; low-income parent(s) training for work; or low-income parent(s) who is/are ill or disabled).

Since there are no locational requirements for enrollment in child care centers, and some parents or guardians choose a child care center close to their place of employment rather than their residence, the service area of these facilities can be quite large and are not subject to strict delineation on a map. However, for the purposes of this child care center, publicly funded group child care centers within approximately 1.5 miles of the project site were identified, reflecting the fact that the centers closes to a given site are more likely to be subject to increased demand. ACS provided the most recent information regarding publicly funded group child care facilities within the study area, including their current capacity, enrollment, and number of available slots. Family child care and voucher slots were not included in the analysis, in accordance with the *CEQR Technical Manual.*

The child care center enrollment in the future without the proposed actions was estimated by multiplying the number of new low-income and low- and moderate-income housing units expected in the 1.5-mile child care study area by the appropriate multiplier from Table 6-1b of the *CEQR Technical Manual*. The estimate of new publicly funded child care-eligible children was added to the existing child care enrollment to estimate enrollment in the future without the proposed actions. The child care-eligible

population introduced by the proposed actions was also estimated using the *CEQR Technical Manual* child care multipliers. The project-generated publicly funded child-care eligible population was then added to the No-Action child care enrollment to determine future With-Action enrollment. According to the *CEQR Technical Manual*, if a project would result in demand for slots greater than the remaining slots for child care centers and if that demand would constitute an increase of five percentage points or more in the collective capacity of child care centers serving the study area, a significant adverse impact may result.

Existing Conditions

As indicated in Table D-4 and Figure D-2, there are 44 publicly funded child care centers within the study area with a combined capacity of 3,076 slots and 200 available slots (93.5 percent utilization). Table D-4 shows the current capacity and enrollment for each of these facilities. As noted above, while family-based child care facilities and informal care arrangements provide additional slots in the study area, these slots are not included in the quantitative analysis.

Table D-4: Study Area Child Care Facilities—Existing Conditions

Map No.[1]	Facility Name	Address	Capacity	Enrollment	Utilization (%)	Available Slots
1	East Side House Settlement – Mill Brook	201 Saint Ann's Ave.	25	25	100.0	0
2	East Side House Settlement – Winifred Wheeler	200 Alexander Ave.	55	53	96.4	2
3	East Side House Settlement – Mott Haven	375 E. 143rd St.	74	74	100.0	0
4	Betances Early Childhood Center	528 E. 146th St.	62	57	91.9	5
5	Episcopal Social Services Head Start	500 Bergen Ave.	25	25	100.0	0
6	Prospect Early Childhood Center	730 Kelly St.	20	17	85.0	3
7	La Peninsula Community Organization, Inc. – Manida (Center #1)	711 Maninda St.	123	116	94.3	7
8	Anna Lefkowitz Day Care Center	590 Westchester Ave.	55	54	98.2	1
9	South Bronx Head Start I	490 E. 143rd St.	53	53	100.0	0
10	Trabajamos Community Head Start, Inc. – Center #1	940 E. 156th St.	26	25	96.2	1
11	Brightside Academy – Intervale	960 Intervale Rd.	30	28	93.3	2
12	Brightside Academy – Southern	1093 Southern Blvd.	43	38	88.4	5
13	Brightside Academy – Louis Nine	1334 Louis Nine Blvd.	66	65	98.5	1
14	La Peninsula Community Organization, Inc. – Interval (Center #2)	1054 Intervale Ave.	106	99	93.4	7
15	Lutheran Social Services of NY: Early LIFE Childrens Center 2	888 Westchester Ave.	137	133	97.1	4
16	Iola Jordan Day Care	421 E. 161st St.	154	143	92.9	11
17	Brightside Academy – St. Ann	800 Saint Ann's Ave.	28	25	89.3	3
18	Brightside Academy – E. 150th	331 E. 150th St.	20	19	95.0	1
19	Brightside Academy – Webster	1455 Webster Ave.	26	23	88.5	3
20	BronxWorks Early Childhood Learning Center	1130 Grand Concourse	55	53	96.4	2
21	Aleene Logan Preschool Center	1450 Webster Ave.	52	50	96.2	2
22	Louis A. Fickling Child Development Center	1240 Webster Ave.	50	44	88.0	6
23	Childrens Pride	414 Morris Ave.	55	55	100.0	0
24	1332 Fulton Avenue Day Care Center	1332 Fulton Ave.	97	92	94.8	5
25	The Richard H. Magnum Early Learning Center	383 E. 162nd St.	70	68	97.1	2
26	Highbridge Advisory Council Marshall England Early Learning Center	800 Concourse Village East	84	79	94.0	5
27	Children's Aid Society	1515 Southern Blvd.	79	74	93.7	5
28	Sharon Baptist – Center I	507-509 E. 156th St.	119	114	95.8	5
29	Blondell Joyner Day Care Center	901 Tinton Ave.	54	53	98.1	1

Figure D-2
Study Area Child Care Facilities

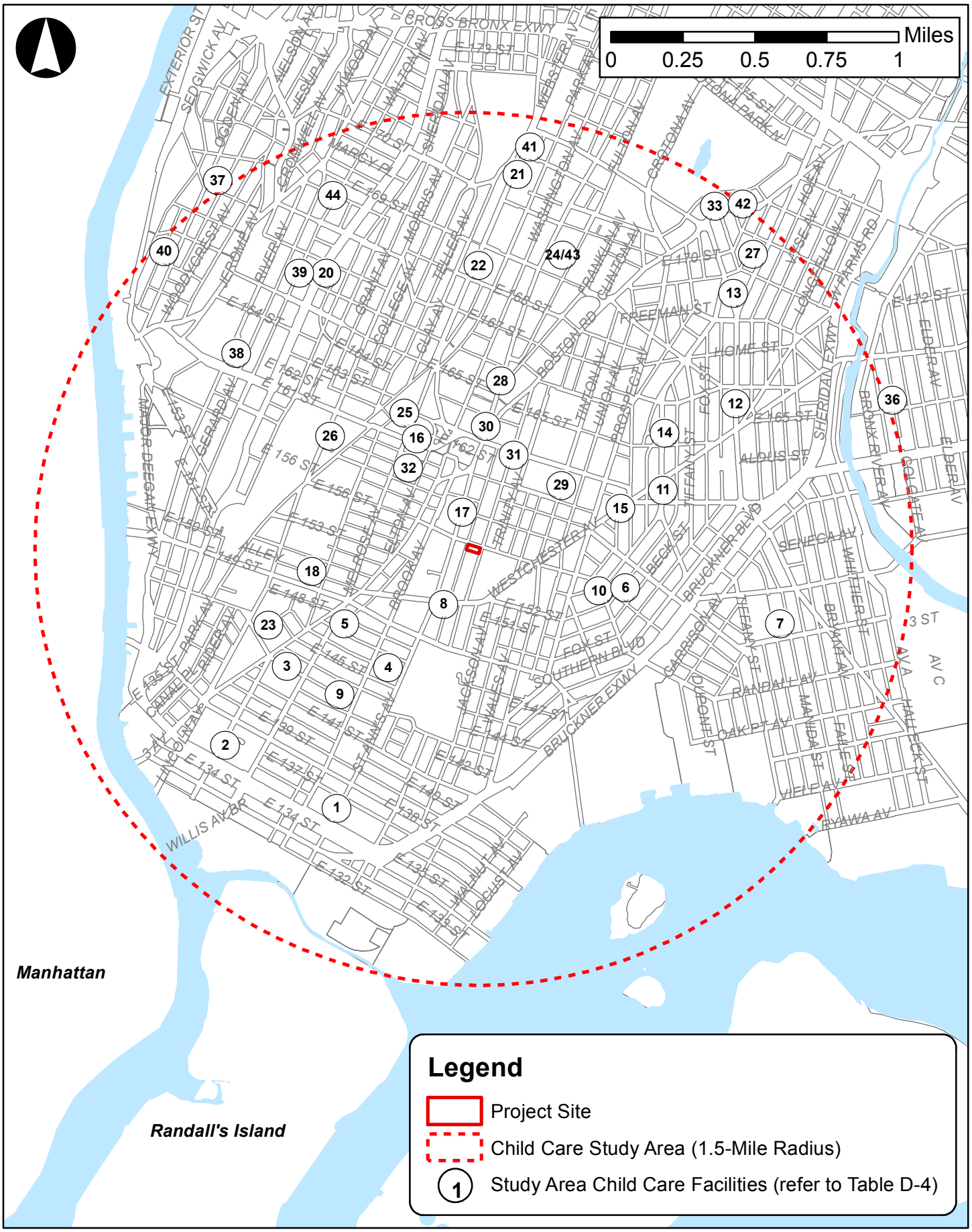


Table D-4 (continued): Study Area Child Care Facilities—Existing Conditions

Map No.[1]	Facility Name	Address	Capacity	Enrollment	Utilization (%)	Available Slots
30	Five Start Day Care Center	3261 Third Ave.	91	87	95.6	4
31	Gwendolyn Bland Day Care	749 E. 163rd St.	90	90	100.0	0
32	The Salvation Army – Bronx Citadel	425 E. 159th St.	36	35	97.2	1
33	Children's Aid Society	1550 Crotona Park East	34	34	100.0	0
34	HELP II	285 E. 171st St.	53	43	81.1	10
35	Tremont Monterey Day Care Center 2	1600 Bathgate Ave.	55	52	94.5	3
36	E. Bronx Day Care Center	1113 Colgate Ave.	74	54	73.0	20
37	Highbridge Advisory Council Day Care Center	1181 Nelson Ave.	57	48	84.2	9
38	Highbridge Advisory Council Evaluation Center	880 River Ave.	77	77	100.0	0
39	Mid-Bronx CCRP Head Start and Early Learning Center	1125 Grand Concourse	240	222	92.5	18
40	Mid-Bronx CCRP Early Childhood Center	1020-1022 Summit Ave.	36	51	141.7	-15
41	South Bronx Head Start	1458 Webster Ave.	74	70	94.6	4
42	Tremont Crotona Day Care Center	1600 Crotona Park East	135	88	65.2	47
43	United Bronx Parents Day Care	1332 Fulton Ave.	70	60	85.7	10
44	Womens Housing & Economic Development Corp.	50 E. 168th St.	111	111	100.0	0
		Study Area Total	***3,076***	***2,876***	***93.5***	***200***

Source: ACS, June 2016.
Notes:
[1] Refer to Figure D-2.

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

As described in Attachment C, "Land Use, Zoning, and Public Policy," there are a number of residential development projects anticipated in the surrounding area by the 2019 analysis year. For the purposes of the child care analysis. In total, approximately 1,539 new affordable housing units are anticipated in the surrounding area by 2019 (refer to Table C-2 in Attachment C, "Land Use, Zoning, and Public Policy").[3] Based on the *CEQR Technical Manual* generation rates, these incremental 1,539 affordable housing units are expected to generate 214 additional publicly funded child care-eligible children under age six to the study area, increasing the total child care center enrollment to 2,446. No changes to child care center capacity are anticipated in the 2019 No-Action condition.

As presented in Table D-5, the future No-Action utilization rate is expected to increase by seven percentage points to 100.5 percent and, therefore, would operate over capacity, with a shortfall of 14 slots.

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

As discussed above, the *CEQR Technical Manual* requires a detailed analysis of child care centers when a proposed action would produce substantial numbers of subsidized low- to moderate-income family housing units that may therefore generate a sufficient number of eligible children to affect the availability

[3] The supportive housing units planned as part of the Melrose Commons North and La Central developments (noted as community facility floor area in Table C-2 of Attachment C, "Land Use, Zoning, and Public Policy") are not included in the child care analysis, as these units are not expected to generate child-care eligible children.

of slots at area publicly funded child care centers. By 2019, it is anticipated that the proposed project would be completed and occupied and 170 affordable housing units would be introduced on the project site, with all units expected to be occupied by families earning up to 80 percent AMI and therefore potentially eligible for subsidized child care.

Table D-5: Comparison of Budget Capacity, Enrollment, Available Slots, and Percent Utilized for the 2016 Existing Conditions and the 2019 Future No-Action Conditions

	Budget Capacity	Enrollment	Available Slots	Utilization (%)
Existing Conditions	3,076	2,876	200	93.5
No-Action Increment[1]	0	+214	-214	+7.0
2019 No-Action Condition	3,076	3,090	-14	100.5

Source: *CEQR Technical Manual*, Table 6-1b.
Notes:
[1] Reflects No-Action developments presented in Table C-2 of Attachment C, "Land Use, Zoning, and Public Policy."

Based on Table 6-1b of the *CEQR Technical Manual*, these additional 170 affordable units would generate 24 children under age six eligible for publicly funded child care services (see Table D-6), increasing the study area child care enrollment to 3,114. As presented in Table D-7, the collective utilization rate of study area child care centers would increase to 101.2 percent in the 2019 With-Action condition (with a shortfall of 38 slots), an approximately 0.8 percent increase from the No-Action utilization rate.

Table D-6
Projected Number of Publicly Funded Child Care Pupils Generated by the Proposed Project

Affordable Units	Generation Ratio per Unit (Children ≤ Age 6)	Number of Children≤ Age 6 Generated
170	0.139	24

Source: *CEQR Technical Manual*, Table 6-1b.

Table D-7
Comparison of Budget Capacity, Enrollment, Available Slots, and Percent Utilized for the 2019 Future No-Action and With-Action Conditions

	Budget Capacity	Enrollment	Available Slots	Utilization (%)
2019 No-Action Condition	3,076	3,090	-14	100.5
With-Action Increment	0	24	-24	+0.8
2019 With-Action Condition	3,076	3,114	-38	101.2

Source: *CEQR Technical Manual*, Table 6-1b.

According to the *CEQR Technical Manual*, a significant adverse child care center impact could result if a proposed actions results in: (1) a collective utilization rate greater than 100 percent in the With-Action condition; and (2) the demand constitutes an increase of five percent or more in the collective capacity of child care centers serving the study area over the No-Action condition. While study area child care facilities would operate above capacity in the 2019 With-Action condition, as the proposed actions would only result in a 0.8 percent increase in the utilization rate, no significant adverse impacts would result.

ATTACHMENT E

OPEN SPACE

I. INTRODUCTION

An open space assessment may be necessary if a proposed action could potentially have a direct or indirect effect on open space resources in the project area. A direct effect would "physically change, diminish, or eliminate an open space or reduce its utilization or aesthetic value." An indirect effect may occur when the population generated by a proposed development would be sufficient to noticeably diminish the ability of an area's open space to serve the existing or future population. According to the guidelines established in the *City Environmental Quality Review* (CEQR) *Technical Manual,* a project that would add fewer than 200 residents or 500 employees, or a similar number of other users, is typically not considered to have indirect effects on open space.

Although the proposed actions would not have a direct effect on existing open space resources, development facilitated by the proposed actions (the "proposed project") is expected to result in an incremental increase of up to 170 dwelling units over the 2019 No-Action condition. This would result in an increase of 510 residents[1], which exceeds the *CEQR Technical Manual* threshold for a detailed indirect open space analysis. A quantitative assessment was conducted to determine whether the proposed actions would significantly reduce the amount of open space available for the area's residential population. While, the proposed project is also expected to introduce a net increment of 33 employees to the project site, based on standard planning assumptions, this is below the *CEQR Technical Manual* threshold for a nonresidential indirect open space analysis. Therefore, the analysis of indirect open space impacts focuses exclusively on the open space needs of the area residential population.

II. PRINCIPAL CONCLUSIONS

The proposed actions would not result in significant adverse open space impacts. While the residential open space study area would continue to have a shortfall of open space in the future with the proposed actions, the demand for open space generated by the proposed project would not significantly exacerbate the No-Action deficiency, with a decrease in the open space ratio of less than one percent as a result of the proposed actions. In addition, the population added as a result of the proposed actions is not expected to noticeably affect utilization of the area's open spaces. Most of the study area open space resources are only lightly utilized and are in good condition, and could therefore handle additional demand. Residents of the study area would also continue to use additional open space resources not included in the quantitative assessment. Therefore, while the proposed actions would result in an incremental decrease in open space ratios in the future, given the level of decrease anticipated, the existing low utilization of many of the study area's open spaces, and the availability of additional open spaces conservatively not included in the quantitative analysis, the proposed actions would not result in a significant adverse impact on open space. In addition, the proposed actions would not have a direct effect on any study area open spaces due to construction or operation.

[1] Based on the average household size of 3.0 for Bronx Community District (CD) 1 (2010 U.S. Census).

III. METHODOLOGY

The analysis of open space resources has been conducted in accordance with the guidelines established in the *CEQR Technical Manual*. Using CEQR methodology, the adequacy of open space in the study area is assessed quantitatively using a ratio of usable open space acreage to the study area population, referred to as the open space ratio. This quantitative measure is then used to assess the changes in the adequacy of open space resources in the future, both without and with the proposed actions. In addition, qualitative factors are considered in making an assessment of the proposed actions' effects on open space resources.

In accordance with the guidelines established in the *CEQR Technical Manual,* the 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 projects and a quarter-mile radius for commercial projects with a worker population. Because the worker population generated by the proposed actions falls well below the threshold of 500 additional employees, a half-mile radius is the appropriate study area boundary.

Open Space Study Area

Pursuant to *CEQR Technical Manual* guidelines, the residential open space study area includes all census tracts that have at least 50 percent of their area located within a half mile of the project site and all open spaces within it that are publicly accessible. As described above, residents typically walk up to a half mile for recreational spaces.

The project site encompasses Bronx Block 2624, Lot 41 in the Melrose neighborhood of Bronx Community District (CD) 1. As shown in Figure E-1, the ½-mile open space study area includes the following census tracts in their entirety: census tracts 67, 69, 71, 73, 75, 77, 79, 83, 133, and 141. The open space study area extends approximately to East 163rd and East 165th Streets to the north; to Prospect and Leggett Avenues and Bruckner Boulevard to the east; to East 149th and East 151st Streets to the south; and to Concourse Village East and Park Avenue to the west.

Analysis Framework

Direct Effects Analysis

According to the *CEQR Technical Manual*, a proposed action would have a direct effect on an open space if it causes the physical loss of public open space because of encroachment onto the space or displacement of the space; changes the use of an open space so that it no longer serves the same user population; limits public access to an open space; or causes increased noise or air pollutant emissions, odors, or shadows that would affect its usefulness, whether on a permanent or temporary basis.

This attachment uses information from other attachments of this EAS to determine whether the proposed actions would directly affect any open spaces near the proposed project. The direct effects analysis is included in the "The Future with the Proposed Actions (With-Action Condition)" section of this attachment.

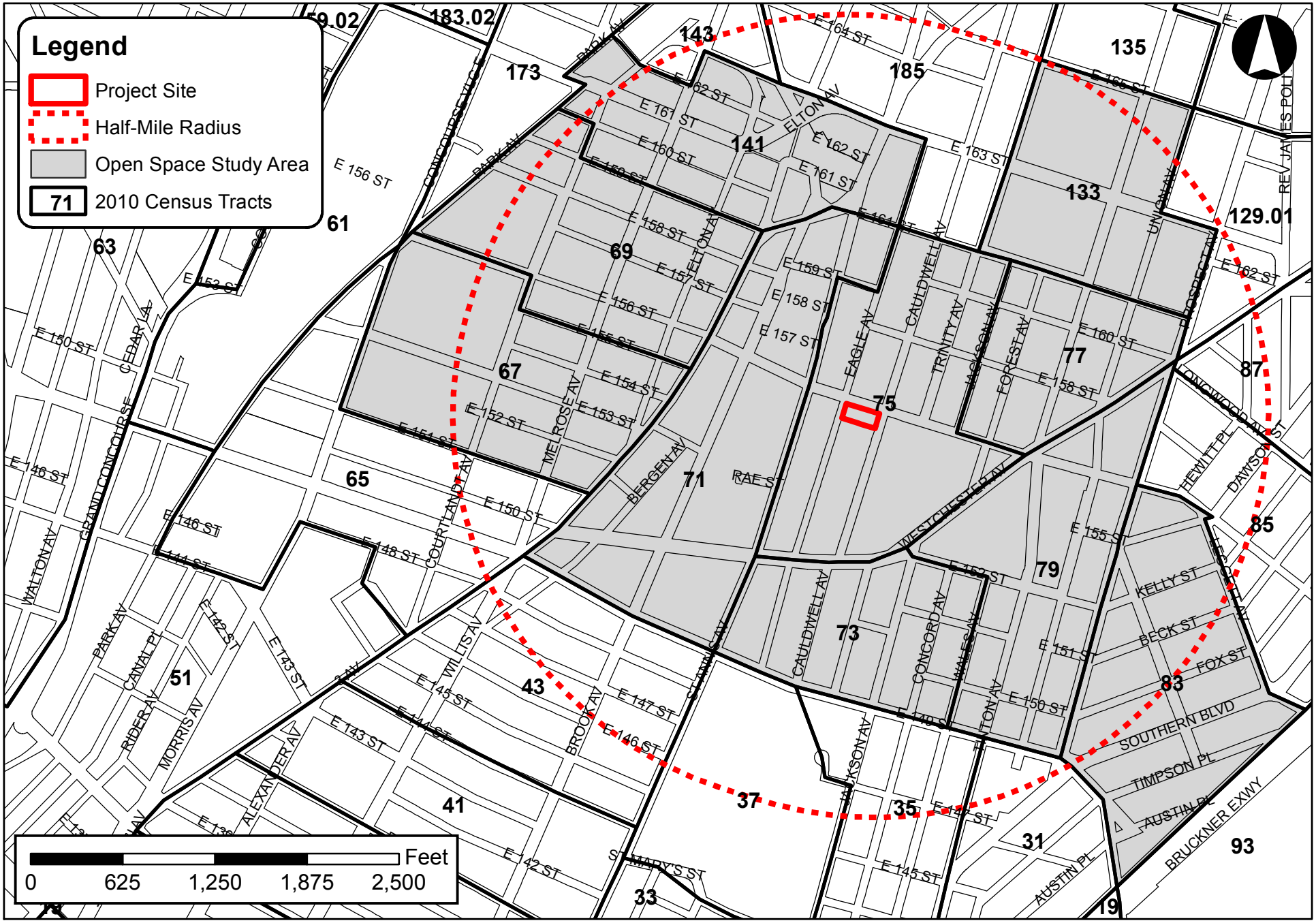


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Figure E-1
Open Space Study Area

Indirect Effects Analysis

Indirect effects occur to an area's open spaces when a proposed action would add enough population, either workers or residents, to noticeably diminish the ability of an area's open space to serve the existing or future population. The *CEQR Technical Manual* methodology suggests conducting an initial quantitative assessment to determine whether more detailed analyses are appropriate, but also recognizes that for projects that introduce a large population in an area that is underserved by open space, it may be clear that a full detailed analysis should be conducted. The study area is not located within an underserved or well-served area as identified in the *CEQR Technical Manual*.

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

- Characteristics of the residential users. To determine the number of residents in the study area, 2010 Census data have been compiled for census tracts comprising the open space study area.
- An inventory of all publicly accessible passive and active recreational facilities in the open space study area.
- An assessment of the quantitative ratio of open space in the study area by computing the ratio of open space acreage to the population in the study area and comparing this open space ratio with certain guidelines.
    - As a planning goal, a ratio of 2.5 acres per 1,000 residents represents an area well-served by open spaces and is consequently used by the City as an optimal benchmark for residential populations in large-scale plans and proposals. Ideally, this would be comprised of a balance of 80 percent active open space (2.0 acres per 1,000 residents) and 20 percent passive open space (0.5 acres per 1,000 residents).
    - Local open space ratios vary widely, and the median ratio at the citywide community district level is 1.5 acres of open space per 1,000 residents.
- An evaluation of qualitative factors affecting open space use.
- A final determination of the adequacy of open space in the residential open space study area.

Impact Assessment

As described in the *CEQR Technical Manual,* the significance of a project's effects on an area's open spaces is determined using both quantitative and qualitative factors, as compared to the No-Action condition. The determination of significance is based upon the context of a project, including its location, the quality and quantity of the open space in the future With-Action condition, the types of open space provided, and any new open space provided by the project.

The quantitative assessment considers how a project would change the open space ratios in the study area. The *CEQR Technical Manual* indicates that a significant adverse impact may result if a project would reduce the open space ratio by more than five percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents, or where there would be a direct displacement or alteration of existing open space within the study area that has a

significant adverse effect on existing users. In areas that are underserved by open space (as identified in the *CEQR Technical Manual*), a reduction as small as one percent may be considered significant, depending on the area of the City. Furthermore, in areas that are well-served by open space, a greater change in the open space ratio may be tolerated. As noted above, the project site is not located in an areas that is either underserved or well-served by open space, as identified in the *CEQR Technical Manual*.

The qualitative assessment supplements the quantitative assessment and considers nearby destination resources, the connectivity of open space, the effects of new open space provided by the project, a comparison of projected open space ratios with established City guidelines, and open spaces created by the proposed project not available to the general public. It is recognized that the City's planning goals are not feasible for many areas of the City, and they are not considered impact thresholds on their own. Rather, these are benchmarks indicating how well an area is served by open space.

D. PRELIMINARY ASSESSMENT

According to the *CEQR Technical Manual*, an initial 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 actions. If there is a decrease in the open space ratio that would approach or exceed five 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*.

Pursuant to the guidelines of the *CEQR Technical Manual*, a preliminary open space assessment was conducted. As the study area exhibits a low open space ratio (i.e., below the Citywide Community District median of 1.5 acres per 1,000 residents and the City's optimal planning goal of 2.5 acres per 1,000 residents) under existing and future conditions, a detailed open space analysis is warranted and is provided below.

E. DETAILED ANALYSIS

Existing Conditions

Demographic Characteristics of the Study Area

To determine the residential population served by existing open space resources, 2010 Census data were compiled for the census tracts comprising the ½-mile study area. With an inventory of available open space resources and the number of potential users, open space ratios were calculated and compared with the existing citywide median ratio and the City's planning goals. As mentioned above and shown in Figure E-1, the open space study area is comprised of ten census tracts. As shown in Table E-1 below, 2010 Census data indicate that the study area has a total residential population of approximately 49,853.

Table E-1: Residential Population and Age Distribution in the ½-Mile Study Area

Census Tract	Total Population	Under 5 Years		5 to 9 Years		10 to 14 Years		15 to 19 Years		20 to 64 Years		65+ Years		Median Age
		#	%	#	%	#	%	#	%	#	%	#	%	
67	6,984	582	8.3	570	8.2	557	8.0	679	9.7	3,971	56.9	625	8.9	28.7
69	2,564	744	9.8	690	9.1	598	7.9	744	9.8	4,202	55.6	586	7.7	27.6
71	1,907	118	6.2	153	8.0	159	8.3	221	11.6	1,078	5.65	178	9.3	31.0
73	3,893	333	8.6	357	9.2	310	8.0	319	8.2	2,219	57.0	355	9.1	29.3
75	4,869	388	8.0	408	8.4	430	8.8	462	9.5	2,673	54.9	508	10.4	29.9
77	1,927	142	7.4	175	9.1	170	8.8	187	9.7	1,127	58.5	126	6.5	30.5
79	6,733	542	8.0	573	8.5	608	9.0	671	10.0	3,698	54.9	641	9.5	29.4
83	6,155	513	8.3	520	8.4	506	8.2	530	8.6	3,630	59.0	456	7.4	29.3
133	6,384	489	7.7	482	7.6	551	8.6	669	10.5	3,492	54.7	701	11.0	30.9
141	3,437	334	9.7	302	8.8	273	7.9	297	8.6	1,976	57.5	255	7.4	28.5
Total	***49,853***	***4,185***	***8.4***	***4,230***	***8.5***	***4,162***	***8.3***	***4,779***	***9.6***	***28,066***	***56.3***	***4,431***	***8.9***	***29.3***

Source: 2010 Census, SF1 100%

Within a given area, the age distribution of a population affects the way open spaces are used and the need for various types 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 activities such as ball playing, running, and skipping rope. Children ages ten through 14 use playground equipment, court spaces, little league fields, and ball fields. Teenagers' and young adults' needs tend toward court game facilities such as basketball and field sports. Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, as well as more individualized recreation such as rollerblading, biking, and jogging, requiring bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, ad hoc active sports such as Frisbee®, and recreational activities in which all ages can participate. Senior citizens engage in active recreation such as tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

Therefore the residential population of the study area was also broken down by age group. As shown in Table E-1, people between the ages of 20 and 64 make up the majority (approximately 56 percent) of the residential population. Children and teenagers (0 to 19 years old) account for approximately 35 percent of the entire residential population, and persons 65 years and over account for approximately nine percent of the residential study area population. Compared to the Bronx and New York City as a whole, the study area residential population includes a larger percentage of children/teenagers, and a smaller adult (20-64 years) and elderly (65+ years) population.

The median age for the population within the individual census tracts of the residential study area ranges from a high of 31.0 years (census tract 71) to a low of 27.6 years (census tract 69). The open space study area's median age of 29.3 is younger than the median age for the Bronx (32.8 years) and New York City as a whole (35.4 years).

This data suggests a need for facilities geared towards the recreational needs of children and teenagers, as the study area exhibits a high percentage of residents in the 0 to 19 age bracket.

Inventory of Publicly Accessible Open Space

According to the *CEQR Technical Manual*, open space may be public or private and may be used for active or passive recreational purposes. Pursuant to the *CEQR Technical Manual*, public open space is defined as facilities open to the public at designated hours on a regular basis and is assessed for

impacts under CEQR guidelines, whereas private open space is not accessible to the general public on a regular basis, and is therefore only considered qualitatively. Field surveys and secondary sources were used to determine the number, availability, and condition of publicly accessible open space resources in the study area.

An open space is determined to be active or passive by the uses that the design of the space allows. Active open space is the part of a facility used for active play, such as sports or exercise, and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, and multi-purpose play areas (open lawns and paved areas for active recreation such as running games, informal ball-playing, skipping rope, etc.). Passive open space is used for sitting, strolling, and relaxation, and typically contains benches, walkways, and picnicking areas.

Within the defined study area, all publicly accessible open spaces were inventoried and identified by their location, size, owner, type, utilization, equipment, hours, and condition. The information used for this analysis was gathered through field inventories conducted in spring 2016, DPR's website, the New York City Open Accessible Space Information System (OASIS) database, and other secondary sources of information.

The condition of each open space facility was categorized as "Excellent," "Good," "Fair," or "Poor." A facility was considered in excellent condition if the area was clean and attractive and if all equipment was present and in good repair. A good facility had minor problems such as litter or older but operative equipment. A fair or poor facility was one that was poorly maintained, had broken or missing equipment or lack of security, or other factors that would diminish the facility's attractiveness. Determinations were made subjectively, based on a visual assessment of the facilities.

Likewise, judgments as to the intensity of use of the facilities were qualitative, based on an observed degree of activity or utilization on a weekday afternoon, which is considered the weekday peak utilization period according to the *CEQR Technical Manual*. If a facility seemed to be at or near capacity (i.e. the majority of benches or equipment was in use), then utilization was considered heavy. If the facility or equipment was in use but could accommodate additional users, utilization was considered moderate. If a playground or sitting area had few people, usage was considered light. Table E-2, "Inventory of Existing Open Space and Recreational Facilities in Study Area," identifies the address, ownership, features, and acreage of active and passive open spaces in the study area, as well as their condition and utilization. Figure E-2 maps their location in the study area.

Open Space Resources

As shown in Table E-2, there are 23 publicly accessible open space in the residential open space study area. In addition, there are 23 resources located within the study area that are not included in the quantitative analysis due to limited hours of operation and/or accessibility.

The study area contains a total of approximately 24.16 acres of publicly accessible open space, approximately 65 percent of which (15.64 acres) comprises active open space and approximately 35 percent of which (8.52 acres) comprises passive open space (refer to Table E-2). The largest open space in the study area is the 3.8-acre Merrill Lynch Field of Dreams (also known as the South Bronx High School Athletic Field), which is located to the southwest of the project site (refer to Map No. 12 in Figure E-2 and Table E-2). The Merrill Lynch Field of Dreams is operated by the New York City Department of Education (DOE) and includes a baseball field, multi-purpose synthetic turf field, and running track. The park is in excellent condition and has a high level of utilization.

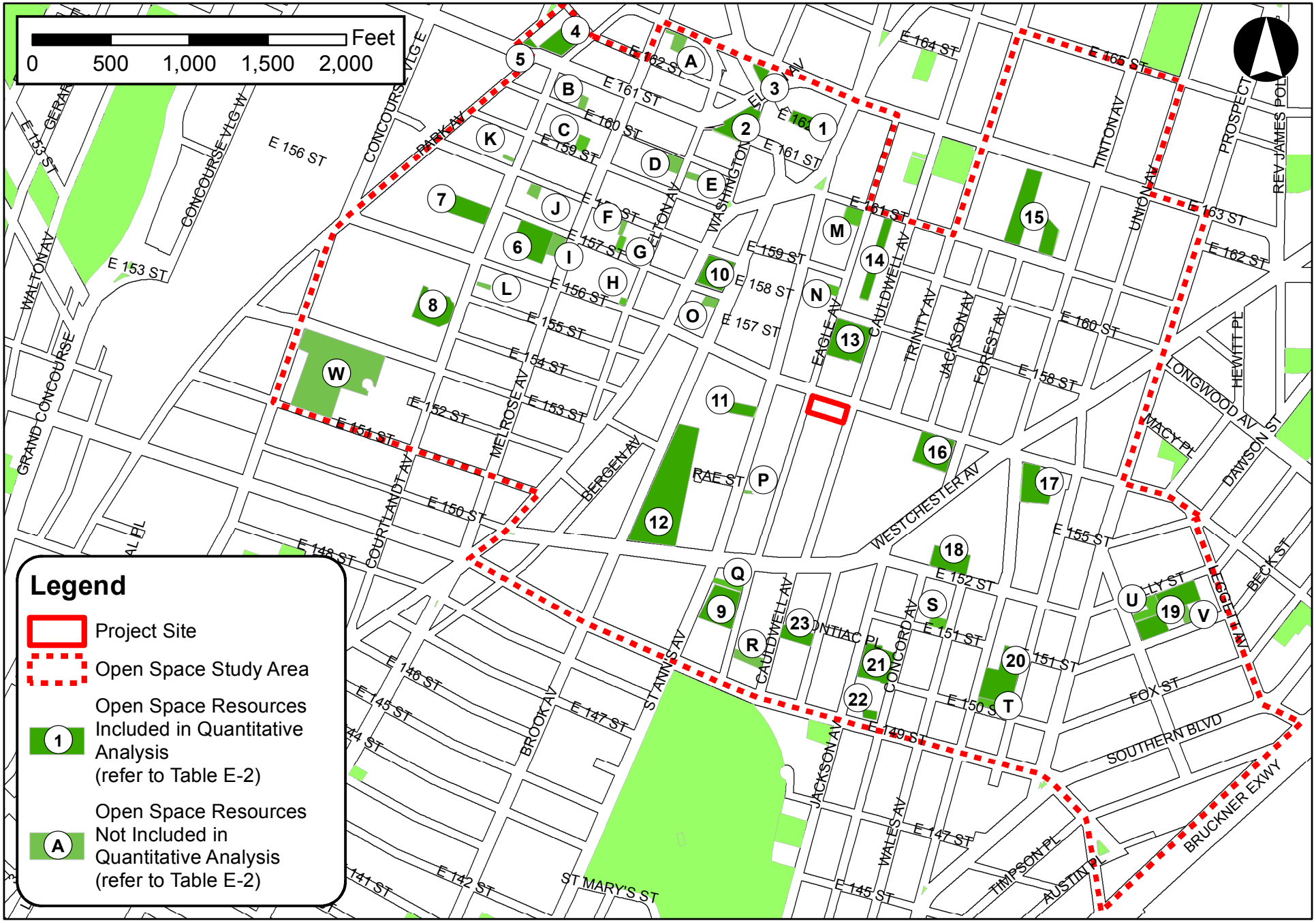

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Figure E-2
Open Space Resources

Table E-2: Inventory of Existing Open Space and Recreational Facilities in the Study Area

Map No.[1]	Name	Location	Owner/ Agency	Features	Total Acres	Passive Acres	Passive %	Active Acres	Active %	Condition	Utilization
Open Space Resources included in Quantitative Analysis											
1	Boricua Village	3213 Third Ave.	Boricua College	Benches, plantings	1.50	1.50	100	0.00	0	Good	Low
2	O'Neill Triangle	Elton Ave., E. 161st St., & Washington Ave.	DPR	Benches, landscaping, trees	0.64	0.64	100	0.00	0	Good	Low
3	Triangle Park	E. 163rd St., Washington Ave., & Brook Ave.	DPR	Planting, trees	0.05	0.05	100	0.00	0	Fair	Low
4	Railroad Park	Park Ave., E. 162nd St., Courtlandt Ave., & E. 161st St.	DPR	Playground, benches, trees, abandon rail station	0.73	0.58	80	0.15	20	Good	High
5	Morrisania Air Rights Houses Playground	Park Ave. & E. 161st St.	NYCHA	Benches, tables, playground	0.15	0.07	50	0.08	50	Fair	Moderate
6	P.S. 29 Ball Field	750 Courtlandt Ave.	DPR/DOE	Baseball field, playground, benches	1.11	0.00	0	1.11	100	Excellent	Low
7	Jackson Houses Playground	Courtlandt Ave. at E. 157th St.	NYCHA	Basketball courts, benches, playgrounds	1.15	0.28	25	0.87	75	Good	Moderate
8	Mayaro Playground (Melrose Houses)	Courtlandt Ave., E. 154th St., & E. 155th St.	DPR	Playground, basketball & handball courts, spray showers, benches	1.00	0.15	15	0.85	85	Good	High
9	Hostos – Lincoln Academy of Science Middle School Courts	St. Ann's Ave., Westchester Ave., & Eagle Ave.	DOE	Basketball, tennis, asphalt play area	0.70	0.00	0	0.70	100	Good	High
10	Flynn Playground	Brook Ave., E. 158th St., Third Ave., & E. 157th St.	DPR	Playground, basketball & handball courts, spray showers, benches	0.82	0.16	20	0.66	80	Excellent	High
11	Bronxchester Houses Playground	St. Ann's Ave. south of E. 156th St.	NYCHA	Basketball court, benches, playground	0.40	0.20	50	0.20	50	Excellent	Moderate
12	Merrill Lynch Field of Dreams	Brook Ave. btwn. Westchester Ave. & E. 156th St.	DOE	Running track, baseball, soccer, & football fields	3.80	0.00	0	3.80	100	Excellent	High
13	P.S. 157 – Grove Hill Playground	E. 158th St. btwn. Cauldwell & Eagle Ave.	DPR/DOE	Playground, spray showers, basketball & handball courts, benches	1.19	0.24	20	0.95	80	Good	High
14	South Bronx Area (Site 402)	E. 161st St. btwn. Cauldwell & Eagle Aves.	NYCHA	Benches, trees, plantings	2.40	2.40	100	0.00	0	Excellent	Moderate
15	McKinley Houses Basketball Court & Playground	725 E. 161st St.	NYCHA	Paths, trees, planting, plant beds, benches, basketball court, playgrounds	1.40	0.21	15	1.19	85	Good	Low
16	Captain Rivera Playground (St. Mary's Houses)	Forest Ave. & E. 156th St.	DPR	Playground, spray shower, basketball & handball courts, benches, fitness equipment	0.99	0.25	25	0.74	75	Fair	High

Table E-2 (continued): Inventory of Existing Open Space and Recreational Facilities in the Study Area

Map No.[1]	Name	Location	Owner/ Agency	Features	Total Acres	Passive Acres	Passive %	Active Acres	Active %	Condition	Utilization
17	Abigail Playground	E. 156th St. & Tinton Ave.	DPR	Playgrounds, benches, swings, basketball half-courts, climbing bars, game tables, handball	0.53	0.11	20	0.42	80	Good	High
18	Adam Houses Playground	E. 152nd St. & Wales Ave.	NYCHA	Basketball court, benches, tables	0.72	0.00	0	0.72	100	Good	Moderate
19	Playground 52 LII	Kelly St. btwn. St. John & Leggett Aves.	DPR	Playground, swings, basketball & handball courts, spray showers, benches	1.79	0.90	50	0.90	50	Poor	Low
20	Fountain of Youth Playground	Union Ave., E. 150th St. & Tinton Ave.	DPR/DOE	Playground, handball & basketball courts, seating & game tables, spray showers, trees, garden	1.38	0.41	30	0.97	70	Good	Moderate
21	Pontiac Playground	Jackson Ave. to Concord Ave. btwn. E. 150th & E. 151st Sts.	DPR/DOE	Playground, swings, basketball & handball courts, benches	0.91	0.18	20	0.73	80	Good	High
22	P.S. 5 – Port Morris Playground	E. 149th St., btwn. Jackson & Concord Aves.	DOE	Play equipment, asphalt play area	0.15	0.00	0	0.15	100	Good	Low
23	St. Mary's Park Houses Playground	550 Cauldwell Ave.	NYCHA	Benches, tables, spray showers, playground	0.65	0.20	30	0.46	70	Good	Low
				Total Included in Quantitative Analysis	*24.16*	*8.52*	*35*	*15.64*	*65*		
				Open Space Resources not included in Quantitative Analysis							
A	A. Badillo Community Rose Garden	410 E. 163rd St.	HPD	Shelter, plant beds, trees	0.28	0.28	100	0.00	0		
B	Melrose New Generation Garden	377 E. 160th St.	DPR	Shelter, plant beds, trees	0.12	0.12	100	0.00	0		
C	Rainbow Block Assoc. Garden	379 E. 159th St.	HPD	Shelter, plant beds, trees	0.17	0.17	100	0.00	0		
D	Jardin la Roca/the Rock Garden	422 E. 160th St.	DPR	Shelter, plant beds, trees	0.23	0.23	100	0.00	0		
E	Edith Garden	826 Elton Ave.	HPD	Shelter, plant beds, trees	0.12	0.12	100	0.00	0		
F	Family Group Garden	422 E. 158th St.	HPD/DPR	Shelter, plant beds	0.10	0.10	100	0.00	0		
G	Latinos Unidos	427 E. 157th St.	DPR	Shelter, plant beds, trees	0.11	0.11	100	0.00	0		
H	Vogue Community Garden	Elton Ave. & E. 156th St.	DPR	Shelter, plant beds, trees	0.05	0.05	100	0.00	0		
I	Rainbow Garden of Life & Health	762 Melrose Ave.	DPR	Shelter, plant beds, trees, benches, play toys	0.27	0.27	100	0.00	0		
J	Courtlandt Avenue Association Garden	364-366 E. 158th St.	DPR	Shelter, plant beds, trees	0.17	0.17	100	0.00	0		
K	"811" Family & Friends Association	809 Courtlandt Ave.	HPD/DPR	Plant beds	0.06	0.06	100	0.00	0		
L	NYPR Members' Garden/Dalia Group Community Garden	724 Courtlandt Ave.	DPR	Toolshed, raised beds, pathways, grill	0.06	0.06	100	0.00	0		

Table E-2 (continued): Inventory of Existing Open Space and Recreational Facilities in the Study Area

Map No.[1]	Name	Location	Owner/ Agency	Features	Total Acres	Passive Acres	Passive %	Active Acres	Active %
M	Palmas del Caribe (Eagle Avenue Community Garden)	869 Eagle Ave.	BLT	Plant beds, trees	0.24	0.24	100	0.00	0
N	El Batey Borincano Garden	811-815 Eagle Ave.	DPR	Shelter, plant beds, trees, playground	0.18	0.18	100	0.00	0
O	Centro Cultural Rincon Criollo Garden	749-755 Brook Ave.	HPD	Shelter, plant beds, trees	0.18	0..18	100	0.00	0
P	St. Ann's Block Association Garden	666-68 St. Ann's Ave.	DPR	Plant beds	0.03	0.03	100	0.00	0
Q	Eagle Slope/Granja Farm	586 Westchester Ave.	DPR	Plantings, hydroponics, plant beds	0.39	0.39	100	0.00	0
R	Cauldwell Youth Garden	551 Cauldwell Ave.	BLT	Shelter, plantings, plant beds	0.15	0.15	100	0.00	0
S	Isla Verde Green	Wales St. & E. 151st St.	DPR	Plant beds, benches, trees, plantings	0.16	0.16	100	0.00	0
T	El Flamboyan Garden	Tinton Ave., E. 150th St., & Union Ave.	DPR	Plant beds, plantings, benches, trees, shelter	0.43	0.00	0	0.43	100
U	Demera Santiago Garden	941-943 St. John Ave.	DPR	Plantings, trees, picnic tables	0.12	0.12	100	0.00	0
V	William Rainey Garden	685 Beck St.	BLT	Plantings, trees, plant beds	0.09	0.09	100	0.00	0
W	Governor Smith Playground	E. 153rd St., Courtlandt Ave., E. 151st St., Morris Ave., E. 154th St., & E. 155th St.	DPR/DOE	Playground, basketball & handball courts, spray showers, benches	4.00	1.00	25	3.00	75
				Total Excluded from Quantitative Analysis	*7.71*	*4.28*	*56*	*3.43*	*44*

Source: NYC OASIS, DPR, spring 2016 field visits.
Notes:
[1] Refer to Figure E-2.
DPR = New York City Department of Parks and Recreation; NYCHA = New York City Housing Authority; HPD = New York City Department of Housing Preservation and Development; BLT = Bronx Land Trust

Other significant open space resources in the study area include the 2.4-acre South Bronx Area (Site 402), which is located two blocks north of the project site on the south side of East 161st Street between Eagle and Cauldwell Avenues (Map No. 14). The New York City Housing Authority (NYCHA) operated South Bronx Area open spaces in the study area is one of the few large passively-programmed open space and features benches, trees, and plantings.

The remaining study area open spaces are all under two acres in size. Several open spaces in the study area are adjacent to public schools and are jointly operated by the DPR and DOE. In addition to the aforementioned open spaces, these include the P.S. 29 Ball Field (Map No. 6), the P.S. 157 – Grove Hill Playground (located directly north of the project site; Map No. 13), Pontiac Playground (Map No. 21), P.S. 5 – Port Morris Playground (Map No. 22), the Fountain of Youth Playground (Map No. 20), and the Hostos-Lincoln Academy of Science Middle School Courts (Map No. 9).

As noted above, there are a number of additional open spaces that are conservatively not included in the quantitative analysis because they are not fully accessible to the public, have limited hours, are very small, or do not include seating or other amenities. However, these spaces constitute important recreational resources for neighborhood residents.

Existing Open Space Adequacy

The following analysis of the adequacy of existing open space resources within the study area takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents. As an optimal planning goal, the City tries to achieve an overall residential open space ratio of 2.5 acres per 1,000 residents (80 percent [2 acres] active and 20 percent [0.5 acres] passive) for large-scale plans and proposals. Although a typical population mix may call for such a goal, it is often not feasible for many areas of the City (especially higher density areas). Therefore, the City does not consider these ratios as open space policy for every neighborhood. Rather, the ratios serve as benchmarks that represent how well an area is served by open space.

In calculating the open space ratio per 1,000 user population for the study area, all of the resources listed in the "Open Space Resources Included in the Quantitative Analysis" section of Table E-2 were included; Resources A through W were not included in the calculations pursuant to the *CEQR Technical Manual*, as they have limited accessibility/hours. Table E-3 shows that, with an existing study area residential population of approximately 45,853 people, the existing total open space ratio in the study area is approximately 0.485 acres of open space per 1,000 residents; the study area has 0.171 acres of passive open space per 1,000 residents and 0.314 acres of active open space per 1,000 residents. As indicated in Table E-3, the existing total and passive residential open space ratios are below the City's open space planning goals of 2.5 acres per 1,000 residents and the 1.5 acres per 1,000 residents citywide Community District Median.

Table E-3: Adequacy of Open Space Resource in the Study Area – Existing Conditions

Existing Population	Open Space Acreage			Open Space per 1,000 Residents			City Open Space Planning Goals		
	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
45,853	24.16	8.52	15.64	0.485	0.171	0.314	2.50	0.50	2.0

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

Project Site

In the 2019 future without the proposed actions, the existing M1-1 zoning district currently mapped on the project site would remain and no changes to the land uses occupying the project site would occur. As such, the project site would include 90 public parking spaces, 2,700 gsf of office space, and open vehicle storage, as under existing conditions.

Study Area Population

As presented in Table C-2 of Attachment C, "Land Use, Zoning, and Public Policy," several new residential developments are currently planned and expected to be completed within a ½-mile of the project site in the 2019 future without the proposed actions, which would increase the residential population within the study area. In total, these No-Action study area developments are expected to increase the residential population by 5,405 to 55,258.

Open Space Resources

in the 2019 future without the proposed action, the proposed approximately 1.07-acre Melrose Commons Park would be located on the western half of the block bounded by East 160th Street, Elton Avenue, East 159th Street, and Melrose Avenue (URA Site 32). Melrose Commons Park would be programmed primarily for active recreation uses.

It should be noted that, as part of the planned La Central development (to the west of the project site), 1.26 acres of public open space would be developed, including an estimated 1.1 acres of passive open space and approximately 0.16 acres of active open space. However, as the La Central development is not expected to be fully constructed until 2020 and the specific phasing of the open space is not known at this time, for conservative analysis purposes, this additional open space is not assumed to be completed by the proposed project's 2019 analysis year.

Open Space Adequacy

Table E-5, below, presents the No-Action open space ratios for the ½-mile study area, based on the anticipated population and open space resource increases outlined above. As indicated in Table E-5, in the No-Action condition, as under existing conditions, the total, passive, and active open space ratios would be less than the City' open space planning goals of 2.5 acres of open space per 1,000 residents (including 0.5 acres of passive open space and two acres of active open space). The total open space ratio is expected to decrease to 0.457 acres per 1,000 residents in the No-Action condition, with No-Action passive and active open space ratios of 0.154 and 0.302 acres per 1,000 residents, respectively.

Table E-5: Adequacy of Open Space Resource in the Study Area – No-Action Conditions

No-Action Population	Open Space Acreage			Open Space per 1,000 Residents			City Open Space Planning Goals		
	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
55,258	25.23	8.52	16.71	0.457	0.154	0.302	2.50	0.50	2.0

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

This section describes the open space conditions that would result from the reasonable worst-case development scenario (RWCDS) associated with the proposed actions by 2019. It evaluates the potential for the proposed actions to result in significant adverse impacts to open space resources directly and indirectly based on a comparison of the No-Action condition (described above) to the With-Action condition.

Project Site Population

As described in Attachment A, "Project Description," in the future with the proposed actions, it is estimated 170 DU would be introduced on the project site, which are expected to introduce a net 510 residents.[2] Based on this incremental residential population growth, the study area's population would increase to a total of 55,768 residents in the 2019 With-Action condition.

Direct Effects Analysis

The proposed actions would not have a direct effect on any study area open spaces. Construction and operation of the proposed project would not cause the physical loss of public open space because of encroachment or displacement of the space; would not change the use of an open space so that it no longer serves the same user population; and would not limit public access to an open space. In addition, as discussed in other chapters of this EAS, the proposed actions would not significantly affect the usefulness or utilization of any study area open spaces due to increased noise or air pollutant emissions, odors, or shadows.

Indirect Effects Analysis

Table E-6 compares the No-Action and With-Action open space ratios per 1,000 residents. As presented in Table E-6, in the With-Action condition, as under existing and No-Action conditions, the open space ratios in the ½-mile study area would be less than the City's open space planning goals of 2.5 acres of open space per 1,000 residents, including 0.5 acres of passive open space and 2.0 acres of active open space. However, the proposed actions would not result in an appreciable decrease in the study area open space ratios. In the future with the proposed actions, the total open space ratio is expected to decrease by less than one percent (0.005 acres per 1,000 residents) from 0.457 to 0.452 acres of open space per 1,000 residents (as compared to the No-Action condition). The passive open space ratio is expected to decrease by less than one percent (0.001 acres per 1,000 residents) from 0.154 acres to 0.153 acres per 1,000 residents, and the active open space ratio is expected to decrease by less than one percent (0.002 acres per 1,000 residents) from 0.302 acres to 0.300 acres per 1,000 residents, as compared to the No-Action condition.

While the study area would continue to have a shortfall of open space, the demand for open space generated by the proposed project would not significantly exacerbate the No-Action deficiency, with less than one percent decreases in the study area's open space ratios. The population added as a result of the proposed actions is not expected to noticeably affect utilization of the area's open spaces.

[2] Based on the average household size of 3.0 for Bronx CD 1 (2010 U.S. Census).

Table E-6: Adequacy of Open Space Resource in the Study Area – No-Action vs. With-Action Conditions

		Open Space Acreage			Open Space per 1,000 Residents (acres)			City Open Space Planning Goals		
	Population	Total	Passive	Active	Total	Passive	Active	Total	Passive	Active
No-Action Condition	55,258	25.23	8.52	16.71	0.457	0.154	0.302	2.50	0.50	2.0
With-Action Condition	55,768				0.452	0.153	0.300			
Incremental Change	510				-0.005 (-0.91%)	-0.001 (-0.91%)	-0.002 (-0.91%)			

Although the existing open space ratios in the study area would remain less than the DCP planning goals and the citywide median, the deficiency of open space resources within the study area would be ameliorated by several factors. A total of 19 of the 23 open space resources in the study area were found to be in either good or excellent condition. In addition, 14 of the 23 open space resources have only low to moderate utilization levels and would be able to absorb additional users generated by the proposed project. Moreover, a wide variety of options are available, ranging from sitting areas and walking paths to playgrounds, basketball and handball courts, ball fields, and picnic area. Lastly, the area's community gardens, which are not included in the quantitative assessment provide approximately 3.71 acres of open space. Although these resources were excluded from the quantitative assessment, it is likely that existing and future residents and workers within the study area would take advantage of these additional resources. If included in the quantitative analysis, these open spaces would improve the open space ratios.

Therefore, while the proposed actions would result in an incremental decrease in open space ratios in the future, given the level of decrease anticipated, the existing low utilization of many of the study area's open spaces, and the availability of additional open spaces conservatively not included in the quantitative analysis, the proposed actions would not result in a significant adverse impact on open space.

ATTACHMENT F

SHADOWS

I. INTRODUCTION

According to the 2014 *City Environmental Quality Review* (CEQR) *Technical Manual*, an adverse shadows impact is considered to occur when an incremental shadow from a proposed project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight exposure, thereby significantly altering the public's use of the resource, or threatens the viability of vegetation or other resources. Pursuant to *CEQR Technical Manual* guidelines, sunlight-sensitive resources of concern are those resources that depend on sunlight, or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. Sunlight-sensitive resources can include publicly accessible open spaces, architectural resources, natural resources, and Greenstreets. In general, shadows on City streets, sidewalks, buildings, or project-generated open spaces, as well as shadows occurring within an hour and a half of sunrise or sunset generally are not considered significant under *CEQR Technical Manual* impact criteria.

According to the *CEQR Technical Manual*, a shadows assessment is required only if a proposed action would result in structures (or additions to existing structures) of 50 feet or more and/or be located adjacent to, or across the street from, a sunlight-sensitive resource. As described in Attachment A, "Project Description," under the reasonable worst-case development scenario (RWCDS), the proposed actions would facilitate the development of a building with a maximum height of approximately 145 feet, approximately 119 feet taller than the maximum building height of the existing/No-Action building on the project site. Therefore, a detailed shadows analysis was prepared to determine the potential for the RWCDS building to result in significant adverse impacts on sunlight-sensitive resources.

II. PRINCIPAL CONCLUSIONS

The proposed actions would not result in significant adverse shadows impacts. While the proposed project would cast incremental shadows on a portion of the P.S. 157 – Grove Hill Playground, the shadows analysis determined that the duration and coverage of incremental shadows on the playground would not be significant or adverse. Project-generated incremental shadows would occur on only one analysis day (December 21) with a total shadow duration of one hour 56 minutes. The proposed project would not cast incremental shadows on the open space resource during the growing season, and, therefore, would not have the potential to significantly affect warm-weather-dependent vegetation located on the open space resource. Incremental shadows cast by the RWCDS massing for the proposed actions would be limited to the southern and eastern portions of the playground, which are predominantly paved. In addition, as the incremental shadow coverage would only occur on the December 21 analysis day, when temperatures would be colder and the use of the active recreational space would not be as high (compared to warmer months), they would not significantly affect the utilization or enjoyment of this open space resource. Therefore, the incremental shadows resulting from the proposed actions are not expected to result in significant adverse impacts to the usability of the P.S. 157 – Grove Hill Playground.

III. METHODOLOGY

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

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

- *Public open space* (e.g., parks, playgrounds, plazas, schoolyards, greenways, and landscaped medians with seating). Planted areas within unused portions or roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources. The use of vegetation in an open space establishes its sensitivity to shadows. This sensitivity is assessed for both (1) warm-weather dependent features, like wading pools and sandboxes, or vegetation that could be affected by loss of sunlight during the growing season (i.e., March through October); and (2) features, such as benches, that could be affected by a loss of winter sunlight. Uses that rely on sunlight include: passive use, such as sitting or sunning; active use, such as playfields or paved courts; and such activities as gardening, or children's wading pools and sprinklers. Where lawns are actively used, the turf requires extensive sunlight. Vegetation requiring direct sunlight includes the tree canopy, flowering plants, and plots in community gardens. Generally, four to six hours a day of sunlight, particularly in the growing season, is a minimum requirement.
- *Features of historic architectural resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features are considered, as opposed to the entire architectural resource. Sunlight-sensitive features include the following: design elements that are part of a recognized architectural style that depends on the contrast between light and dark (e.g., deep recesses or voids, such as open galleries, arcades, recessed balconies, deep window reveals, and prominent rustication); elaborate, highly carved ornamentation; stained glass windows; exterior building materials and color that depend on direct sunlight for visual character (e.g., the polychromy [multicolored] features found on Victorian Gothic Revival or Art Deco facades); historic landscapes, such as scenic landmarks, including vegetation recognized as an historic feature of the landscape; and structural features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.
- *Natural resources where the introduction of shadows could alter the resource's condition or microclimate.* Such resources could include surface water bodies, wetlands, or designated resources, such as coastal fish and wildlife habitats.

The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the project site representing the longest shadow that could be cast. If there are sunlight-sensitive resources within the radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project-generated shadows by accounting for a specific range of angles that can never receive shade in New York City due to the path of the sun in the northern hemisphere. If the second tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third

tier of screening analysis further refines the area that could be reached by new shadows by looking at specific representative days of the year and determining the maximum extent of shadow over the course of each representative day.

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

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

- *Vegetation:* a substantial reduction in sunlight available to sunlight-sensitive features of the resource to less than the minimum time necessary for its survival (when there would be sufficient sunlight in the future without the project) or a reduction in direct sunlight exposure where the sensitive feature of the resource is already subject to substandard sunlight (i.e., less than the minimum time necessary for its survival).
- *Historic and cultural resources:* a substantial reduction in sunlight available for the enjoyment or appreciation of the sunlight-sensitive features of an historic or cultural resource.
- *Open space utilization:* a substantial reduction in the usability of open space as a result of increased shadow, including information regarding anticipated new users and the open space's utilization rates throughout the affected time periods.
- *For any sunlight-sensitive feature of a resource:* complete elimination of all direct sunlight on the sunlight-sensitive feature of the resource, when the complete elimination results in substantial effects on the survival, enjoyment, or, in the case of open space or natural resources, the use of the resource.

In general, a significant adverse shadows impact occurs when the incremental shadows added by a proposed building 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 natural resources.

IV. PRELIMINARY SCREENING

Tier 1 Screening Assessment

According to the *CEQR Technical Manual*, the longest shadow that a structure will cast in New York City, except for periods close to dawn or dusk, is 4.3 times its height and occurs on December 21 (the winter solstice). The RWCDS building height of 145 feet was used to determine the longest shadow study area (Tier 1 assessment).[1] Within this longest shadow study area, there are two resources that are potentially sunlight-sensitive: the P.S. 157 – Grove Hill Playground and the Captain Rivera Playground (refer to Figure F-1). Therefore, further screening was warranted in order to determine whether these resources could be affected by project-generated shadows.

Tier 2 Screening Assessment

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

As presented in Figure F-1, based on the Tier 2 Screening Assessment, it cannot be ruled out that the RWCDS building would cast shadows on the P.S. 157 – Grove Hill Playground and the Captain Rivera Playground.

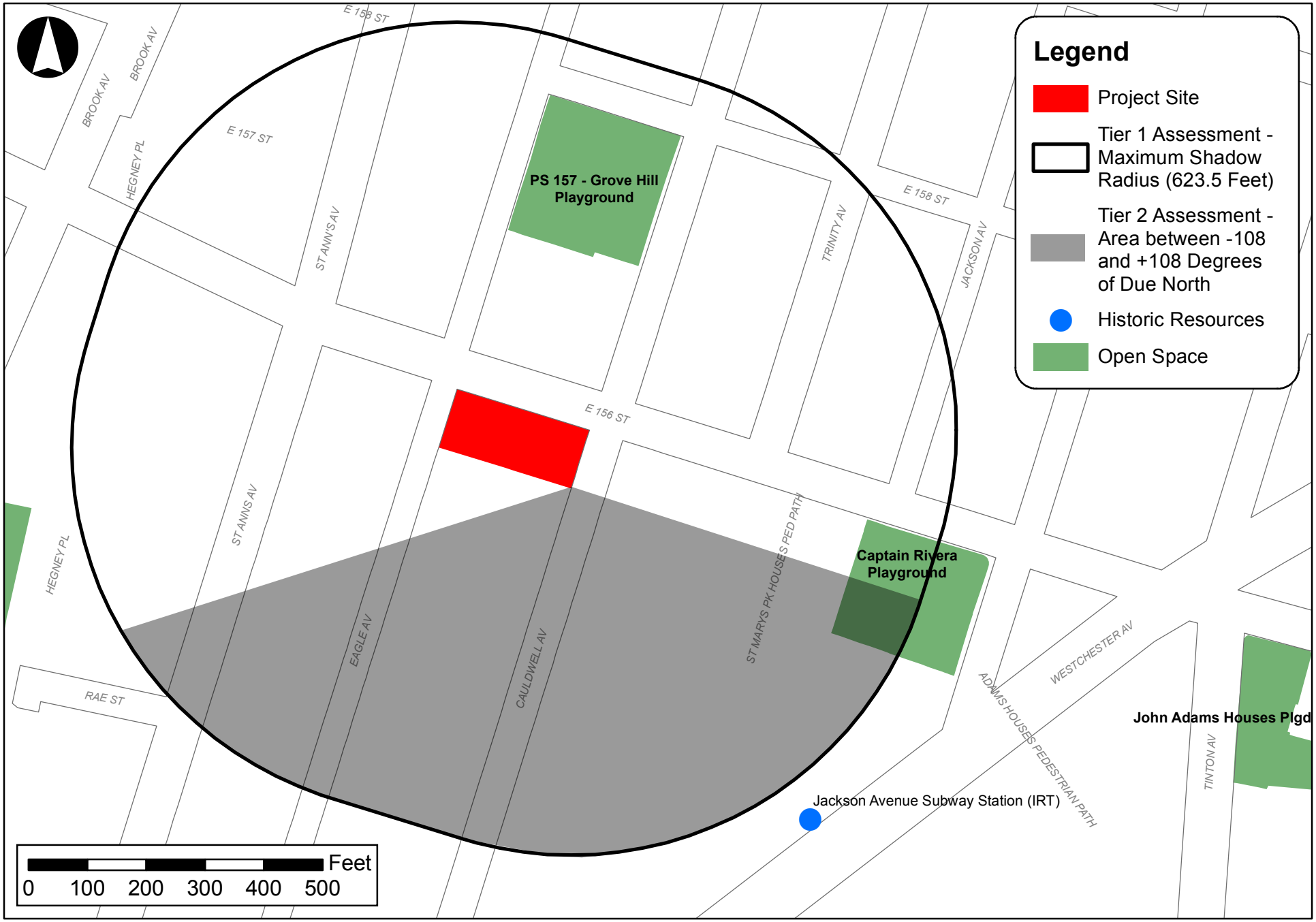
Tier 3 Screening Assessment

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

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

Figures F-2a and F-2b illustrates the range of project-generated shadows that could occur in the absence of existing buildings on the four representative analysis days. The Tier 3 analysis shows that P.S. 157 –

[1] As noted in Attachment A, "Project Description," while the applicant is proposing a building with a maximum height of approximately 125', as, pursuant to the recently adopted Zoning for Quality and Affordability (ZQA) text, the maximum building height in R8A districts is 145 with a qualifying ground floor, the RWCDS for the proposed project assumes that the building would rise to a maximum height of 145 feet.



600 East 156th Street EAS

Figure F-1

Tier 1 and Tier 2 Shadows Screening Assessment

Tier 3 Shadows Analysis

March 21 / September 21

May 6 / August 6

1 **Grove Hill Playground**

Project Site

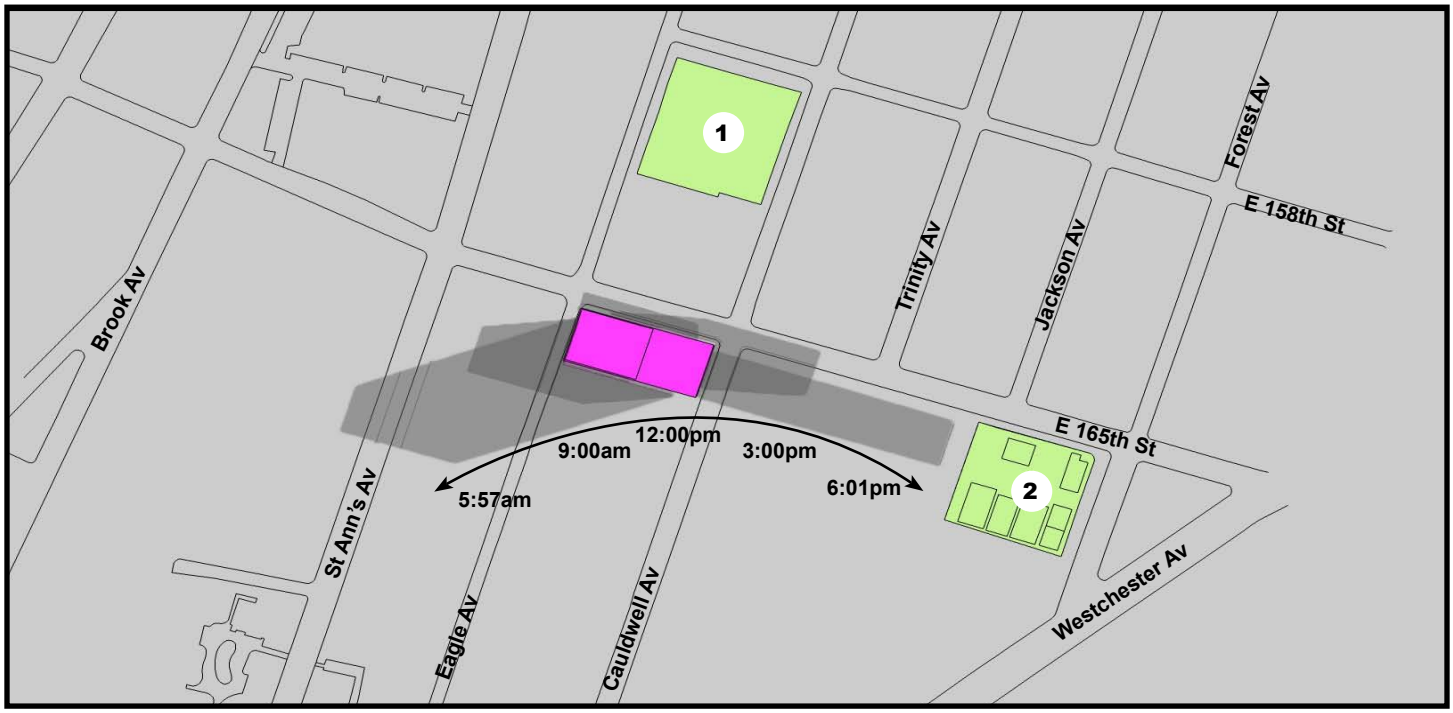
Incremental Shadow

2 **Cptn. Rivera Playground**

Open Space

Figure F-2b

Tier 3 Shadows Analysis



June 21

December 21

1 **Grove Hill Playground**

2 **Cptn. Rivera Playground**

Project Site

Open Space

Incremental Shadow

Grove Hill Playground could receive project-generated shadows on only one of the three analysis days (December 21), with no incremental shadows reaching the Captain Rivera Playground. As the potential for project-generated shadows on the P.S. 157 – Grove Hill playground could not be ruled out based on the Tier 3 screening assessment, a detailed shadow analysis was prepared to determine the extent and duration of project-generated incremental shadows on this open space resource on the December 21 analysis day; as the Tier 3 screening assessment determined that no incremental shadows would be cast on this open space resource on the March 21/September 21, June 21, or May 6/August 6 analysis days, the detailed analysis looks only at the December 21 analysis day.

V. DETAILED ANALYSIS OF SHADOW IMPACTS

Resource of Concern: P.S. 157 – Grove Hill Playground

As shown in Figures F-2a and 2b, the RWCDS building could potentially cast incremental shadows on small portions of the P.S. 157 – Grove Hill Playground, along its southern and eastern borders. As described in Attachment E, "Open Space," the P.S. 157 – Grove Hill Playground is a 1.19-acre predominately actively-programmed open space that features a playground, spray showers, and basketball and handball courts, and is jointly operated by the New York City Department of Education (DOE) and the New York City Department of Parks and Recreation (DPR). Other notable features of the open space resource include a colonnade comprising a unique collection of green pillars that surround the playground's comfort station and create an archway leading to an impressive garden that occupies the northwest corner of the open space. With the exception of the garden, the remainder of the open space is predominantly paved, with trees lining the boundaries of the various open space elements.

Shadows Analysis

Per *CEQR Technical Manual* guidelines, shadows analyses were performed for the P.S. 157 – Grove Hill Playground on December 21, the winter solstice and shortest day of the year. As noted above, based on the Tier 3 screening assessment, the proposed project does not have the potential to cast incremental shadows on the open space resource on the March 21/September 21, June 21, or May 6/August 6 analysis days. *CEQR Technical Manual* guidelines define the temporal limits of a shadow analysis period to fall from an hour and a half after sunrise to an hour and a half before sunset. On the winter solstice, December 21, the day of the year with the shortest period of daylight, the sun is low in the sky and shadows are at their longest but move rapidly. December 21 is not within the growing season in New York City.

As discussed above, the results of the shadow analysis show the incremental difference in shadows between the No-Action and With-Action scenarios. Based on the detailed shadows analysis prepared for the RWCDS building massing, the proposed project would increase the duration of shadow coverage on the P.S. 157 – Grove Hill Playground on the December 21 analysis day for a total duration of one hour and 56 minutes, entering the south side of the open space at 12:57 PM and exiting the east side of the playground at 2:53 PM.[2] Figures F-3a and F-3b show the extent of project-generated incremental shadows on the playground throughout the incremental shadow duration period. As shadows are in constant

[2] Per the *2014 CEQR Technical Manual*, all times reported herein are Eastern Standard Time and do not reflect adjustments for daylight savings time that is in effect from mid-March to early November.

Figure F-3a

Grove Hill Playground
Incremental Shadows on December 21

1:50 PM

2:10 PM

Open Space **Shadow** **Incremental Shadow**

Figure F-3b

Grove Hill Playground
Incremental Shadows on December 21

2:30 PM

2:53 PM

Open Space **Shadow** **Incremental Shadow**

motion, these figures illustrate the extent of incremental shadows at particular moments in time, highlighted in red.

Assessment

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

For open spaces, the uses and features of the space indicate its sensitivity to shadows. Shadows occurring during the cold-weather months of interest generally do not affect the growing season of outdoor vegetation; however, their effects on other uses and activities should be assessed. Therefore, this sensitivity is assessed for both (1) warm-weather-dependent features or vegetation that could be affected by a loss of sunlight during the growing season; and (2) features, such as benches, that could be affected by a loss of winter sunlight. Where lawns are actively used, the turf requires extensive sunlight. Vegetation requiring direct sunlight includes the tree canopy, flowering plants and plots in community gardens. Generally, four to six hours a day of sunlight, particularly in the growing season, is often a minimum requirement. Consequently, the assessment of an open space's sensitivity to increased shadow focuses on identifying the existing conditions of its facilities, plantings, and uses, and the sunlight requirements for each. As presented in Figure F-4 and noted above, with the exception of the garden, located in the northwest corner of P.S. 157 – Grove Hill Playground, the remainder of the open space is predominantly paved, with trees lining the boundaries of the various open space elements.

The shadows analysis determined that the duration and coverage of incremental shadows on the P.S. 157 – Grove Hill Playground would not be significant or adverse. The proposed project would not cast incremental shadows on the open space resource during the growing season, and, therefore, would not have the potential to significantly affect warm-weather-dependent vegetation located on the open space resource. Incremental shadows cast by the RWCDS massing for the proposed actions would be limited to the southern and eastern portions of the playground, which, as noted above, are predominantly paved. The portions of the P.S. 157 – Grove Hill Playground that would be cast in incremental shadows by the proposed project would include portions of a paved basketball court (which occupies the southeastern portion of the playground) and the paved area to the north (which includes a comfort station building and benches) (refer to Figure F-4). While the affected basketball court and benches would receive incremental shadows, they would continue to receive some direct sunlight as shadows move throughout the day, and the park would continue to receive adequate sunlight during the morning, late afternoon, and evening hours. In addition, as the incremental shadow coverage would only occur on the December 21 analysis day, when temperatures would be colder and the use of the active recreational space would not be as high (compared to warmer months), they would not significantly affect the utilization or enjoyment of this open space resource. Therefore, the incremental shadows resulting from the proposed actions are not expected to result in significant adverse impacts to the usability of the P.S. 157 – Grove Hill Playground.

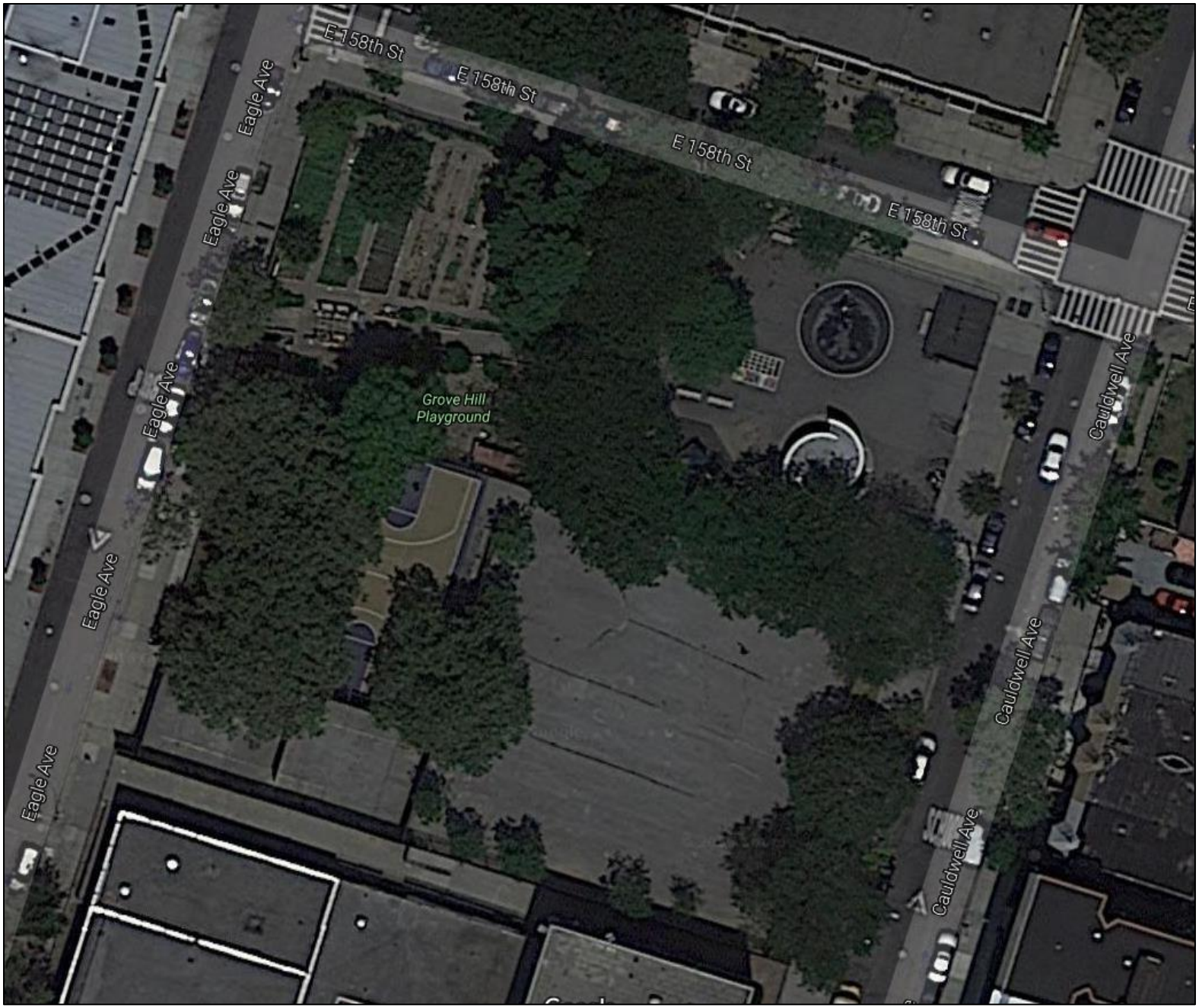


Figure F-4
Aerial of P.S. 157 – Grove Hill Playground

ATTACHMENT G

URBAN DESIGN AND VISUAL RESOURCES

I. INTRODUCTION

This attachment considers the potential effects of the proposed actions and subsequent development on urban design and visual resources. As defined in the *City Environmental Quality Review* (CEQR) *Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. Elements such as streets, buildings, visual resources, open space, natural resources, wind, and sunlight play an important role in the pedestrian experience. The proposed actions would facilitate the development of an approximately 211,300 gross square foot (gsf) predominantly residential apartment building at 600 East 156th Street in the Melrose neighborhood of Bronx Community District (CD) 1.

In accordance with *CEQR Technical Manual* guidelines, the assessment focuses on the components of the proposed actions that may have the potential to alter the arrangement, appearance, and functionality of the built environment. The effect of the proposed actions represents the incremental effect on conditions resulting from the net change in development between No-Action and With-Action conditions.

II. PRINCIPAL CONCLUSIONS

The proposed actions and subsequent development, while resulting in a notable change in the urban design of the study area, would not result in a significant adverse impact on the area's urban design and visual resources, as defined by the *CEQR Technical Manual*. Under the reasonable worst-case development scenario (RWCDS), the proposed actions would facilitate the construction of a new 145-foot tall predominantly residential development comprised of 170 affordable dwelling units (DU) and a 350-seat charter school. The proposed project would replace existing auto-oriented uses that are currently located on the site, including a one- to two-story building and an open vehicle storage lot. The proposed project would enliven the streetscape and would serve as an extension of the residential and community-oriented uses in the surrounding area. While the RWCDS building would be taller than adjacent structures, the building would be consistent with the surrounding neighborhood context in terms of use and lot placement, forming a consistent streetwall with the mixed-use buildings lining East 156th Street to the west of the project site. In addition, the proposed project would not notably alter views of study area visual resources.

III. METHODOLOGY

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

As described in the *CEQR Technical Manual*, a preliminary urban design analysis is appropriate when there is potential for a pedestrian to observe from the street level a physical alteration beyond that allowed by existing zoning. A preliminary analysis provides a "snapshot" of the project, comparing existing and future conditions with and without the proposed actions. The following analysis examines each of the elements that play an important role in the pedestrian experience, including street hierarchy and streetscape (including the arrangement and orientation of streets); building scale, form and arrangement; and natural features, open space, and topography.[1] The following preliminary analysis also considers the effects of the proposed project on the area's visual resources, which are generally considered to be important public view corridors, vistas, or natural or built features. Visual resources can include waterfront views, public parks, landmark structures or districts, or natural features, such as rivers or geologic formations.

Based on *CEQR Technical Manual* guidelines, the study area for urban design is the area where the project may influence land use patterns and the built environment. The urban design study areas consists of both a primary study area (where urban design effects of the proposed actions are direct) and a secondary study area. For the purpose of this assessment, the primary study area encompasses the project site. Consistent with the analysis of land use, zoning, and public policy, the secondary study area for the urban design assessment has been defined as an area within approximately 400 feet of the project site (see Figure G-1).

The analysis is based on field visits, aerial views, photographs, and other graphic images of the study area and surrounding area. Zoning calculations, including floor area calculations, building heights and lot coverage information are also provided.

IV. PRELIMINARY ASSESSMENT

Existing Conditions

Urban Design

Primary Study area (Project Site)

The 23,000-sf project site is located at 600 East 156th Street (Bronx Block 2624, Lot 41 (formerly Lots 41 and 48-52)) in the Melrose neighborhood of Bronx CD 1. As presented in Figure G-1, the project site fronts East 156th Street to the north (230 feet of street frontage) and Eagle and Cauldwell Avenues to the west and east, respectively (100 feet of frontage on each street). East 156th Street is a 70-foot wide two-way roadway that serves one lane of traffic in each direction; the roadway slopes down approximately 20 feet in elevation from east to west between Cauldwell and Eagle Avenues. Eagle Avenue is approximately 50 feet wide and serves one-way southbound traffic and Caudwell Avenue is approximately 60 feet in width and serves one-way northbound traffic.

[1] Per criteria of Section 230 of the *CEQR Technical Manual*, a wind condition analysis is not warranted for the proposed actions. The study area is not located in a high wind location (such as along west and northwest-facing waterfronts) and the proposed project would not be of a "substantial size" that would have the potential to alter wind conditions.

600 East 156th Street EAS

Figure G-1
Urban Design Study Area

Streetscape elements along the project site's street frontages are limited to street trees on Eagle and Cauldwell Avenues, in addition to standard parking signage, utility poles, and standard cobra-head streetlights. There are no street trees along the project site's northern (East 156th Street) street frontage, although street trees are planted at regular intervals on the northern side of the roadway, opposite the project site. Other notable features of the project site's streetscape include multiple curb cuts and low-hanging utility lines.

The project site is currently occupied by a two-story 22,750-sf building on the western portion of the site and open vehicle storage on the eastern portion of the site; the project site has and existing built floor area ratio (FAR) of 0.99. The existing project site building is built to the lot line on both East 156th Street and Eagle Avenue and has a maximum building height of 26 feet; an 18-foot-tall structure adjoins the main structure along its eastern border. The approximately 22,750-sf building is currently occupied by a public parking garage with a licensed capacity of 90 spaces, with second floor office space above; office space is also located within the one-story eastern portion of the building. The second floor office space is currently unoccupied. The office space within the one-story eastern portion of the building comprises approximately 2,700 sf of the building's total floor area. Vehicle access to parking garage is provided on East 156th Street via separate entry/exit doors.

As presented in Figure G-2, the building is simple in ornamentation, with five large rolling steel doors on the building's East 156th Street frontage, in addition to small horizontal windows on the building's second story. Painted bollards flank two of the building's East 156th Street vehicle entries. The East 156th Street building frontage is also characterized by multiple large signs associated with the existing public parking facility. Most of the exiting signage is flush with the building's façade, with one protruding "Park" sign located near the corner of East 156th Street and Eagle Avenue. Also present on the building's East 156th Street façade are small lighting fixtures, located between the ground floor vehicle entries and second story windows. The Eagle Avenue façade of the existing building is minimally adorned, with four second-story windows, a small entry door near East 156th Street, and a fire escape. The building's eastern façade, which is partially visible from both East 156th Street and Cauldwell Avenue has no windows or entries; a sign advertising the public parking facility is located along the roofline.

The eastern portion of the project site is occupied by an open vehicle storage lot surrounded by a chain link fence, with one vehicle entry/exit provided on East 156th Street. The eastern portion of the project site is predominantly paved and has a varied topography; the southwest corner of the vehicle storage lot rises to the approximate height of the adjacent one-story structure. Weeds line the border of the open vehicle storage lot at the sidewalk edge. A small temporary attendant structure is located at the northwest corner of the open vehicle storage lot.

Secondary Study area

The blocks comprising the secondary study area are set up in a regular grid pattern, with north-south oriented blocks organized along East 156th Street. North-south roadways traverse East 156th Street at approximately 200-foot intervals, with one exception being the superblock bounded by East 156th Street and Cauldwell, Forest, and Westchester Avenues, which interrupts the regular street grid; the one-way southbound Trinity Avenue does not extend south of East 156th Street. St. Ann's Avenue is the only north-south roadway of the secondary study area that serves two-way traffic and is also characterized by the presence of marked bike lanes in both the northbound and southbound directions. Street trees are present along all study area roadways. Additional streetscape elements include mailboxes, standard cobra-head street lights, and parking regulation signage. Utility poles and wires are also present on St.

1. View south on E. 156th Street into existing project site open vehicle storage lot.

2. View south on Cauldwell Avenue from E. 156th Street (existing project site open vehicle storage lot on right).

3. View east on E. 156th Street from Eagle Avenue (existing project site building on right).

4. View south on Eagle Avenue from north of E. 156th Street (existing project site building in background).

Figure G-2
Photos of the Primary Study Area

Ann's Avenue (at and south of East 156th Street), Eagle Avenue (at and south of East 156th Street), Cauldwell Avenue, and East 156th Street; north of East 156th Street, there are no utility poles on Trinity, St. Ann's, or Eagle Avenues. Another notable feature of the secondary study area roadways is the steep elevation change along East 156th Street between St. Ann's and Eagle Avenues.

As noted in Attachment C, "Land Use, Zoning, and Public Policy," the secondary study area is largely comprised of residential uses, which range from one- to two-story single-family homes to taller multi-family walkup and elevator buildings. As presented in Figure G-3, the buildings in the secondary study area generally create a continuous streetwall, although many of the smaller footprint residential buildings oriented along the north-south roadways are setback from the sidewalk, and are characterized by the presence of front yards surrounded by fencing, front stoops, or front drives (see Figure G-4). In general, the building that are setback furthest from the roadway were constructed in the 1990s and early 2000s; the older residential rowhouse buildings of the study area (from the early 20th century), in addition to the more recent large footprint multi-family building at 759 Eagle Avenue (constructed in 2012) have smaller to no building setbacks.

In terms of building height, as presented in Figures G-3, the tallest buildings in the secondary study area are generally the buildings with the largest building footprints and are located along East 156th Street and St. Ann's Avenue, the only two-way roadways in the secondary study area. The tallest buildings in the secondary study area are the 18-story New York City Housing Authority (NYCHA) Bronxchester Houses buildings (along the secondary study area's southwestern border) and the 22-story NYCHA St. Mary's Houses buildings (along the secondary study area's southeastern border). It should also be noted that the highest density buildings are also concentrated along East 156th Street and St. Ann's Avenue; the two four-story residential buildings with ground floor retail on the south side of East 156th Street between St. Ann's and Eagle Avenues have built FARs of over 4.0, and the eight-story mixed-use building at 759 Eagle Avenue has a built FAR of 6.95.

It should also be noted that several taller, higher-density buildings have recently been constructed just outside of the secondary study area boundary (as evident in Figure G-3). Most notably, the Via Verde development was completed in 2012 and is a stepped, 20-story mixed-use predominantly residential development located on the east side of Brook Avenue at East 156th Street (two blocks west of the project site).

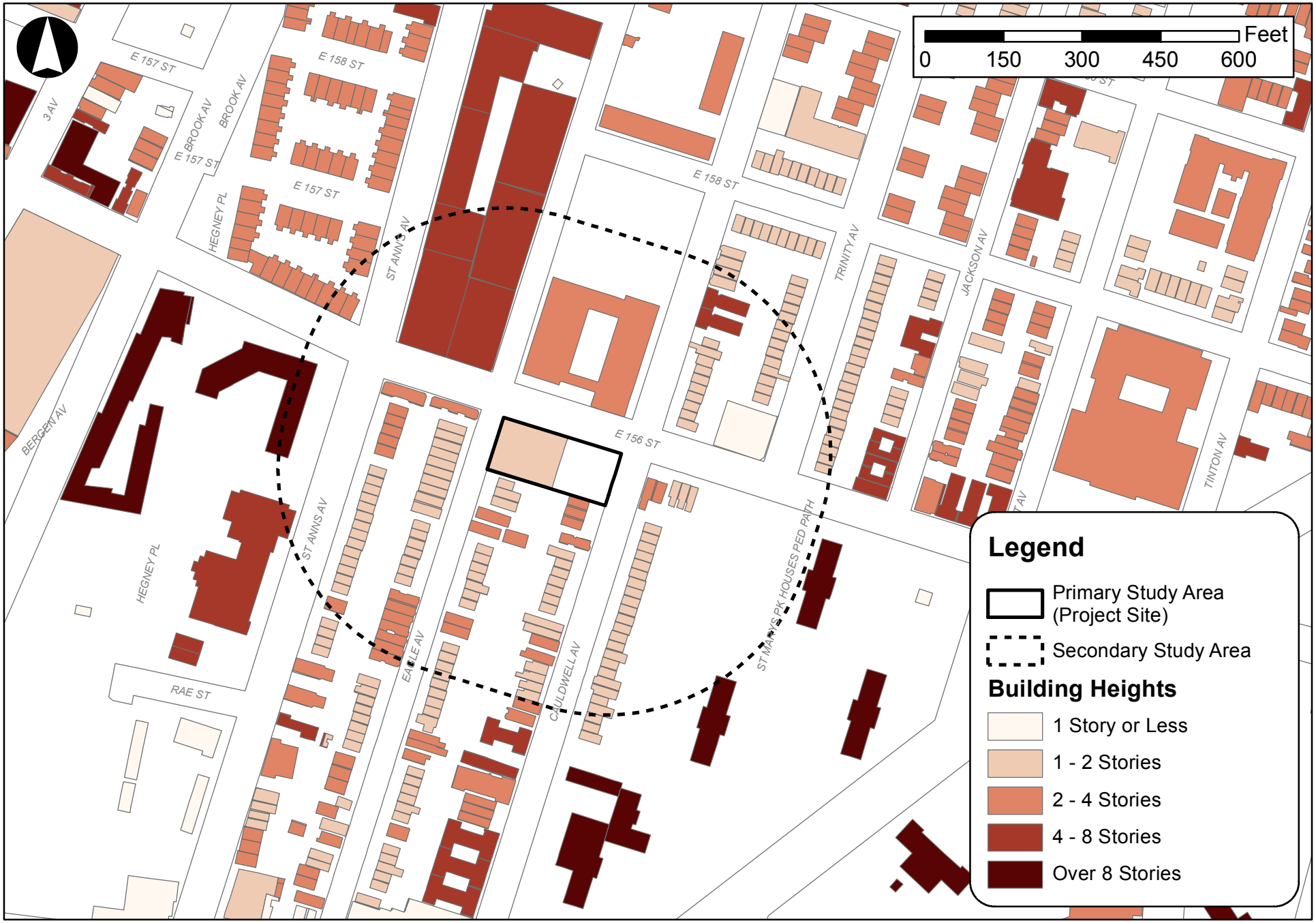
Visual Resources

Primary Study area

There are no visual resources located on, or visible from, the primary study area.

Secondary Study area

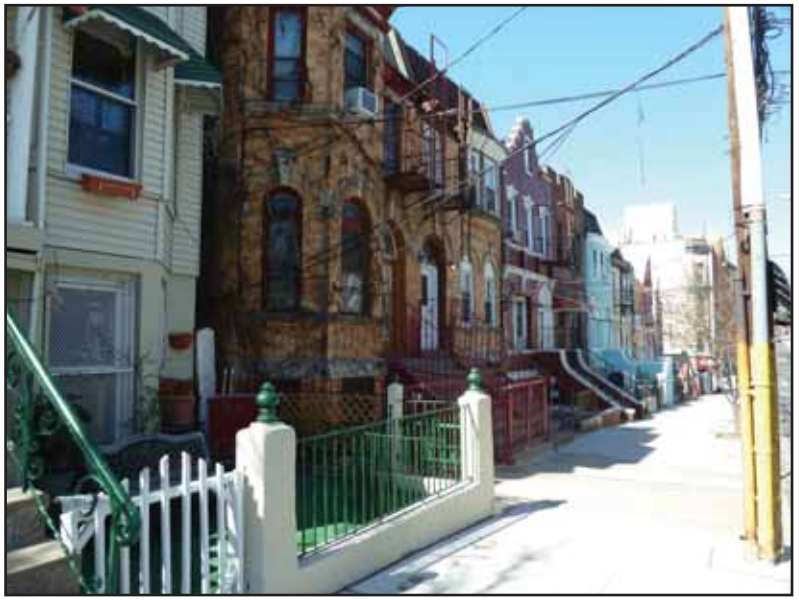
There is one visual resource within the secondary study area: the P.S. 157 – Grove Hill Playground, which is partially located within the secondary study area and occupies the northern portion of the block bordered by Eagle and Cauldwell Avenues and East 156th and East 158th Streets. Views of the Grove Hill Playground are limited to the immediately adjacent street frontages (on East 158th Street and Cauldwell and Eagle Avenues). The Captain Rivera Playground (located at the southwest corner of East 156th Street



600 East 156th Street EAS

Figure G-3
Study Area Building Heights

1. View north on St. Ann's Avenue from south of East 156th Street.



2. View north on Eagle Avenue from south of East 156th Street.

3. View west on East 156th Street from west of Eagle Avenue.

4. View north on Trinity Avenue from north of East 156th Street.

Figure G-4
Photos of the Secondary Study Area

and Forest Avenue) is also partially visible from the eastern border of the secondary study area. No other visual resources are located within, or are visible from, the secondary study area.

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

Primary Study Area (Project Site)

In the 2019 future without the proposed actions, the project site would remain as under existing conditions, with no changes to the urban design of the project site. As such, the project site would continue to be occupied by and approximately 22,750-sf building comprised of public parking and office uses, as well as an open vehicle storage lot.

Secondary Study Area

As described in Attachment B, "Land Use, Zoning, and Public Policy," there are no known development projects in the secondary study area that are expected to be completed and occupied by the 2019 analysis year. However, it should noted that several large residential/mixed-use developments are anticipated just outside the 400-foot secondary study area. Specifically, just one block west of the secondary study area (between Bergen and Brook Avenues) four of the five buildings planned as part of the 1.1 million gsf La Central development are expected to be completed. The La Central development will replace an underutilized site; Buildings A-D, which are expected to be completed by the 2019 analysis year, will range in height from nine to 13 stories, and Building E, which is expected to be completed by 2020, will rise to 25 stories. The La Central buildings will be oriented towards and built at the sidewalk, creating a strong street presence. In addition, the eight-story 42-unit Brook 156 residential building at East 156th Street and Brook Avenue is expected to be completed in the 2019 No-Action condition, continuing the trend of new higher density residential and mixed-use developments in the greater Melrose neighborhood and enhancing the mixed-use character of the neighborhood with new housing options and commercial and community facility space.

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

In the 2019 With-Action condition, the proposed actions, which include zoning map and text amendments, in addition to public financing approval, would be approved. As facilitated by the proposed actions, the project site would be redeveloped with an approximately 211,300 gsf building comprising 170 affordable DU and a 32,300-gsf (350-seat) charter school.

Urban Design

Primary Study Area (Project Site)

In the 2019 future with the proposed actions, the proposed approximately 211,300-gsf residential and community facility building would be constructed on the project site. The building would comprise approximately 179,000 gsf of residential floor area and a 32,300-gsf charter school occupying the building's ground floor and cellar levels. The proposed project would have an FAR of 7.16 and would conform with all bulk and use requirements applicable in R8A (MIH) districts.

As shown in Figure G-5, the RWCDS massing would rise to 145 feet[2] and would be built to the streetline on the project site's East 156th Street, Cauldwell Avenue, and Eagle Avenue frontages. While the RWCDS building height would be taller than the existing one- to two-story building on the project site, the height would not be out of context with the range of residential building heights found in the surrounding area. In addition, the proposed project would improve the project site by replacing the existing auto-oriented building and auto storage lot that currently occupy the site with active residential and community facility uses that would be more in keeping with the residential and community-oriented uses of the neighborhood. In accordance with zoning requirements, as part of the proposed project, street trees would be planted along the project site's street frontages, further improving the adjacent streetscape.

As presented in Figure G-5, the proposed building would form a consistent streetwall with the mixed-use buildings lining East 156th Street to the west of Eagle Avenue, complementing the existing building context. While having a taller maximum building height than the immediately adjacent buildings, the maximum building height would be appropriate for the project site's location along East 156th Street, a two-way east-west corridor that is currently lined by higher density buildings than found on the adjacent side streets. The proposed project would enhance the pedestrian environment with a new pedestrian-oriented building and would enliven the primary study area with new residents, students, and school staff.

For these reasons, the proposed actions would not result in significant adverse impacts on the urban design of the primary study area.

Secondary Study Area

The proposed actions would not result in any changes in the urban design in the secondary study area, as development facilitated by the proposed actions would be limited to the project site. While the proposed project would be taller than most of the existing structures in the secondary study area, the secondary study area is characterized by buildings of a variety of building heights (ranging from one to 22 stories), and the proposed project would be consistent with the secondary study area buildings in terms of its lot placement and streetwall (refer to Figure G-5).

Overall, the proposed project would contribute to the urban design character of the secondary study area. The proposed project would not adversely affect any urban design features of the secondary study area and would not result in significant adverse impacts to the experience of the pedestrian.

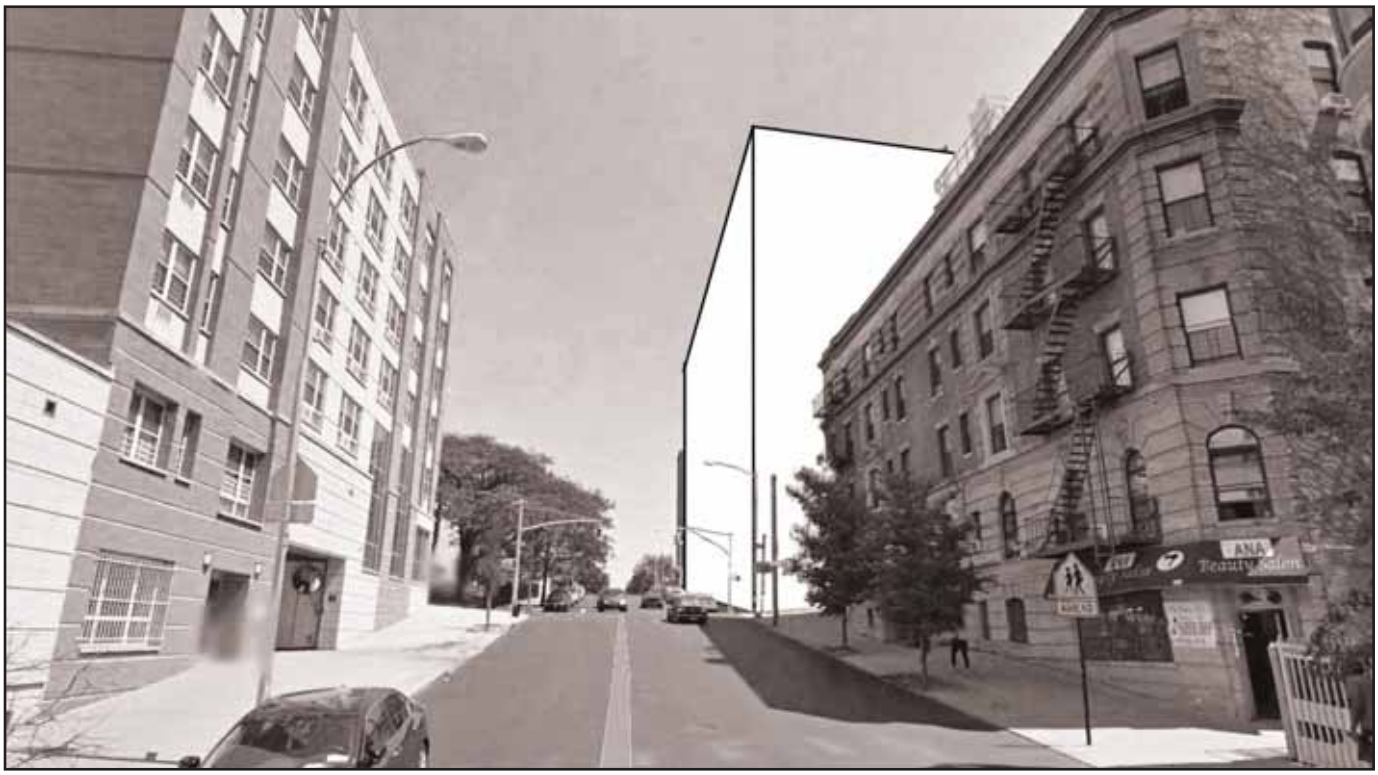
Visual Resources

As described above, there are no visual resources in the primary study area; visual resources in the secondary study area are limited to the P.S. 157 – Grove Hill Playground, which is partially located within the secondary study area and occupies the northern portion of the block bordered by Eagle and Cauldwell Avenues and East 156th and East 158th Streets. Public views of the Grove Hill Playground from the immediately adjacent roadways would not be significantly altered by the construction of the proposed project, nor would the proposed project block any existing views of this visual resource. The surrounding built context is already characterized by a mix of residential building types, most notably the eight-story

[2] As noted in Attachment A, "Project Description," while the applicant is proposing a building with a maximum height of approximately 125', as, pursuant to the recently adopted ZQA text, the maximum building height in R8A districts is 145 with a qualifying ground floor, the RWCDS for the proposed project assumes that the building would rise to a maximum height of 145 feet.

Comparison of Existing/No-Action and With-Action Conditions:
View west on East 156th Street from west of Eagle Avenue

Existing/No-Action Condition



With-Action Condition

759 Eagle Avenue, which fronts the open space resource. The proposed project would be in keeping with the existing built context provided in views of the Grove Hill Playground, and the proposed actions would not result in significant adverse impacts on visual resources.

ATTACHMENT H

TRANSPORTATION

I. INTRODUCTION

This transportation attachment presents the findings of the analyses of traffic, parking, transit, and pedestrian conditions for the proposed 211,300 gross square foot (gsf) predominantly residential apartment building at 600 East 156th Street (Bronx Block 2624, Lot 41) in the Melrose neighborhood of Bronx Community District (CD) 1. The proposed project would include approximately 170 affordable residential units and an approximately 32,300 gsf (350-seat) charter school. The proposed project would replace an existing 22,750-sf building containing public parking and office uses and an adjacent at-grade vehicle storage lot, which currently occupy the approximately 23,000 sf project site.

The proposed project is expected to be completed and occupied by 2019. In the absence of the proposed actions (the "No-Action condition"), it is anticipated that the existing project site uses would remain. The incremental development on the project site forms the basis of the transportation impact analysis.

II. PRINCIPAL CONCLUSIONS

Based on the following detailed analysis, the anticipated level of new transportation demand generated by the proposed project is not expected to result in any significant adverse impacts to traffic, parking, transit or pedestrian conditions in the vicinity of the project site. Detailed traffic and transit (subway and bus) analyses were screened out, and three pedestrian elements were analyzed as part of the detailed pedestrian analysis. The detailed pedestrian analysis determined that the East 156th Street's south sidewalk (between Eagle and Cauldwell Avenues) would deteriorate from level of service (LOS) A under No-Action conditions to LOS B under With-Action conditions. As the No-Action average pedestrian space at this sidewalk would exceed 44.3 sf per pedestrian in both peak hours, and the With-Action average pedestrian space would remain well above 40.0 sf per pedestrian (the *CEQR Technical Manual* significant impact criteria), this would not be considered a significant adverse impact. The two analyzed corners would continue to operate at LOS A under With-Action conditions, as under No-Action conditions. As such, the proposed actions would not result in significant adverse pedestrian impacts.

There were no intersections located within the surrounding area that were identified as high accident location. However, the applicant will work with the New York City Department of Transportation (DOT) School Safety Engineering Office and follow any guidance that they have on maximizing student safety in the vicinity of the school. With these precautions in place it is anticipated that conditions in the vicinity of the project site would continue to remain safe for pedestrians and vehicles.

III. PRELIMINARY ANALYSIS METHODOLOGY

The 2014 *City Environmental Quality Review* (CEQR) *Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the number of person and vehicle trips attributable to the

proposed project. According to the 2014 *CEQR Technical Manual*, if the proposed 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 to be 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 the proposed 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 sidewalk, corner area, or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

IV. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the number of peak hour person and vehicle trips by mode expected to be generated by the proposed project. As the proposed actions would facilitate the construction of both residential and school uses, five peak hours were evaluated, including four weekday peak hours. The peak hour person and vehicle trip estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are discussed below and a detailed travel demand forecast is provided.

Transportation Planning Factors

The transportation planning factors used to forecast travel demand for the land uses are summarized in Table H-1 and discussed below. The trip generation rates, temporal distributions, modal splits, vehicle occupancies, and truck trip factor each of land use were primarily based on those cited in the *CEQR Technical Manual*, 2010-2014 five-year American Community Survey (ACS) journey-to-work data, and recently completed environmental reviews. Factors are shown for the weekday AM, midday, and PM (2:30-3:30 PM and 5-6 PM) and Saturday midday peak periods.

Residential

The residential travel demand forecasts were based on person trip and truck trip generation rates and temporal distributions cited in the 2014 *CEQR Technical Manual*. The directional in/out splits and taxi occupancy rates were based on data from the 2016 *La Central DEIS*. Modal splits, as well as the private auto occupancy rates, were derived from 2010-2014 five-year ACS journey-to-work data for census tracts within a quarter mile of the project site (Bronx tracts 71, 75, and 77). The 2:30-3:30 PM peak period temporal distributions and in/out splits were based on data from the 2016 *La Central DEIS.*

Table H-1: Travel Demand Forecast Assumptions

Land Use:	**Residential**		**Elementary School (Student)**		**Elementary School (Staff)**		**Elementary School (Parent)**	
Size/Units:	170	DU	350	Students	39	Staff	1.6	Parent per walking student
Trip Generation:	(1)		(4)		(4)		(4)	
Weekday	8.075		2		2		N/A	
Saturday	9.6		0		0		N/A	
	per DU		per Student		per Staff		per Student	
Temporal Distribution:	(1)		(4)		(4)			
AM (7:45-8:45)	10.0%		35.0%		35.0%		N/A	
MD (12-1)	5.0%		0.0%		0.0%		N/A	
PM (2:30-3:30)[6]	5.2%		40.0%		40.0%		N/A	
PM (5-6)	11.0%		5.0%		5.0%		N/A	
Sat MD (1-2)	8.0%		0.0%		0.0%		N/A	
	(2)		(4)		(5)		(4)	
Modal Splits:	AM/MD/PM/SAT		AM	PM	AM/MD/PM/SAT		AM/MD/PM/SAT	
Auto	21.0%		17.0%	4.00%	35.3%		0.0%	
Taxi	0.9%		0.0%	0.0%	0.0%		0.0%	
Subway	49.9%		0.0%	0.00%	26.6%		0.0%	
Bus	16.2%		0.0%	0.00%	21.2%		0.0%	
School Bus	0.0%		20.0%	20.0%	0.0%		0.0%	
Walk/Other	12.0%		63.0%	76.0%	16.9%		100.0%	
	100.0%		100.0%	100.0%	100.0%		100.0%	
	(3)		(4)		(4)		(4)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out
AM (7:45-8:45)	15%	85%	100%	0%	100%	0%	50%	50%
MD (12-1)	50%	50%	0%	0%	0%	0%	0%	0%
PM (2:30-3:30)[6]	65%	35%	0%	100%	0%	100%	50%	50%
PM (5-6)	70%	30%	0%	100%	0%	100%	50%	50%
Sat MD (1-2)	53%	47%	0%	0%	0%	0%	0%	0%
Vehicle Occupancy:	(2,3)		(4)		(5)			
Auto	1.12		1.50		1.12		N/A	
Taxi	1.40		1.50		1.40		N/A	
School Bus			30.0					
Truck Trip Generation:	(1)		(4)					
	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday
	0.06	0.02	0.03	0.03	N/A	N/A	N/A	N/A
	per DU		per Student		per 1,000 sf		per 1,000 sf	
	(1)		(4)					
AM (7:45-8:45)	12.0%		9.6%		N/A		N/A	
MD (12-1)	9.0%		11.0%		N/A		N/A	
PM (2:30-3:30)	2.0%		1.0%		N/A		N/A	
PM (5-6)	2.0%		1.0%		N/A		N/A	
Sat MD (1-2)	9.0%		0.0%		N/A		N/A	
	In	Out	In	Out	In	Out	In	Out
All Peak Hours	50.0%	50.0%	50.0%	50.0%	N/A	N/A	N/A	N/A

Notes:
(1) 2014 *CEQR Technical Manual.*
(2) 2010-2014 ACS Data for Bronx census tracts 71, 75, and 77.
(3) 2016 *La Central DEIS.*
(4) 2011 *1070 Washington Avenue EA.*
(5) 2006-2010 AASHTO Reverse Journey to Work Data for Bronx census tracts 71, 75, and 77.
(6) 2:30-2:30 PM temporal distribution & in/out splits for residential use was based on data from the 2016 *La Central DEIS.*

Charter School

Trips generated by the proposed charter school include trips generated by the school's 350 students (conservatively not applying an absentee rate), parents, and staff; as noted above, as the specific grade levels that would be served by the proposed 350-seat charter school has not yet been determined, for environmental review purposes, it is assumed that the charter school would serve elementary level students, which are associated with comparatively higher trip generation rates (due to parents accompanying students to school) and auto and walk shares, as compared to intermediate and high school students. Based on data from the 2011 *Washington Avenue EA*, an average of 1.6 parents per walking student was assumed.

The person trip generation rates, temporal distributions, and in/out splits for the proposed project's charter school elementary students, parents, and staff, in addition to the modal splits and vehicle occupancy rates for the students and the school's truck trip generation rates were based on data from the 2011 *Washington Avenue EA*. The modal splits and vehicle occupancy rates for the school staff were based on 2006-2010 AASHTO Reverse Journey to Work data for Bronx tracts 71, 75, and 77 (the three census tracts within a quarter mile of the project site).

Travel Demand Forecast

Tables H-2a and H-2b present the person and vehicle trips, respectively, expected to be generated by the proposed project. It should be noted that credit was taken for the existing parking and office uses that currently occupy the project site and are expected to continue to occupy the project site in the future without the proposed actions. Specifically, vehicular travel demand was forecasted based on counts conducted by PHA in November 5, 2015; no credit was taken for the existing pedestrian and transit trips generated by the existing project site uses.

As presented in Table H-2a, the proposed project would generate approximately 655, 68, 722, 232, and 131 person trips in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. A discussion of the incremental person trips and vehicle trips, by mode is provided below.

Traffic

As shown in Table H-2b, the proposed project would generate a total of 99, 14, 37, 34, and 29 vehicle trips in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. Accounting for existing/No-Action traffic volumes to be eliminated in the future with the proposed action, the proposed project would exceed the *CEQR Technical Manual* Level 1 threshold of 50 action-generated vehicle trips in only one peak hour (the weekday AM peak hour).

Transit

As presented in Table H-2a, in terms of transit, the proposed project is expected to generate 77, 34, 44, 77, and 65 subway trips in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. Bus-only trips associated with the proposed project are expected to be 28, 12, 18, 25, and 21 in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. Per *CEQR Technical Manual* Level 1 Screening Assessment guidelines, further transit analysis is not warranted as development facilitated by the proposed actions would not generate more than 200 subway trips or 50 bus trips in any of the five peak hours.

Table H-2a: Travel Demand Forecast – Person Trips

Land Use:		Residential		Elementary School (Student)		Elementary School (Staff)		Elementary School (Parent)		Total		
Size/Units:		170	DU	350	Students	39	Staff					
Peak Hour Person Trips:												
	AM (7:45-8:45)	137		245		27		246		655		
	MD (12-1)	68		0		0		0		68		
	PM (2:30-3:30)	71		280		31		340		722		
	PM (5-6)	151		35		4		42		232		
	Sat MD (1-2)	131		0		0		0		131		
Person Trips:												
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
AM (7:45-8:45)	**Auto**	4	24	42	0	9	0	0	0	55	24	79
	Taxi	0	1	0	0	0	0	0	0	0	1	1
	Subway	11	59	0	0	7	0	0	0	18	59	77
	Bus	3	19	0	0	6	0	0	0	9	19	28
	School Bus	0	0	49	0	0	0	0	0	49	0	49
	Walk/Other	2	14	154	0	5	0	123	123	284	137	421
	Total	20	117	245	0	27	0	123	123	415	240	655
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
MD (12-1)	**Auto**	7	7	0	0	0	0	0	0	7	7	14
	Taxi	0	0	0	0	0	0	0	0	0	0	0
	Subway	17	17	0	0	0	0	0	0	17	17	34
	Bus	6	6	0	0	0	0	0	0	6	6	12
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Walk/Other	4	4	0	0	0	0	0	0	4	4	8
	Total	34	34	0	0	0	0	0	0	34	34	68
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM (2:30-3:30)	**Auto**	10	5	0	11	0	11	0	0	10	27	37
	Taxi	0	0	0	0	0	0	0	0	0	0	0
	Subway	24	12	0	0	0	8	0	0	24	20	44
	Bus	7	4	0	0	0	7	0	0	7	11	18
	School Bus	0	0	0	56	0	0	0	0	0	56	56
	Walk/Other	6	3	0	213	0	5	170	170	176	391	567
	Total	47	24	0	280	0	31	170	170	217	505	722
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM (5-6)	**Auto**	22	10	0	1	0	1	0	0	22	12	34
	Taxi	1	0	0	0	0	0	0	0	1	0	1
	Subway	53	23	0	0	0	1	0	0	53	24	77
	Bus	17	7	0	0	0	1	0	0	17	8	25
	School Bus	0	0	0	7	0	0	0	0	0	7	7
	Walk/Other	13	5	0	27	0	1	21	21	34	54	88
	Total	106	45	0	35	0	4	21	21	127	105	232
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
Sat MD (1-2)	**Auto**	15	13	0	0	0	0	0	0	15	13	28
	Taxi	1	1	0	0	0	0	0	0	1	1	2
	Subway	34	31	0	0	0	0	0	0	34	31	65
	Bus	11	10	0	0	0	0	0	0	11	10	21
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Walk/Other	8	7	0	0	0	0	0	0	8	7	15
	Total	69	62	0	0	0	0	0	0	69	62	131

Table H-2b: Travel Demand Forecast – Vehicle Trips

Land Use:		Residential		Elementary School (Student)		Elementary School (Staff)		Elementary School (Parent)		Total		
Size/Units:		170	DU	350	Students	39	Staff					
Vehicle Trips :												
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
AM (7:45-8:45)	Auto	4	21	28	28	8	0	0	0	40	49	89
	Taxi Balanced	1	1	0	0	0	0	0	0	1	1	2
	School Bus	0	0	2	2	0	0	0	0	2	2	4
	Truck	1	1	1	1	0	0	0	0	2	2	4
	Total	6	23	31	31	8	0	0	0	45	54	99
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
MD (12-1)	Auto	6	6	0	0	0	0	0	0	6	6	12
	Taxi Balanced	0	0	0	0	0	0	0	0	0	0	0
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	1	1	0	0	0	0	1	1	2
	Total	6	6	1	1	0	0	0	0	7	7	14
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM (2:30-3:30)	Auto	9	4	7	7	0	10	0	0	16	21	37
	Taxi Balanced	0	0	0	0	0	0	0	0	0	0	0
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0
	Total	9	4	7	7	0	10	0	0	16	21	37
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM (5-6)	Auto	20	9	1	1	0	1	0	0	21	11	32
	Taxi Balanced	1	1	0	0	0	0	0	0	1	1	2
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0
	Total	21	10	1	1	0	1	0	0	22	12	34
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
Sat MD (1-2)	Auto	13	12	0	0	0	0	0	0	13	12	25
	Taxi Balanced	2	2	0	0	0	0	0	0	2	2	4
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0
	Total	15	14	0	0	0	0	0	0	15	14	29

Total Vehicle Trips	Total With-Action Traffic Volumes			Total Existing/No-Action Traffic Volumes*			Total With-Action Increment		
	In	Out	Total	In	Out	Total	In	Out	Total
AM (7:45-8:45)	45	54	99	11	6	17	34	48	82
MD (12-1)	7	7	14	3	2	5	4	5	9
PM (2:30-3:30)	16	21	37	3	4	7	13	17	30
PM (5-6)	22	12	34	3	4	7	19	8	27
Sat MD (1-2)	15	14	29						

* Based on traffic counts conducted on 11/5/15

Pedestrians

The proposed project would generate a net 421, eight, 567, 88, and 15 walk-only trips in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively (refer to Table H-2a). Accounting for walk trips en route to and from subway stations and bus stops, in addition to walk trips to/from area parking facilities (as the proposed project would not include on-site accessory parking), pedestrian trips associated with the proposed project are expected to total 563, 68, 655, 223, and 129 in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively.

As the number of incremental peak hour trips would exceed the *CEQR Technical Manual* analysis thresholds for vehicular traffic during the AM peak hour and pedestrians during the weekday AM, 2:30-3:30 PM, and 5-6 PM peak hours, Level 2 screening assessments were undertaken to identify specific locations and time periods that may require additional detailed traffic and/or pedestrian analyses. The number of incremental peak hour transit trips would not exceed the *CEQR Technical Manual* analysis threshold. Therefore, additional detailed transit (subway and bus) analyses are not required. In addition, as the proposed project involves the construction of a new school, an analysis of pedestrian safety conditions is provided.

V. LEVEL 2 SCREENING ASSESSMENT

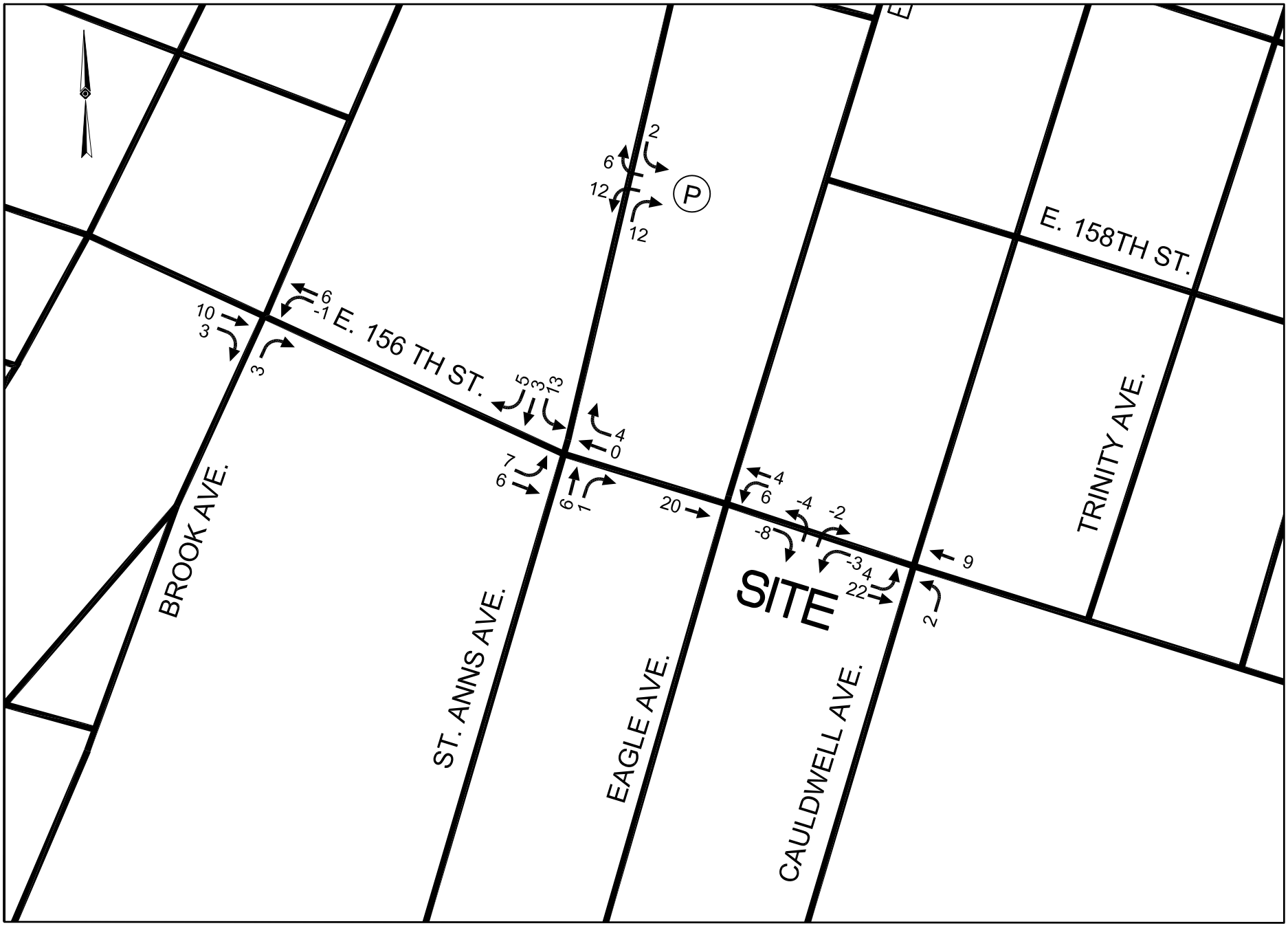
A Level 2 traffic screening assessment involves the assignment of project-generated vehicle trips to the study area street network and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and, therefore, require a quantitative analysis.

Traffic

As noted above, project-generated vehicles trips (including private auto, taxi, school bus, and truck trips) would exceed the CEQR Level 1 trip generation threshold during the weekday AM peak hour. As such, a Level 2 vehicle trip assignment was prepared for this peak hour, which is provided in Figure H-1. As no parking would be provided as part of the proposed project, residents' and the school staff's private auto trips were assigned to area public parking facilities, with taxi, school bus, student drop-off trips, and truck trips assigned to the project site and assumed to pull over curbside along the project site's East 156th Street frontage. It should also be noted that the AM peak hour trip assignment presented in Figure H-1 includes traffic diverted from the existing project site uses (a 90-space public parking facility and 2,700 sf of office space). As shown in Figure H-1, AM peak period project-generated traffic is not expected to exceed the 50-trip *CEQR Technical Manual* analysis threshold at any study area intersections. Therefore, based on this Level 2 screening assessment, a detailed traffic analysis is not warranted, and no significant adverse traffic impacts are anticipated.

Pedestrians

As noted above, project-generated pedestrian trips (including walk-only trips, trips to/from transit, and trips to/from area public parking facilities) would exceed the CEQR Level 1 trip generation threshold during the weekday AM, 2:30-3:30 PM, and 5-6 PM peak hours. As such, Level 2 pedestrian trip assignments were prepared for these three peak hours, which are provided in Figure H-2. While the proposed project is not expected to generate 200 or more pedestrian trips at any one pedestrian element



600 East 156th Street EAS

Figure H-1
AM Peak Traffic Assignment

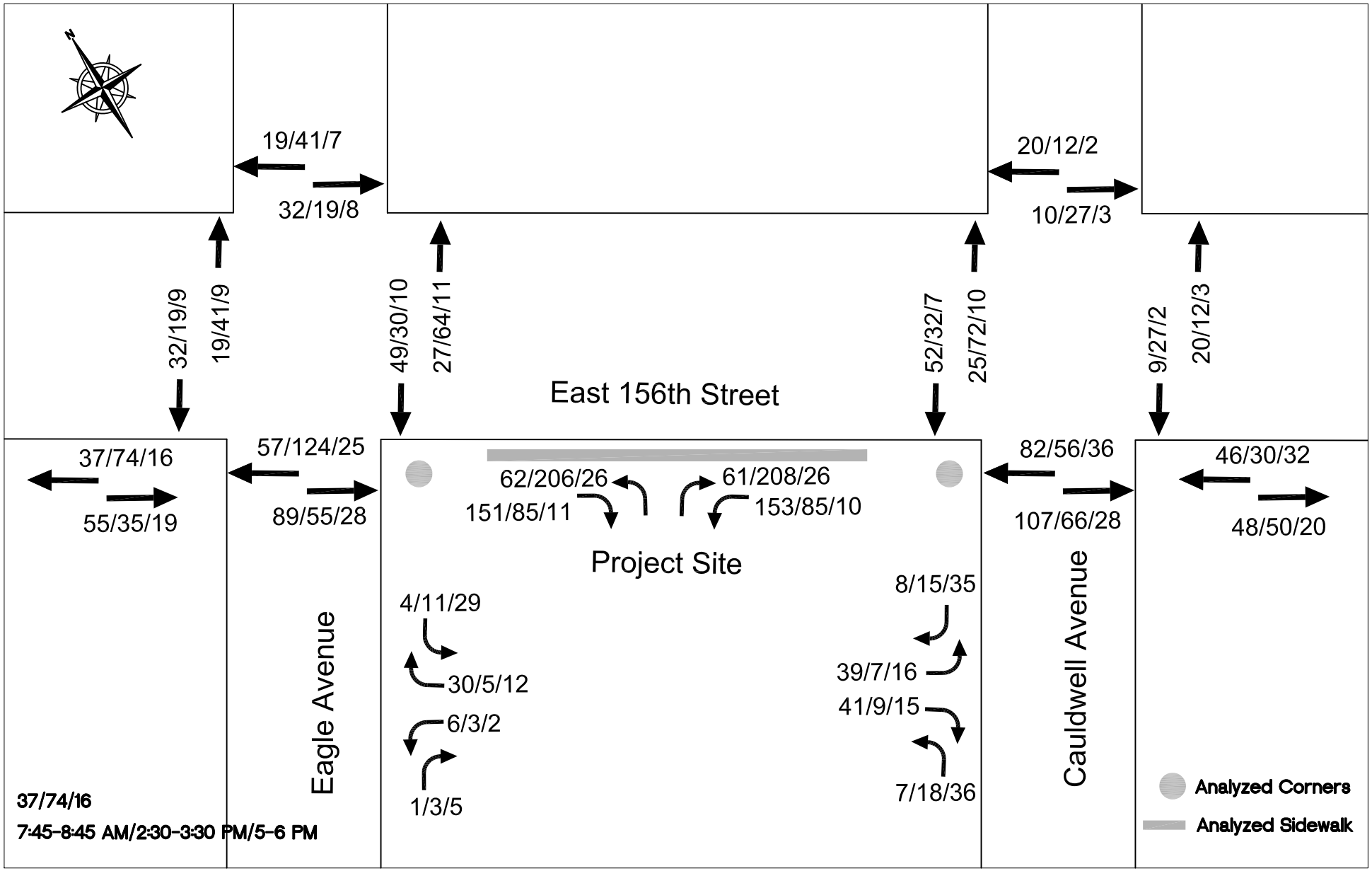


Figure H-2
Pedestrian Assignment

during the weekday 5-6 PM peak hour, incremental pedestrian volumes during the weekday AM and weekday 2:30-3:30 PM peak hour are expected to exceed 200 at two corner areas (the southeast corner of East 156th Street and Eagle Avenue and the southwest corner of East 156th Street and Cauldwell Avenue) and one sidewalk location (the south side of East 156th Street between Eagle and Cauldwell Avenues), as shown in Figure H-2. As the potential for significant adverse pedestrian impacts at these three pedestrian elements could not be ruled out based on the Level 2 screening assessment, a detailed analysis is warranted and is provided below.

VI. TRANSPORTATION ANALYSES METHODOLOGIES

Pedestrians

Analysis Methodology

Peak 15-minute pedestrian flow conditions during the weekday AM and PM peak hours are analyzed using the *2000 Highway Capacity Manual* methodology and procedures outlined in the *CEQR Technical Manual.* Using this methodology, the congestion level of pedestrian facilities is determined by considering pedestrian volume, measuring the sidewalk or crosswalk width, determining the available pedestrian capacity, and developing a ratio of volume flows to capacity conditions. The resulting ratio is then compared to level of service (LOS) standards for pedestrian flow, which define a qualitative relationship at a certain pedestrian traffic concentration level. The evaluation of street crosswalks and corners is more complicated, as these spaces cannot be treated as corridors due to the time incurred waiting for traffic lights. To effectively evaluate these facilities, a "time-space" analysis methodology is employed, which takes into consideration the traffic light cycle at intersections.

LOS standards are based on the average area available per pedestrian during the analysis period, typically expressed as a 15-mintue peak period. LOS grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. Table H-3 defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on the *Highway Capacity Manual* methodology.

Table H-3: Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

LOS	Crosswalk/Corner	Crosswalk/Corner Area Criteria (sf/ped)	Non-Platoon Sidewalk Criteria (sf/ped)	Platoon Sidewalk Criteria (sf/ped)
A	Unrestricted	> 60	> 60	> 530
B	Slightly Restricted	> 40 to 60	> 40 to 60	> 90 to 530
C	Restricted, but Fluid	> 24 to 40	> 24 to 40	> 40 to 90
D	Restricted, Necessary to Continuously Alter Walking Stride and Direction	> 15 to 24	> 15 to 24	> 23 to 40
E	Severely Restricted	> 8 to 15	> 8 to 15	> 11 to 23
F	Forward Progress Only by Shuffling; No Reverse Movement Possible	≤ 8	≤ 8	≤ 11

Source: *CEQR Technical Manual*
Notes:
Based on average conditions for 15 minutes
Sf/ped – square feet of area per pedestrian

The analysis of sidewalk conditions includes a "platoon" factor in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. "Platooning" is the tendency of pedestrians to move

in bunched groups, or "platoons," once they cross a street where cross traffic required them to wait. Platooning generally results in an LOS poorer than that determined for average flow rates.

Significant Impact Criteria

Sidewalks

The *CEQR Technical Manual* impact criteria for a non-CBD location are used to identify significant adverse impacts due to the proposed actions. These criteria define a significant adverse sidewalk impact in a non-CBD area to have occurred under platoon conditions if the average pedestrian space under the No-Action condition is greater than 44.3 square feet per pedestrian (sf/ped), and the average pedestrian space under the With-Action condition is 40.0 sf/ped or less (LOS D or worse). If the average pedestrian space under the With-Action condition is greater than 40.0 sf/ped (LOS C or better), the impact should not be considered significant. If the No-Action pedestrian space is between 6.4 and 44.3 sf/ped, a reduction in pedestrian space under the With-Action condition should be considered significant based on Table H-4, which shows a sliding scale that identifies what decrease in pedestrian space is considered a significant impact for a given pedestrian space value in the No-Action condition. If the reduction in pedestrian space is less than the value in Table H-4, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than 6.4 sf/ped, then a reduction in pedestrian space greater than or equal to 0.3 sf/ped, under the With-Action condition, should be considered significant.

Corner Areas and Crosswalks

For a non-CBD area, *CEQR Technical Manual* criteria define a significant adverse corner area or crosswalk impact to have occurred if the average pedestrian space under the No-Action condition is greater than 26.6 sf/ped and, under the With-Action condition, the average pedestrian space decreases to 24 sf/ped or less (LOS D or worse). If the pedestrian space under the With-Action condition is greater than 24 sf/ped (LOS C or better), the impact should not be considered significant. If the average pedestrian space under the No-Action condition is between 5.1 and 26.6 sf/ped, a decrease in pedestrian space under the With-Action condition should be considered significant based on Table H-5, which shows a sliding scale that identifies what decrease in pedestrian space is considered a significant impact for a given amount of pedestrian space in the No-Action condition. If the decrease in pedestrian space is less than the value in Table H-5, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than 5.1 sf/ped, then a decrease in pedestrian space greater than or equal to 0.2 sf/ped should be considered significant.

Pedestrian and Vehicular Safety Evaluation

Under *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high accident locations. These are defined as locations where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, accident trends would be identified to determine whether projected vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. As the proposed project is a new

school, additional pedestrian safety measures are also to be proposed. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with DOT.

Table H-4: Significant Impact Criteria for Sidewalks with Platooned Flow in a Non-CBD Location

No-Action Condition Pedestrian Flow (sf/ped)	With-Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (sf/ped)
> 44.3	With-Action Condition ≤ 40.0
43.5 to 44.3	Reduction ≥ 4.3
42.5 to 43.4	Reduction ≥ 4.2
41.6 to 42.4	Reduction ≥ 4.1
40.6 to 41.5	Reduction ≥ 4.0
39.7 to 40.5	Reduction ≥ 3.9
38.7 to 39.6	Reduction ≥ 3.8
37.8 to 38.6	Reduction ≥ 3.7
36.8 to 37.7	Reduction ≥ 3.6
35.9 to 36.7	Reduction ≥ 3.5
34.9 to 35.8	Reduction ≥ 3.4
34.0 to 34.8	Reduction ≥ 3.3
33.0 to 33.9	Reduction ≥ 3.2
32.1 to 32.9	Reduction ≥ 3.1
31.1 to 32.0	Reduction ≥ 3.0
30.2 to 31.0	Reduction ≥ 2.9
29.2 to 30.1	Reduction ≥ 2.8
28.3 to 29.1	Reduction ≥ 2.7
27.3 to 28.2	Reduction ≥ 2.6
26.4 to 27.2	Reduction ≥ 2.5
25.4 to 26.3	Reduction ≥ 2.4
24.5 to 25.3	Reduction ≥ 2.3
23.5 to 24.4	Reduction ≥ 2.2
22.6 to 23.4	Reduction ≥ 2.1
21.6 to 22.5	Reduction ≥ 2.0
20.7 to 21.5	Reduction ≥ 1.9
19.7 to 20.6	Reduction ≥ 1.8
18.8 to 19.6	Reduction ≥ 1.7
17.8 to 18.7	Reduction ≥ 1.6
16.9 to 17.7	Reduction ≥ 1.5
15.9 to 16.8	Reduction ≥ 1.4
15.0 to 15.8	Reduction ≥ 1.3
14.0 to 14.9	Reduction ≥ 1.2
13.1 to 13.9	Reduction ≥ 1.1
12.1 to 13.0	Reduction ≥ 1.0
11.2 to 12.0	Reduction ≥ 0.9
10.2 to 11.1	Reduction ≥ 0.8
9.3 to 10.1	Reduction ≥ 0.7
8.3 to 9.2	Reduction ≥ 0.6
7.4 to 8.2	Reduction ≥ 0.5
6.4 to 7.3	Reduction ≥ 0.4
< 6.4	Reduction ≥ 0.3

Source: *CEQR Technical Manual*

Table H-5: Significant Impact Criteria for Corners and Crosswalks in a Non-CBD Location

No-Action Condition Pedestrian Flow (sf/ped)	With-Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (sf/ped)
> 26.6	With-Action Condition ≤ 24.0
25.8 to 26.6	Reduction ≥ 2.6
24.9 to 25.7	Reduction ≥ 2.5
24.0 to 24.8	Reduction ≥ 2.4
23.1 to 23,9	Reduction ≥ 2.3
22.2 to 23.0	Reduction ≥ 2.2
21.3 to 22.1	Reduction ≥ 2.1
20.4 to 21.2	Reduction ≥ 2.0
19.5 to 20.3	Reduction ≥ 1.9
18.6 to 19.4	Reduction ≥ 1.8
17.7 to 18.5	Reduction ≥ 1.7
16.8 to 17.6	Reduction ≥ 1.6
15.9 to 16.7	Reduction ≥ 1.5
15.0 to 15.8	Reduction ≥ 1.4
14.1 to 14.9	Reduction ≥ 1.3
13.2 to 14.0	Reduction ≥ 1.2
12.3 to 13.1	Reduction ≥ 1.1
11.4 to 12.2	Reduction ≥ 1.0
10.5 to 11.3	Reduction ≥ 0.9
9.6 to 10.4	Reduction ≥ 0.8
8.7 to 9.5	Reduction ≥ 0.7
7.8 to 8.6	Reduction ≥ 0.6
6.9 to 7.7	Reduction ≥ 0.5
6.0 to 6.8	Reduction ≥ 0.4
5.1 to 5.9	Reduction ≥ 0.3
< 5.1	Reduction ≥ 0.2

Source: *CEQR Technical Manual*

VII. DETAILED PEDESTRIAN ANALYSIS

Existing Conditions

As shown in Figure H-2 and discussed above in Section V, "Level 2 Screening Assessment," a total of two corner areas and one sidewalk were identified where project-generated pedestrian trips are expected to exceed the 200-trip CEQR analysis threshold during one or more peak hour and, therefore, have been selected for analysis. Existing peak hour pedestrian volumes at these three pedestrian elements are presented in Figure H-3. Existing peak hour volumes, average pedestrian space, and LOS at these pedestrian elements are presented in Tables H-6a and H-6b. As indicated in the tables, all analyzed pedestrian elements are currently operating at LOS A in both analyzed peak hours, due to very low existing pedestrian volumes in the area.

Table H-6a: Existing Sidewalk Conditions

Location	Effective Width (feet)	Peak Hour Volumes		Average Pedestrian Space (sf/ped)		Platoon-Adjusted LOS	
		AM	2:30-3:30 PM	AM	2:30-3:30 PM	AM	2:30-3:30 PM
South side of East 156th Street between Eagle & Cauldwell Avenues	7	86	94	851.2	760.0	A	A

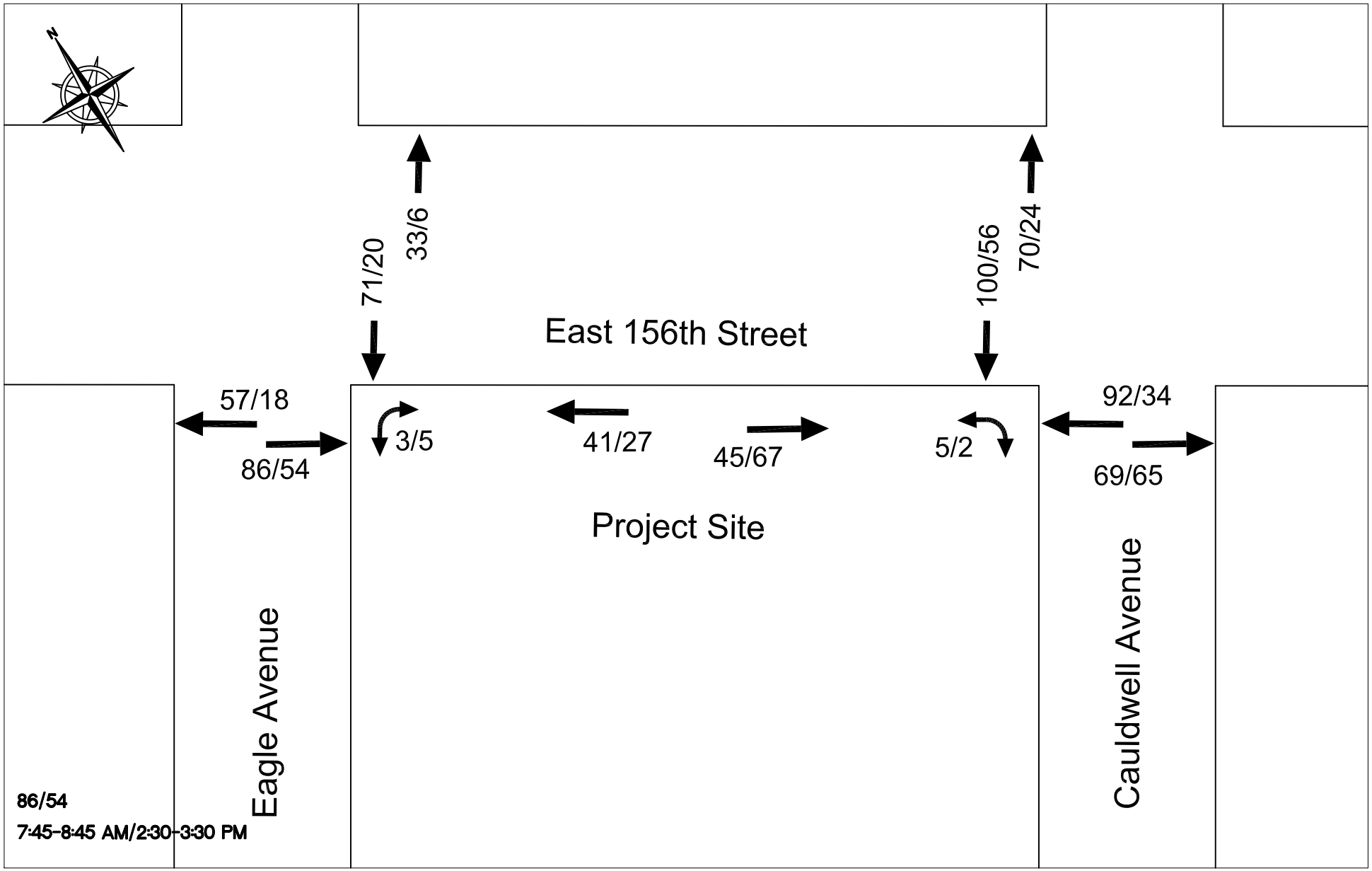


Figure H-3
2016 Existing Pedestrian Peak Hour Volume

Table H-6b: Existing Corner Area Conditions

Location	Peak Hour Volumes		Average Pedestrian Space (sf/ped)		LOS	
	AM	2:30-3:30 PM	AM	2:30-3:30 PM	AM	2:30-3:30 PM
Southeast corner of East 156th Street & Eagle Avenue	3	5	294.3	546.2	A	A
Southwest corner of East 156th Street & Cauldwell Avenue	5	1	255.5	380.5	A	A

The Future without the Proposed Actions (No-Action Conditions)

Estimates of 2019 No-Action peak hour pedestrian volumes on the analyzed pedestrian elements were developed by applying the annual background growth rates recommended in the *CERQ Technical Manual* to existing volumes. An annual compound growth rate of 0.25 percent was applied for years 2016 (when pedestrian data were collected) through 2019. The resultant No-Action pedestrian volumes at the three analyzed pedestrian elements are presented in Figure H-4.

Tables H-7a and H-7b show the forecasted No-Action peak hour pedestrian volumes, average pedestrian space, and LOS at the analyzed locations during the weekday AM and PM (2:30 to 3:30 PM) peak hours. As shown in the tables, all analyzed pedestrian facilities are projected to continue to operate at LOS A under No-Action conditions.

Table H-7a: No-Action Sidewalk Conditions

Location	Effective Width (feet)	Peak Hour Volumes		Average Pedestrian Space (sf/ped)		Platoon-Adjusted LOS	
		AM	2:30-3:30 PM	AM	2:30-3:30 PM	AM	2:30-3:30 PM
South side of East 156th Street between Eagle & Cauldwell Avenues	7	92	101	795.7	707.3	A	A

Table H-7b: No-Action Corner Area Conditions

Location	Peak Hour Volumes		Average Pedestrian Space (sf/ped)		LOS	
	AM	2:30-3:30 PM	AM	2:30-3:30 PM	AM	2:30-3:30 PM
Southeast corner of East 156th Street & Eagle Avenue	3	5	317.3	778.3	A	A
Southwest corner of East 156th Street & Cauldwell Avenue	5	2	253.9	472.4	A	A

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

As discussed previously, the proposed actions would facilitate the construction of 170 residential units and a 350-seat charter school on the project site. As discussed above in the "Level 2 Screening Assessment," pedestrian trips generated by this projected project (including walk-only, trips to/from transit, and trips to/from area parking facilities) were assigned to the project site. The assignment of project increment pedestrian trips generated by the proposed project during the weekday AM and PM (2:30 to 3:30 PM) peak hours were shown earlier in Figure H-2. Figure H-5 shows the weekday AM and PM (2:30 to 3:30 PM) peak hour pedestrian volumes in the 2019 future with the proposed actions. The volumes shown in Figure H-5 are the combination of the net incremental pedestrian trips generated by

Figure H-4
2019 No-Action Pedestrian Peak Hour Volume

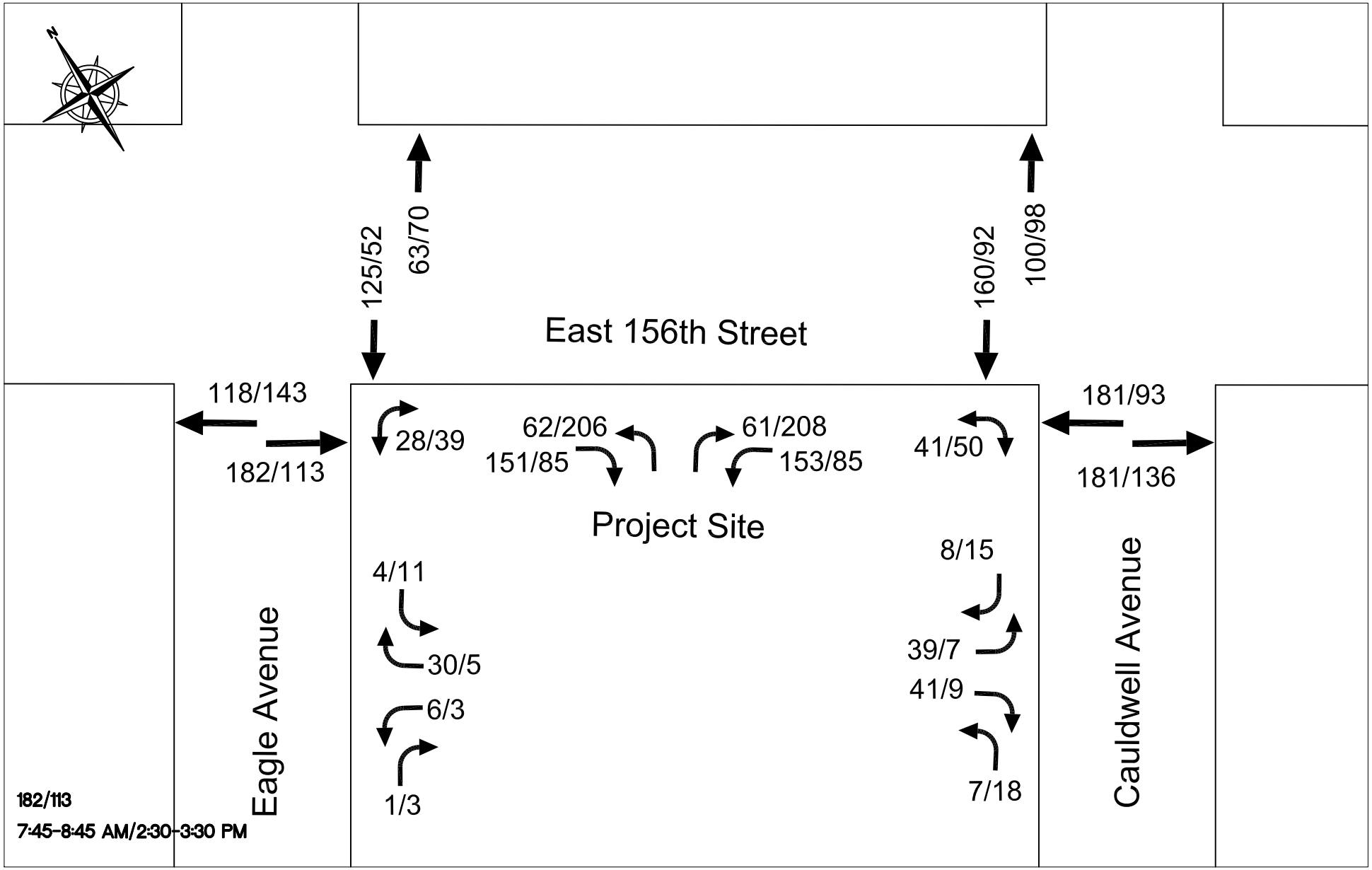


Figure H-5
With-Action Pedestrian Peak Hour Volume

proposed project (presented in Figure H-2) and the No-Action pedestrian network (presented in Figure H-4).

Tables H-8a and H-8b show the forecasted With-Action peak hour pedestrian volumes, average pedestrian space, and LOS at the analyzed locations during the weekday AM and PM (2:30 to 3:30 PM) peak hours. As shown in the tables, all analyzed pedestrian facilities are projected to operate at LOS B or better in both peak hours under With-Action conditions. As presented in Table H-8a, the East 156th Street's south sidewalk (between Eagle and Cauldwell Avenues) would deteriorate from LOS A under No-Action conditions to LOS B under With-Action conditions. As the No-Action average pedestrian space would exceed 44.3 sf per pedestrian in both peak hours, and the With-Action average pedestrian space would remain well above 40.0 sf per pedestrian (the *CEQR Technical Manual* significant impact criteria), this would not be considered a significant adverse impact. The two analyzed corners would continue to operate at LOS A under With-Action conditions, as under No-Action conditions (refer to Table H-8b). Therefore, per *CEQR Technical Manual* criteria, the proposed actions would not result in significant adverse pedestrian impacts.

Table H-8a: With-Action Sidewalk Conditions

Location	Effective Width (feet)	Peak Hour Volumes		Average Pedestrian Space (sf/ped)		Platoon-Adjusted LOS	
		AM	2:30-3:30 PM	AM	2:30-3:30 PM	AM	2:30-3:30 PM
South side of East 156th Street between Eagle & Cauldwell Avenues	7	306	394	239.1	181.1	B*	B*

Notes:
* Denotes deterioration in LOS from No-Action conditions.

Table H-8b: With-Action Corner Area Conditions

Location	Peak Hour Volumes		Average Pedestrian Space (sf/ped)		LOS	
	AM	2:30-3:30 PM	AM	2:30-3:30 PM	AM	2:30-3:30 PM
Southeast corner of East 156th Street & Eagle Avenue	28	39	162.8	190.5	A	A
Southwest corner of East 156th Street & Cauldwell Avenue	41	50	131.4	191.1	A	A

VIII. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Under *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high accident locations. These are defined as locations where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. (Reportable accidents are defined as those involving injuries, fatalities, and/or $1,000 or more in property damage.) Additional pedestrian safety measures are also evaluated in the area due to the addition of a new school.

Table H-9 shows summary accident data for the years 2012 through 2014 that were obtained from DOT. This is the most recent three year period for which data is available. The table shows the total number of crashes each year and the number of crashes each year involving pedestrians and cyclists at intersections

along East 156th Street that in proximity to the project site (where the majority of new vehicular and pedestrian trips would be concentrated).

Table H-9: Accident Data Summary 2012 - 2014

Intersection		Pedestrian Injury Accidents			Bicycle Injury Accidents			Total Pedestrian/ Bicyclist Injury Accidents			Total Accidents (Reportable + Non-Reportable)		
East-West Roadway	**North-South Roadway**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
East 156th Street	Third Avenue	1	1	0	0	1	0	1	2	0	3	3	1
	Brook Avenue	0	1	0	0	0	0	0	1	0	1	1	3
	Cauldwell Avenue	1	0	0	0	0	0	1	0	0	2	2	2
	Eagle Avenue	1	1	0	0	0	0	1	1	0	1	2	1
	St. Ann's Avenue	1	2	0	1	0	1	2	2	1	4	4	3
	Tinton Avenue/ Westchester Avenue	0	0	3	0	0	0	4	0	3	8	3	8

Source: NYSDMV/DOT

As shown in Table H-9, no intersections were found to have experienced a total of 48 or more crashes or experienced five or more pedestrian and/or bicyclist injury crashes in one or more years; therefore, none of the intersections are considered high accident locations. At the intersections of East 156th Street and Cauldwell and Eagle Avenues (where project-generated pedestrian demand is anticipated to be most concentrated, the highest number of pedestrian and/or bicycle injury crashes was one accident at East 156th Street and Cauldwell Avenue (in 2012) and one accident at East 156th Street and Eagle Avenue (in 2012 and 2013). Therefore, based on the accident data presented in Table H-9, no safety problems are anticipated. However, the applicant will work with DOT School Safety Engineering Office and follow any guidance that they have on maximizing student safety in the vicinity of the school. With these precautions in place it is anticipated that conditions in the vicinity of the project site would continue to remain safe for pedestrians and vehicles.

ATTACHMENT I

NOISE

I. INTRODUCTION

The applicant, 600 Associates, LLC, is seeking zoning map and text amendments from the New York City Planning Commission (CPC), in addition to public financing, to facilitate the development of an approximately 200,475 gross square foot (gsf) predominantly residential building at 600 East 156th Street (Bronx Block 2624, Lot 41) in the Melrose neighborhood of Bronx Community District (CD) 1. The proposed project would include approximately 170 affordable residential units and an approximately 32,300 gsf (350-seat) charter school and would replace an existing 22,750-sf building containing public parking and office uses and an adjacent at-grade vehicle storage lot, which currently occupy the approximately 23,000 sf project site. The proposed project is expected to be completed and occupied by 2019.

As discussed in Attachment E, "Transportation," the proposed actions would change traffic patterns and volumes in the general vicinity of the project site. Since traffic is a main source of ambient noise, this could lead to changes in the ambient noise levels. According to the 2014 *City Environmental Quality Review* (CEQR) *Technical Manual*, if existing noise passenger car equivalent (PCE) values are increased by 100 percent or more due to a proposed project (which is equivalent to an increase of three dBA or more) a detailed analysis is generally warranted. Conversely, if existing noise PCE values are not increased by 100 percent or more it is likely that the proposed project would not cause a significant adverse vehicular noise impact, and therefore no further vehicular noise analysis is needed.

The noise analysis for the proposed actions was carried out in compliance with *CEQR Technical Manual* guidelines and consists of two parts: (1) a screening analysis to determine whether traffic generated by the proposed action would have the potential to result in significant noise impacts; and (2) an analysis to determine the level of building attenuation necessary to ensure that the proposed project's interior noise levels satisfy applicable interior noise criteria. This attachment does not include an analysis of mechanical equipment because such mechanical equipment would be designed to meet all applicable noise regulations and, therefore, would not result in adverse noise impacts.

II. PRINCIPAL CONCLUSIONS

Noise from the increased traffic volumes generated by the proposed project would not cause significant adverse noise impacts, as the noise levels increases would fall well below the applicable *CEQR Technical Manual* significant adverse impact threshold (3.0 dBA).

Based on the noise analysis presented herein, the maximum predicted L_{10} noise levels adjacent to the project site are expected to be 71.0 along the site's Eagle Avenue frontage, 71.9 along the site's East 156th Street frontage, and 71.2 dBA along the site's Cauldwell Avenue frontage. To ensure acceptable interior noise levels for the proposed project's residential and community facility uses, 28 dBA of attenuation is needed. The noise attenuation specifications for the proposed project would be mandated through the assignment of an (E) designation (E-398) to the project site (Bronx Block 2624, Lot 41). With implementation of this level of attenuation, as required per the (E) designation to be assigned to the

project site, the proposed project would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines of 45 dBA for residential uses and community facility uses. Therefore, the proposed actions would not result in any significant adverse noise impacts related to building attenuation requirements.

III. NOISE FUNDAMENTALS

Quantitative information on the effects of airborne noise on people is well documented. If sufficiently loud, noise may adversely affect people in several ways. For example, noise may interfere with human activities such as sleep, speech communication, and tasks requiring concentration or coordination. It may also cause annoyance, hearing damage, and other physiological problems. Although it is possible to study these effects on people on an average or statistical basis, it must be remembered that all the stated effects of noise on people vary greatly with the individual. Several noise scales and rating methods are used to quantify the effects of noise on people. These scales and methods consider factors such as loudness, duration, time of occurrence, and changes in noise level with time.

"A"-Weighted Sound Levels (dBA)

Noise is typically measured in units called decibels (dB), which are ten times the logarithm of the ratio of the sound pressure squared to a standard reference pressure squared. Because loudness is important in the assessment of the effects of noise on people, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments. Frequency is the rate at which sound pressures fluctuate in a cycle over a given quantity of time and is measured in Hertz (Hz), where one Hz equals one cycle per second. Frequency defines sound in terms of pitch components. In the measurement system, one of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network (known as A-weighting) that simulates the response of the human ear. For most noise assessments, the A-weighted sound pressure level in units of dBA is used due to its widespread recognition and its close correlation to perception. In this analysis, all measured noise levels are reported in dBA or A-weighted decibels. Common noise levels in dBA are shown in Table I-1.

Table I-1: Common Noise Levels

Sound Source	(dBA)
Air Raid Siren at 50 feet	120
Maximum Levels at Rock Concerts (Rear Seats)	110
On Platform by Passing Subway Train	100
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area	60-70
Typical Suburban Area	50-60
Quiet Suburban Area at Night	40-50
Typical Rural Area at Night	30-40
Soft Whisper at 5 meters	30
Isolated Broadcast Studio	20
Audiometric (Hearing Testing) Booth	10
Threshold of Hearing	0

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

Community Response to Changes in Noise Levels

Table I-2 shows the average ability of an individual to perceive changes in noise. Generally, changes in noise levels less than three dBA are barely perceptible to most listeners. However, as illustrated in Table I-2, five dBA changes are readily noticeable. Ten dBA changes are normally perceived as doublings (or halvings) of noise levels. These guidelines permit direct estimations of an individual's probable perception of changes in noise levels.

Table I-2: Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2-3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A dramatic change
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt Beranek and Neuman, Inc., *Fundamentals and Abatement of Highway Traffic Noise* (Report No. PB-222-703). Prepared for the Federal Highway Administration (FHA), June 1973.

Noise Descriptors Used in Impact Assessment

Because the sound pressure level unit (dBA) describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods of time have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level" (L_{eq}) can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., one hour [denoted by $L_{eq(1)}$] or 24 hours [denoted as $L_{eq(24)}$]), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors such as L_1, L_{10}, L_{50}, L_{90}, and L_x are sometimes used to indicate noise levels that are exceeded one, ten, fifty, ninety, and x percent of the time, respectively. Discrete event peak levels are given as L_1 levels. L_{eq} is used in the prediction of future noise levels by adding the contributions from new sources of noise (i.e., increases in traffic volumes) to the existing levels and in relating annoyance to increases in noise levels.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates very little, L_{eq} will approximate L_{50} or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by ten or more decibels. Thus the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements it has been observed that the L_{eq} is generally between L_{10} and L_{50}. The relationship between L_{eq} and exceedance levels has been used in this analysis to characterize the noise sources and to determine the nature and extent of their impact at all receptor locations.

For the purposes of this analysis, the maximum one-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in the noise impact evaluation. $L_{eq(1)}$ is the noise descriptor used in the *CEQR Technical Manual* for noise impact evaluation and is used to provide an indication of highest expected sound levels; $L_{10(1)}$ is the noise descriptor used in the *CEQR Technical Manual* for building attenuation. Hourly statistical noise levels (particularly L_{10} and L_{eq} levels) were used to characterize the relevant noise sources and their relative importance at each receptor location.

The Day-Night sound level (L_{dn}) describes a receptor's cumulative noise exposure from all events over 24 hours. It may be thought of as a noise dose totaled after increasing all nighttime L_{eq} noise levels between 10 PM and 7 AM by 10 dBA to reflect the greater intrusiveness of noise experienced during these hours. Pursuant to Federal Transit Authority (FTA) noise impact analysis methodology, the L_{dn} is adopted to assess noise generated by trains.[1] However, because the L_{dn} descriptor tends to average out high hourly values over 24 hours, the *CEQR Technical Manual* recommends that the L_{eq} descriptor be used for purposes of impact analysis.

Applicable Noise Codes and Impact Criteria

New York City Noise Code

The New York City Noise Control Code, as amended in December 2005, contains prohibitions regarding unreasonable noise and specific noise standards, including plainly audible criteria for specific noise sources. In addition, the amended code specifies that no sound source operating in connection with any commercial or business enterprise may exceed the decibel levels in the designated octave bands at specified receiving properties.

CEQR Technical Manual Noise Standards

The New York City Department of Environmental Protection (DEP) has set external noise exposure standards. These standards are shown in Table I-3.

Noise Exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The standards shown are based on maintaining an interior noise level for the worst-case hour L_{10} of less than or equal to 45 dBA. Attenuation requirements are shown in Table I-4.

Impact Criteria

In addition, the *CEQR Technical Manual* uses the following criteria to determine whether a proposed residential and/or community facility development would be subject to a significant adverse noise impact:

- If the No-Action levels are less than 60 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period, the threshold for a significant impact would be an increase of at least five dBA $L_{eq(1)}$ (for the 5 dBA threshold to be valid, the resultant With-Action condition noise level would have to be equal to or less than 65 dBA);
- If the No-Action noise level is equal to or greater than 62 dBA $L_{eq(1)}$ or if the analysis period is a nighttime period (defined under CEQR standards as being between 10 PM and 7 AM), the incremental significant impact threshold would be three dBA $L_{eq(1)}$;
- If the No-Action noise level is 61 dBA $L_{eq(1)}$, the maximum incremental increase would be four dBA, since an increase higher than this would result in a noise level higher than the 65 dBA $L_{eq(1)}$ threshold.

[1] "Transit Noise and Vibration Impact Assessment", 2006, FTA, Office of Planning and Environment.

Table I-3: Noise Exposure Guidelines for Use in City Environmental Impact Review

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- Ldn ≤ 60 dBA ----------						
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		$55 < L_{10} \leq 65$ dBA	---------- 60 < Ldn ≤ 65 dBA ----------	$65 < L_{10} \leq 80$ dBA	(1) 65 < Ldn ≤ 70 dBA, (II) 70 ≤ Ldn	$L_{10} > 80$ dBA	---------- Ldn ≤ 75 dBA ----------
3. Residence, residential hotel or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		$65 < L_{10} \leq 70$ dBA		$70 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		$55 < L_{10} \leq 70$ dBA		$70 < L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
5. Commercial or office		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Source: DEP (adopted policy 1983).

Notes:

(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more;

[1] Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.

[2] Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.

[3] One may use the Federal Aviation Administration- (FAA-) approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved Integrated Noise Model (INM) Computer Model using flight data supplied by the Port Authority of New York and New Jersey.

[4] External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

Table I-4: Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise level with Proposed Action	$70<L_{10}\leq73$	$73<L_{10}\leq76$	$76<L_{10}\leq78$	$78<L_{10}\leq80$	$80<L_{10}$
Attenuation[A]	(I) 28 dBA	(II) 31 dBA	(III) 33 dBA	(IV) 35 dBA	$36 + (L_{10} - 80)^{B}$ dBA

Sources: DEP; *CEQR Technical Manual*

Notes:

[A] The above composite window-wall attenuation values are for residential dwellings. Commercial office spaces and meeting rooms would be 5 dBA 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 one dBA increments for L_{10} values greater than 80 dBA.

IV. NOISE PREDICTION METHODOLOGY

Future noise levels resulting from traffic were calculated with a proportional modeling technique used as a screening tool to estimate changes in noise levels. The proportional modeling technique is an analysis methodology recommended for analysis purposes in the *CEQR Technical Manual*.

Proportional Modeling

Proportional modeling was used to determine No-Action and With-Action noise levels along the project site's East 156th Street, Cauldwell Avenue, and Eagle Avenue frontages, as discussed in more detail below. Proportional modeling is one of the techniques recommended in the *CEQR Technical Manual* for mobile source analysis.

Using this technique, the prediction of future noise levels (where traffic is the dominant noise source) is based on a calculation using measured existing noise levels and predicted changes in traffic volumes to determine No-Action and With-Action noise levels. Vehicular traffic volumes (counted during the noise recording), are converted into PCE values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of thirteen cars, one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars, and one bus (vehicles designed to carry more than nine passengers) is assumed to generate the noise equivalent of eighteen cars. Future noise levels are calculated using the following equation:

FNA NL =10 log (NA PCE/E PCE) + E NL

where:

FNA NL = Future No-Action Noise Level
NA PCE = No-Action PCEs
E PCE = Existing PCEs
E NL = Existing Noise Level

Sound levels are measured in decibels and therefore increase logarithmically with sound source strength. In this case, the sound source is traffic volumes measured in PCEs. For example, assume that traffic is the dominant noise source at a particular location. If the existing traffic volume on a street is 100 PCEs and if the future traffic volumes were increased by 50 PCEs to a total of 150 PCEs, the noise level would increase by 1.8 dBA. Similarly, if the future traffic were increased by 100 PCEs, or doubled to a total of 200 PCEs, the noise level would increase by 3.0 dBA.

To calculate the No-Action and With-Action PCE values, an annual background growth rate of 0.25 percent for the 2019 analysis year was added to the PCE noise values based on existing counted vehicles.[2] Traffic assignments presented in Attachment H, "Transportation" were utilized for vehicles generated in the With-Action condition.

V. EXISTING NOISE LEVELS

Selection of Noise Receptor Locations

The approximately 23,000-sf project site is located at 600 East 156th Street (Bronx Block 2624, Lot 41) in the Melrose neighborhood of Bronx CD 1. The project site fronts East 156th Street to the north (230 feet of street frontage) and Eagle and Cauldwell Avenues to the west and east, respectively (100 feet of frontage on each street), and is currently occupied by a 22,750-sf building containing public parking and

[2] Calculations according to Table 16-4 of the *CEQR Technical Manual.*

office uses and an adjacent at-grade vehicle storage lot, which currently occupy the approximately 23,000 sf project site.

As vehicles are the main source of noise in the surrounding area, noise monitoring was conducted at three locations: the approximate midpoint of the project site's Eagle Avenue frontage (receptor location 1), the approximate midpoint of the project site's East 156th Street frontage (receptor location 2), and the approximately midpoint of the project site's Cauldwell Avenue frontage (receptor location 3).

Noise Monitoring

Noise monitoring at all receptor locations was carried out on Wednesday, June 15, 2016. The weather was sunny with temperatures in the 80s. Twenty-minute spot measurements of existing noise levels were performed at each receptor location for the AM, midday, 2:30-3:30 PM, and 5-6 PM noise analysis time periods to establish existing noise levels. For the purpose of this analysis, during the noise recordings, vehicles were counted and classified.

Equipment Used During Noise Monitoring

The instrumentation used for the measurements was a Brüel & Kjær Type 4189 ½-inch microphone connected to a Brüel & Kjær Model 2250 Type 1 (as defined by ANSI) sound level meter. This assembly was mounted at a height of five feet above the ground surface on a tripod and at least six feet away from any sound-reflecting surfaces to avoid major interference with source sound level that was being measured. The meter 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 sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90}. A windscreen was used during all sound measurements except for calibration. Only traffic-related noise was measured; noise from other sources (e.g., emergency sirens, aircraft flyovers, etc.) was excluded from the measured noise levels. Weather conditions were noted to ensure a true reading as follows: wind speed under 12 mph; relative humidity under 90 percent; and temperature above 14°F and below 122°F (pursuant to ANSI Standard S1.13-2005).

Existing Noise Levels at Noise Monitoring Locations

Noise monitoring results for the three receptor locations are shown above in Table I-5. As indicated in the table, existing L_{eq} noise levels at receptor location 1 range from 61.8 dBA to 70.7 dBA in the weekday peak hours, with the highest monitored L_{eq} noise levels during the 2:30-3:30 PM peak hour. Existing L_{eq} noise levels at receptor location 2 range from 64.6 dBA to 68.7 dBA in the weekday peak hours, with the highest monitored L_{eq} noise levels during the midday peak hour. Existing L_{eq} noise levels at receptor location 3 range from 59.1 to 66.6 in the weekday peak hours, with the highest monitored L_{eq} noise levels during the AM peak hour. In terms of CEQR noise exposure categories, the existing L_{10} noise levels at all three receptor locations fall within the Marginally Unacceptable (I) category within one or more peak hour.

Table I-5: Existing Noise Levels at Monitoring Locations (in dBA)

Receptor	Measurement Location	Time	L_{eq}	L_{max}	L_{min}	L_1	L_{10}	L_{50}	L_{90}	CEQR Noise Exposure Category
1	Midpoint of Project Site frontage on Eagle Avenue	AM	67.7	87.6	51.4	79.0	**70.9**	61.5	55.5	Marginally Unacceptable (I)
		MD	61.8	82.4	53.5	72.5	64.2	57.1	55.0	
		PM (2:30-3:30)	70.7	96.0	53.5	83.1	68.0	60.5	56.6	
		PM (5-6)	62.4	79.9	53.2	72.5	64.9	58.8	55.9	
2	Midpoint of Project Site frontage on East 156th Street	AM	64.6	85.4	50.6	73.8	68.2	60.7	55.2	Marginally Unacceptable (I)
		MD	68.7	87.6	50.1	80.4	**71.8**	62.2	55.2	
		PM (2:30-3:30)	67.2	87.3	52.8	77.9	69.4	62.7	58.3	
		PM (5-6)	66.0	91.0	52.2	75.4	68.3	62.5	57.2	
3	Midpoint of 88th Street frontage of Cauldwell Avenue	AM	66.6	82.8	45.5	77.7	**71.1**	57.1	50.1	Marginally Unacceptable (I)
		MD	59.1	85.0	44.6	71.8	60.4	53.3	49.1	
		PM (2:30-3:30)	62.1	83.3	47.8	74.2	63.7	57.2	52.3	
		PM (5-6)	61.9	84.5	49.9	72.3	63.2	57.6	52.4	

Notes: Highest L_{10} value at each receptor location indicated in **bold.**

VI. THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION)

As outlined in Attachment A, "Project Description," in the 2019 No-Action condition, it is expected that the existing project site uses would remain. Future No-Action noise levels at the three receptor locations were calculated using the noise prediction methodology described above in Section IV.

Table I-6 compares the future No-Action and existing noise levels at the receptors. As indicated in Table I-6, noise levels at each receptor location are expected to minimally increase (by 0.00 and 0.04 dBA) in the 2019 No-Action condition as a result of general background growth in the area. Therefore, future No-Action noise levels would remain in the Marginally Unacceptable (I) CEQR noise exposure category.

Table I-6: Future No-Action Noise Levels at Receptor Locations (in dBA)

Receptor	Measurement Location	Time	Existing L_{eq}	No-Action L_{eq}	Change in L_{eq} from Existing Conditions	No-Action L_{10}[1]	CEQR Noise Exposure Category
1	Midpoint of Project Site frontage on Eagle Avenue	AM	67.7	67.7	0.02	**70.9**	Marginally Unacceptable (I)
		MD	61.8	61.8	0.00	64.2	
		PM (2:30-3:30)	70.7	70.7	0.02	70.7	
		PM (5-6)	62.4	62.4	0.03	64.9	
2	Midpoint of Project Site frontage on East 156th Street	AM	64.6	64.6	0.02	68.3	Marginally Unacceptable (I)
		MD	68.7	68.7	0.01	**71.9**	
		PM (2:30-3:30)	67.2	67.2	0.02	69.4	
		PM (5-6)	66.0	66.0	0.02	68.3	
3	Midpoint of 88th Street frontage of Cauldwell Avenue	AM	66.6	66.6	0.00	**71.1**	Marginally Unacceptable (I)
		MD	59.1	59.1	0.04	60.5	
		PM (2:30-3:30)	62.1	62.1	0.00	63.7	
		PM (5-6)	61.9	62.0	0.03	63.3	

Notes:

[1] No-Action L_{10} values calculated by adding the difference between the measured L_{10} and L_{eq} to the calculated L_{eq}. In instances where the monitored L_{eq} was higher than the monitored L_{10}, the No-Action L_{eq} was used as the No-Action L_{10}. Highest L_{10} value at each receptor location indicated in **bold.**

VII. THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION)

In the future with the proposed actions, the project site would be developed with approximately 211,300 gross square foot (gsf) predominantly residential building comprising 170 affordable DU and a 350-seat charter school. The proposed charter school would not include any outdoor play areas. Future With-Action noise levels at the receptors were calculated using the noise prediction methodology described above and the traffic assignments presented in Attachment H, "Transportation."

As shown in Table I-7, in the future with the proposed actions the maximum projected L_{10} noise level at receptor location 1 would be 71.0 dBA; the maximum projected L_{10} noise level at receptor location 2 would be 71.9 dBA; and the maximum projected L_{10} noise level at receptor location 3 would be 71.2 dBA. As under existing and No-Action conditions, future With-Action noise levels at all three receptor locations would fall within the CEQR Marginally Unacceptable (I) noise exposure category.

Table I-7: Future With-Action Noise Levels at Receptor Locations (in dBA)

Receptor	Measurement Location	Time	No-Action L_{eq}	With-Action L_{eq}	Change in L_{eq} from No-Action Conditions	With-Action L_{10}[1]	CEQR Noise Exposure Category
1	Midpoint of Project Site frontage on Eagle Avenue	AM	67.7	67.8	0.09	**71.0**	Marginally Unacceptable (I)
		MD	61.8	61.9	0.10	64.3	
		PM (2:30-3:30)	70.7	70.8	0.06	70.8	
		PM (5-6)	62.4	62.5	0.03	65.0	
2	Midpoint of Project Site frontage on East 156th Street	AM	64.6	65.3	0.69	69.0	Marginally Unacceptable (I)
		MD	68.7	68.8	0.07	**71.9**	
		PM (2:30-3:30)	67.2	67.2	0.07	69.5	
		PM (5-6)	66.0	66.0	0.05	68.3	
3	Midpoint of 88th Street frontage of Cauldwell Avenue	AM	66.6	66.7	0.08	**71.2**	Marginally Unacceptable (I)
		MD	59.1	59.1	0.00	60.5	
		PM (2:30-3:30)	62.1	62.1	0.02	63.7	
		PM (5-6)	62.0	62.0	0.03	63.3	

Notes:

[1] With-Action L_{10} values calculated by adding the difference between the measured L_{10} and L_{eq} to the calculated L_{eq}. In instances where the monitored L_{eq} was higher than the monitored L_{10}, the With-Action L_{eq} was used as the With-Action L_{10}. Highest L_{10} value at each receptor location indicated in **bold.**

Comparing future With-Action and No-Action conditions, increases in noise levels at the receptor locations would range from 0.0 dBA to 0.69 dBA. Changes of this magnitude would not be perceptible to the public and would fall significantly below the applicable *CEQR Technical Manual* significant adverse impact threshold (3.0 dBA).

VIII. BUILDING ATTENUATION REQUIREMENTS

As shown earlier in Table I-4, the *CEQR Technical Manual* has set noise attenuation requirements for buildings based on exterior L_{10} noise levels. Recommended noise attenuation values for buildings are designed to maintain a maximum interior noise level of 45 dBA or lower for residential and community facility uses and 50 dBA or lower for commercial uses, and are determined based on exterior L_{10} noise levels.

As described above and presented in Table I-7, the maximum predicted L_{10} noise levels adjacent to the project site are expected to be 71.0 along the site's Eagle Avenue frontage, 71.9 along the site's East 156th Street frontage, and 71.2 dBA along the site's Cauldwell Avenue frontage. As presented in Table I-4, to ensure acceptable interior noise levels for the proposed project's residential and community facility uses, 28 dBA of attenuation is needed.

The noise attenuation specifications for the proposed project would be mandated through the assignment of an (E) designation (E-398) to the project site (Bronx Block 2624, Lot 41). The text of the (E) designation is as follows:

> "To ensure an acceptable interior noise environment, the building façade(s) of future residential uses must provide a minimum of 28 dBA composite building façade attenuation with windows closed, in order to maintain an interior noise level of 45 dBA. The minimum required composite building façade attenuation for future commercial uses would be five dBA less than that for residential uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided."

With implementation of the attenuation levels outlined above, the proposed project would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines of 45 dBA for residential uses and community facility uses. Therefore, the proposed actions would not result in any significant adverse noise impacts related to building attenuation requirements.

APPENDIX I

AGENCY CORRESPONDENCE

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

indicate that all NYSDEC BCP remedial requirements have been property implemented

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / 17DCP025X
Project:
Address: 600 EAST 156 STREET, **BBL:** 2026240041
Date Received: 9/8/2016

[X**] No architectural significance**

[X**] No archaeological significance**

[ ] Designated New York City Landmark or Within Designated Historic District

[ ] Listed on National Register of Historic Places

[ ] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[ ] May be archaeologically significant; requesting additional materials

The LPC is in receipt of the EAS dated 8/10/16. The document is acceptable for historic and cultural resources.

Gina Santucci 9/8/2016

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 31501_FSO_GS_09082016.doc

APPENDIX II

HAZARDOUS MATERIALS

Phase I
Environmental Site Assessment

600 East 156th Street
Bronx, NY

October 2015

Prepared For:

600 Associates, LLC
c/0 Phipps Houses
902 Broadway – 13th Floor
New York, NY 10010

Prepared by:

CA Rich Consultants, Inc.
17 Dupont Street
Plainview, NY 11803-1614

October 30, 2015

Mr. Michael Wadman
600 Associates, LLC
c/o Phipps Houses
902 Broadway – 13th floor
New York, NY 10010

Re: **Phase I Environmental Site Assessment**
600 East 156th Street
Bronx, NY
Block: 2624 Lots: 41 and 48-52

Dear Mr. Wadman:

The following report summarizes a Phase I Environmental Site Assessment (ESA) of the above-referenced location (herinafter referred to as the Property or the Site), performed by CA Rich Consultants, Inc. (CA RICH). This Phase I ESA was completed in substantive conformance with the scope and limitations of ASTM Practice 1527-13, which sets forth nationally accepted Phase I guidance criteria. In addition, a Tier 1 vapor encroachment screening was completed in accordance with ASTM E 2600-10 and is included in the Report.

If you have any questions pertaining to this report, please feel free to contact the undersigned. We thank you for the opportunity to provide you with our professional environmental services.

Sincerely,

CA RICH CONSULTANTS, INC.

Victoria Whelan
Project Manager, QEP, CPG

Reviewed by:

Richard J. Izzo, CPG
Senior Associate

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Figure

Figure 1 - Property Location Map

Appendices

Appendix A - Site Photography
Appendix B - Environmental Database
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Appendix E - Qualifications of Environmental Professionals

EXECUTIVE SUMMARY

CA RICH Consultants, Inc. ("CA RICH") of Plainview, New York has completed this Phase I Environmental Site Assessment (ESA) of the property located at 600 East 156th Street, Bronx, New York (hereinafter referred to as the "Property" or "Site"). CA RICH performed this Phase I ESA in substantive conformance with the suggested informational requirements, scope and limitations of the American Society for Testing & Materials (ASTM) prevailing Standard Practice E 1527-13 for environmental site assessments. Any exceptions to, or deletions from, these practices are described in Section 1.4 of this report.

The Property is located at 600 East 156th Street, in the Bronx, New York and is situated between Eagle Avenue and Cauldwell Avenue along the south side of East 156th Street. The Property is improved with an asphalt parking lot on the corner of Cauldwell Avenue and East 156th Street and a building that is split into a one-story portion that does not have a basement and two-story section that does include a small basement. The building is currently occupied by Visual Effects, IND. which is a distributor of lighting equipment on the second floor and a parking lot attendant which occupies the first floor and the parking area. The one-story portion of the Property was vacant at the time of inspection for repairs, but is typically used for storage.

The building is heated by natural gas and is connected to public sewer and water.

The information and findings presented herein are based upon the data acquired during the property visit, and through pertinent information obtained from regulatory agencies, responsible persons knowledgeable about the property, and other historical information sources. Based upon the information reviewed for this Phase I ESA, we identified the following "Recognized Environmental Conditions" (RECs) in connection with the subject Property. Additionally, other Issues (OI) were identified but they do not meet the criteria to be identified as RECs, and are also summarized below.

REC-1 Based on the Fire Insurance Sanborn maps from 1935 to at least 1944, the Property was a garage with two-550 gallon buried gasoline tanks. The 1947 map then shows the usage as a brewery but does not show the buried tanks. The 1951 Sanborn map then indicates that the usage is W.G Skylight which again does not show the buried tanks. It is recommended that a GPR survey be conducted to locate any suspect buried tanks.

REC-2 The City Directory indicates that the building was occupied by Garage Corp from 1927 to at least 1940. Additionally it indicates that an Erection and Steel Partition Company occupied the building from 1956-1961. The NYCDOB records indicated that the subject property is now identified as G6 garage/gas station and E9 Warehouse. The New York City Department of Building records indicate that in 1952 the property was a factory. The New York City Department of Finance records indicate that Tax Lot 41 in 1980 was a manufacturer and in 1985 was owned by BP Industries, and Tax lot 49 was a manufacturer. Based on the historical usage of the Property a Phase II Investigation is recommended.

REC-3 The historical database search indicates that the surrounding area includes multiple, brownfields, dry cleaners, engineering controls, institutional controls, historical auto stations, historical dry cleaners. Based on the usage of the surrounding area and the historical usage of the subject Property, it is recommended that a vapor encroachment study be conducted at the subject Property.

OI-1 Based on the age of the structure, asbestos is likely present in some of the building materials especially in the underlying layers of the tar roofing materials, pipe insulation and vinyl-floor tiles. If the building is to be renovated or demolished, it is recommended that an Asbestos Containing Material (ACM) survey be performed and appropriate

measures be taken to protect the health and safety of building occupants or workers during activities that may disturb the ACM. At the time of the inspection, no suspect ACM was identified.

OI-2 Based upon the age of the structure, lead-based paint is likely present in some of the building materials especially in the underlain lower layers of paint. If the building is to be renovated or demolished, it is recommended that a lead-based paint survey be performed. At the time of the inspection, no peeling paint was identified.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this Phase I ESA is to identify ASTM-defined Recognized Environmental Conditions associated with the subject Property. This assessment was conducted in substantive conformance with ASTMs "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process",* E 1527-13.

This Standard is designed to constitute "*all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice*" as defined in CERCLA 42 USC 9601 (35) (B). Consequently, this Assessment investigates the historical land use and present-day condition of the Property in accordance with accepted standards prevailing within the lending industry and the environmental assessment profession. The term *recognized environmental conditions* does not include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate regulatory agencies.

1.2 Detailed Scope of Services

The following services were performed by CA RICH as part of this Phase I ESA:

- Visual and physical inspection of representative and reasonably accessible interior and exterior areas of the Property by an experienced CA RICH Environmental Professional (EP) or their appointee under direct supervision. An EP satisfies the educational and experience qualification requirements stipulated under the Federal EPA's companion "AAI" Rule, effective November 1, 2006. The inspection included a review of building practices at adjacent properties;

- Investigation of historical land use practices including review of available Local Directory publications, USGS topographic maps, aerial photographs, and historical Sanborn® Maps, discussions with knowledgeable parties associated with the Property and other readily available records or reports (i.e. prior Phase 1's);

- Review and inquiry of relevant Federal, State, and local database records pertaining to the subject Property and properties located within approximate minimum search distances for the purposes of identifying any potential sources of migrating hazardous substances or petroleum products; and

- Review of the Property's proximity to ecologically sensitive areas or media (i.e. parks, rivers, underlying ground water, etc.) using records and maps published by the Federal United States Geological Survey (USGS) along with neighborhood reconnaissance.

1.3 Significant Assumptions

For the purpose of performing this Phase I ESA, CA RICH assumes that information provided to us by the Client, database search companies, historical records, interviews, etc. is accurate. Our findings and conclusions regarding the potential environmental impact of nearby, off-site buildings or adjoining property facilities upon the subject Property are based upon readily available information from review of the environmental databases and observable conditions at the time of inspection by the EP. Any further, more detailed review or interpretation of a specific file or record is beyond the standard Phase I scope of work approved at this time.

Further, the Environmental Professional investigator(s) cannot be held responsible for either innocent or intentional misrepresentations, inaccurate statements, claims made, or information furnished to CA RICH regarding the environmental integrity of this Property.

1.4 Limitations and Exceptions

CA RICH performed this Phase I ESA of the subject Property in accordance with good commercial and customary practice and generally accepted protocols within the consulting industry as set forth in ASTM E 1527-13 Standard. An environmental lien search was not included as part of this Phase I Report. CA RICH has included review of some non-ASTM issues for this assessment including asbestos, lead based paint, and radon gas, otherwise there have been no intentional deviations or deletions from this practice in the performance of this assessment. The assessment included a visual (observable) inspection of representative areas of the Property, the examination of readily ascertainable and practically reviewable public records concerning the current and prior use of the Property, recorded environmental conditions, and further discussions with responsible and knowledgeable parties associated with the Property.

The findings, conclusions and professional opinion set forth in this environmental report are based upon the limited information available to CA RICH during this assessment period. If new information becomes available concerning the Property or the future property and its environs relative to existing or future intended land use after the date of this report, the findings and conclusions contained herein may be subject to modification. While this Assessment was performed in accordance with good commercial and customary practice and generally accepted protocols within the environmental consulting industry, CA RICH cannot guarantee that the Property is completely free of hazardous substances or other materials or conditions that could subject the Owner(s) to potential liabilities. The presence or absence of any such condition may only be revealed or confirmed through the sample collection and analysis of any stored or suspect residual liquids, gels, or solid waste materials, chemicals, miscellaneous hazards, residues, biologicals, odors, soot, refuse, building materials, underlying fill, fluids, or soils, soil vapors, ground water, and/or surface water, etc.

Subsurface conditions were not field-investigated and were outside the scope of this Phase I ESA and therefore, may differ from the conditions implied by records review and/or surficial observations. Building contamination, waste emplacement, lead-based paint, asbestos, fill, and soil or groundwater contamination would be disclosed to CA RICH only by surficial indications, interviews, or available regulatory records. In the absence of such information, these possible conditions may only be revealed through further specific media testing or sampling and testing methodologies all of which are beyond the scope of this ‘Phase I’ Assessment, with exceptions as reported herein.

Because there are limitations to the amount of time and resources expended at this level of an initial Phase I Assessment, CA RICH cannot guarantee that all existing and pertinent Property information was reviewed. There may remain data gaps and/or additional relevant information not discovered through the standard level of all appropriate inquiry employed at this time. However, we do acknowledge that to the best of our belief, the readily ascertainable information we have supplied is true, complete and correct, and that facts or figures that may have an adverse effect upon the validity of the findings and professional opinion provided herein have not purposely been omitted.

CA RICH has no interest other than professional in this Environmental Site Assessment and neither its performance, nor compensation for same, is contingent upon the findings and/or opinion or recommendation(s), if any, represented herein. Any litigation matters that may pertain to the Property are not discussed and this report is not a legal opinion.

1.5 User Reliance

This report is intended for the sole use of 600 Associates, LLC. It may not be used or relied upon by any other party, or third party, without the written consent of CA RICH. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, future occupants, future prospective purchasers, and/or altered land usage, or altered future land usage, and the use or re-use of this document or the findings, professional opinion, or aforementioned recommendations provided herein is at the risk of said user.

2.0 PROPERTY DESCRIPTION

2.1 Location and Legal Description

The property is located at 600 East 156th Street, in the Bronx, New York. The Site is situated between Eagle Avenue and Cauldwell Avenue along East 156th Street. The tax map designation is Block 2624; Lots 41, 48-52. A Site Location Map is presented in Figure 1.

2.2 Description of Property

The property is located at 600 East 156th Street, in the Bronx, New York. The Site is located between Eagle Avenue and Cauldwell Avenue along East 156th Street. It is improved with an asphalt parking lot on the corner of Cauldwell Avenue and East 156th Street and a building that is split into a one-story portion that does not have a basement and two-story section that does include a small basement. The building is currently occupied by Visual Effects, IND. which is a distributor of lighting equipment on the second floor and a parking lot attendant occupies the first floor of the building and the adjacent parking area. The one-story portion of the property was vacant at the time of inspection for repairs but is typically used for storage.

The building is heated by natural gas and is connected to public sewer and water.

2.3 Description of Surrounding Area

The Property is located in a well-developed area of the Bronx that consists of a mix of commercial and residential buildings.

2.4 Current Uses of the Property

The building is currently occupied by Visual Effects, IND. which is a distributor of lighting equipment on the second floor and a parking lot attendant company which occupies the first floor and utilizes the adjacent asphalt parking lot. The one-story portion of the property was vacant at the time of inspection for repairs but is typically used for storage.

2.5 Current Uses of Adjoining Properties

The Property is surrounded by a mix of commercial and residential buildings. Adjoining properties include the following:

North: The Grove Hill Elementary Public School 157 (across E 156th Street)
South: Residential buildings
East: Residential buildings (across Cauldwell Avenue)
West: Restaurant and residential building (across Eagle Avenue)

2.6 Site Geology & Hydrogeology

According to maps and reports published by the United States Geological Survey (USGS), the Property elevation is approximately 50 feet above mean sea level and it is underlain by Pleistocene-age glacial till deposits composed of a poorly sorted mixture of unconsolidated clay, silt, sand, gravel cobbles and boulders. These deposits rest unconformably on deeper Ordovician-age crystalline bedrock.

No site-specific hydrogeological information is available concerning groundwater depth and flow direction. The actual soil type, depth to groundwater, and flow direction can only be obtained through a site-specific hydrogeological study including the physical installation of soil borings and wells, which is beyond the scope of this Phase I ESA. However, based on the topography of the surrounding area, groundwater likely flows in a southwesterly direction.

The Property is relatively flat and there are no natural or artificial surface water bodies or impoundments. Stormwater runoff from rain events drains into runs off-site street storm drains.

3.0 USER-PROVIDED INFORMATION

ASTM E 1527-13 defines the "User" as: "*the party seeking to use practice E 1527-13 to complete an environmental site assessment of the property*". The User is responsible for providing certain information (if available) to qualify for one of the Landowner Liability Protections offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001. Failure to provide this information could result in a determination that *"all appropriate inquiry"* is not complete. As such, a User/Owner Questionnaire was prepared in conformance with E 1527-13, and submitted to the appropriate parties at the time of this report CA RICH has not received a response.

3.1 Title Records

Title records were not provided by the User. This is considered a data gap; however, this data gap is not considered to have a significant impact on the findings of this Assessment.

3.2 Environmental Liens

An environmental lien search was not provided by the User and was not requested by CA RICH. This is considered a data gap; however, this data gap is not considered to have a significant impact on the findings for this report.

3.3 Specialized Knowledge

The User did not provide CA RICH with specialized knowledge pertaining to the environmental integrity of the Property.

3.4 Commonly Known or Reasonably Ascertainable Information

The User did not provide CA RICH with commonly known or reasonably ascertainable information regarding the Property. However, the current tenant, George Dercinger, did provide information about the property. Mr. Dercinger informed us that prior to his occupancy 28 years ago, the building was heated by forced steam heat from an oil boiler and associated aboveground storage tank located in the basement of the building. Mr. Dercinger indicated that when he moved into the property the building was converted to natural gas.

3.5 Valuation Reduction for Environmental Issues

A valuation reduction for environmental issues was not provided by the User and is not included as part of this Phase I ESA.

3.6 Owner, Property Manager, and Occupant Information

The current Owner of the Property is 600 Associates, LLC. Access to the Property was provided by Mr. George Dercinger, the tenant that occupies the second floor unit, Visual Effects, IND.

Mr. Dercinger was interviewed about the Property. Mr Decinger has been a tenant in the building for 28 years. Mr. Dercinger informed CA RICH that he is unaware of any underground storage tanks at the building. However, he was aware that the basement previously housed a heating oil aboveground storage tank. He indicated that the building was converted to natural gas prior to his occupancy of the building.

No further information regarding the environmental integrity of the Property was provided.

3.7 Reason for Performing Phase I

The purpose of performing this Phase I ESA is to conduct environmental due diligence on the Property for 600 Associates, LLC.

4.0 SITE RECONNAISSANCE

4.1 General

The property is located at 600 East 156th Street, in the Bronx, New York. The Site is located between Eagle Avenue and Cauldwell Avenue along East 156th Street. It is improved with an asphalt parking lot on the corner of Cauldwell Avenue and East 156th Street and a building that is split into a one-story portion that does not have a basement and two-story section that does include a small basement. The building is currently occupied by Visual Effects, IND. which is a distributor of lighting equipment on the second floor and a parking lot attendant occupies the first floor of the building and the adjacent parking area. The one-story portion of the property was vacant at the time of inspection for repairs but is typically used for storage.

Selected photographs illustrating the Site inspection observations are included in Appendix A.

4.2 Methodology and Limiting Conditions

Victoria Whelan, Environmental Professional (EP), of CA RICH, performed the property inspection on October 29, 2015 with access provided by Mr. George Dercinger. The inspection began with a walkthrough of the exterior portions of the Property and then proceeded into to the building interior. Access to the roof was provided.

Limiting conditions for the inspection include the following:

- The small basement beneath the two-story portion of the building was not inspected. A key to the basement was not available.

4.3 Interview Information

Mr. Dercinger was interviewed about the Property. He has been a tenant in the building for 28 years. Mr. Dercinger informed CA RICH that he is unaware of any underground storage tanks at

the building. He was aware that the basement previously housed a heating oil above ground storage tank. He indicated that the building was converted to natural gas prior to his occupancy of the building.

4.4 Exterior Observations

The subject Property is situated on the south-side of East 156th Street between Cauldwell Avenue and Eagle Avenue. The Property contains a partial one-story and two-story commercial building constructed of decorative brick which fronts East 156th Street. Entrances include multiple truck bays for parking and access to the second floor. There is a large asphalt paved parking lot on the corner of Cauldwell Avenue and East 156th Street. The Property has a significant change of elevation from the sloping parking lot surface. The grade at the parking lot is equivalent to the roof elevation of the one-story portion of the building. A small security shed is located in the parking lot at the entrance along East 156th Street. The general slope appears to be to the north.

Access to the roof was provided through the stairwell on the Eagle Avenue side of the building. The roof appeared to be in good condition at the time of the inspection.

At the southwest corner of the building along Eagle Avenue a pipe was observed alongside the building. No signs of stressed vegetation were observed at the time of the inspection.

4.5 Interior Observations

The interior of the building is divided into three parts: one) a parking garage located along the Eagle Avenue side on the first floor; two) a first floor tenant space inside the most eastern portion of the building which was vacant at the time of the inspection, and three) a second-floor tenant space which includes office and warehouse space. There is a small basement accessible through the parking garage; access to the basement was not provided as the key to the basement could not be located.

Building materials include concrete floors and walls (some painted) and wood-framed ceilings. The office space of the second floor included painted sheetrock walls and tile flooring. Multiple pipes were identified along the back wall of the first floor. According the Mr. Dercinger the pipes were associated with the old steam heating system. A vent pipe was identified in the back corner of the building along Eagle Avenue. Two square concrete patches were observed in the parking garage.

4.6 Storage Tanks

Storage tanks, both aboveground and underground, are often used for storing fuel, waste oils, solvents, and other waste and/or potentially hazardous materials. The principal concern from storage tanks is leakage of contents due to corrosion of the tank or associated lines. The leakage may result in migration of the stored material onto the subject and/or neighboring properties via soil migration or underlying shallow groundwater flow. In general, soil and groundwater contaminated by leaks from on-site storage tanks may constitute an environmental or health hazard.

At the time of inspection, no ASTs were identified on the subject Property. A suspect pipe was located along the exterior of the back corner of the building along Eagle Avenue. A tank-related vent pipe was observed in the interior back corner of the building along Eagle Avenue.

4.7 Toxic / Hazardous Materials

At the time of the inspection no storage of any toxic or hazardous chemicals where observed.

4.8 Proximity to Environmentally Hazardous and/or Sensitive Areas

The Property is situated within a residential/commercial community in the Bronx, New York. The computerized database records (Appendix B) report approximately 186 sites in the categories of government reported sites located in proximity to the Property in accordance with ASTM E 1527-13 minimum search distances. Any locatable site has been mapped on the radius search maps included in Appendix B and are discussed in further detail in Section 6.0 of this report.

There are no National Wetlands mapped within ¼-mile of the Property. The Property is not located within a half mile of a FEMA 100 or 500-Year Flood Zone. There is a 100-Year Flood Zone located approximately ½-mile south of the subject Property. Public water is supplied to the Property and there does not appear to be any on-site use of the shallow groundwater beneath the Property.

5.0 HISTORICAL LAND USE PRACTICES

To further determine the past land use and the Property's developed use, available historical aerial photographs, historical topographic maps, Sanborn® maps, and Local Directory records were reviewed.

5.1 Aerial Photography

The following table summarizes the findings of our review of historical aerial photographs.

Year	Description and Comments
1945	The area appears to be developed. Due to the poor quality of the photograph, it cannot be determined if the subject property contains a structure.
1951 & 1954	The Site appears to contain a structure. The surrounding area appears developed; a railway station appears to the east.
1961 &1966	The Site appears to be similar to the 1954 photograph. The surrounding area appears to have increased development.
1975, 1984 & 1995	The subject Property now appears without a structure on the eastern portion and with a structure on the western portion along East 156th Street. The surrounding area appears to have undergone changes that included demolition of multiple structures, the railway station no longer appears to the east, and there are large plots of vacant land to the north and east of the subject Property.
2006, 2009 & 2011	The subject Property appears to contain a structure on the western side of the Property and appears to be a parking lot on the east side of the Property along East 156th Street. The surrounding area appears to be densely populated.

Review of historical aerial photographs revealed that the Site was developed by 1951 in a densely populated area. By 1975, the subject Property appears as it does today with a building on the western portion and a parking lot on the eastern portion. Copies of the aerial photographs reviewed for this report are attached as Appendix C.

5.2 Topography

Topographic map coverage of the Property exists for the years 1897, 1947, 1956, 1966, 1979, & 1995. The following table summarizes the findings of the topographic map review.

Year	Description and Comments
1897	The map does not provide enough detail of the Site.
1947	The subject Property appears to contain a structure. The surrounding areas contain structures and the railway yard appears to the east. The surrounding area is denoted as densely populated.
1956 & 1966	The map does not provide enough detail of the Site. The surrounding area has undergone an increase in development of roadways and structures including, libraries, a high school and parks.
1979 & 1995	The subject Property and surrounding areas appear similar to 1966.

Review of the historical topographic maps dating back to 1897 indicated that the Property was in developed area since at least 1897. The 1947 map indicates that the Property and surrounding areas are in an area denoted “densely populated”. A copy of each topographic map is attached to this report as Appendix C.

5.3 Sanborn Fire Insurance Mapping

Microfilm collections of fire insurance maps available through the Library of Congress, University Publications of America, and various public local sources were searched for local area coverage. Sanborn® maps are detailed maps that show the lot configuration and improvements and may contain information regarding historical ownership; land use, and hazardous or regulated materials storage. The following table summarizes the findings of the Sanborn® map review.

Year	Description and Comments
1891	The subject Property appears to contain five two-story structures in the northwest corner of the Property. The surrounding area has minor developments including, a large brewery, residences, and a park to the north.
1903	The subject Property appears to be vacant. The surrounding area appears to be underdeveloped.
1908	The subject Property appears to have five dwellings along Cauldwell Avenue. The surrounding area appears to be more developed with more dwellings.
1935 & 1944	The subject Property appears to be a garage with 120 car capacity on the eastern portion that contains two 550-gallon gasoline tanks buried beneath the foundation. There is a furniture storage and warehouse in the middle tax lot. The eastern portion contains six dwellings, of the five dwellings one is also a storefront. 612 and 614 East 156th Street appear to be vacant. The surrounding area appears to have more dwellings. The northern Sanborn Map has been excluded. Land usage to the north cannot be determined.
1947	The subject Property now contains Ebling Brewery in the location of the former garage (600-608 East 156th Street), lockers in the location of the former storage area (610 East 156th Street), the dwelling remain unchanged, and 612 and 614 East 156th Street appear to be vacant. There are apartment buildings located directly south and dwellings located to the east and west. The northern Sanborn Map has been excluded. Land usage to the north cannot be determined.

1951	The subject Property is identified as W.G. Skylights from 600-612 East 156th Street. The six dwellings remain unchanged and there continues to be two vacant tax lots in the middle of the Property. The surrounding areas to the south, east and west remain similar to 1947. The northern surrounding area includes Ebling brewery, machine shop, garage, bowling and offices.
1969 & 1970	The Sanborn Maps do not include the subject Property. The surrounding area to the north is included and shows a public school is now located directly across the street from the Property.
1977, 1978, 1980, 1981, & 1984	The western portion of the Property appears similar to 1951; however the eastern portion of the Property now appears to be vacant.
1986, 1989, 1991 & 1992	The subject Property appears to remain unchanged. The surrounding area appears to be more vacant in areas to the south, north and east with fewer dwellings than previous years.
1993	The subject Property appears to remain unchanged. The properties surrounding the subject Property appear to be under construction to the south, east and west for residential redevelopment.
1994, 1995, 1996, 1998, 2001, 2002, 2003, 2004, 2005, 2006 & 2007	The subject Property appears to remain unchanged. The properties surrounding the subject Property are mostly residential.

The subject Property first appears to contain multiple dwellings back in 1908. These dwellings appear to remain on the Property until at least 1977, where the eastern portion of the Property then appears vacant (as it is today). The western portion of the site appears to be vacant until at least 1935, a large building identified as a garage with two 550-gallon gasoline tanks buried underground, the site then changes to a brewery by 1947. By 1951, the eastern portion of the Property is a large warehouse identified as W.G. Skylights. A copy of the Sanborn® maps is attached to this report as Appendix C.

5.4 Local Directory

CA RICH conducted a review of available Local Directory records for the address of 600 East 156th Street, Bronx New York for the years 1927 through 2015. According to the database, the Property was listed as follows:

1927 – Zola Garage Corp.
1940 – Arvic Garage Corp.
1956 – Naparco Erection Corp. and National Steel Partition Company, Inc.
1961 – Naparco Erection Corp. and National Steel Partition Company, Inc.
1965 – Bantam Travelware Corp.
1993 – Gem Sound Corp.
2000 – Gem Sound Corp.
2005 – Gem Sound Corp. and Webster Parking. Inc.
2008 – 610 Eight Avenue Corp.; Gem Stone; and Webster Parking, Inc.

It is important to note that the City directory records indicate that the Property was occupied as a garage as far back as 1927. A copy of the City Directory Abstract is attached as Appendix D.

6.0 ENVIRONMENTAL RECORDS REVIEW

This Section discusses database records maintained by Federal, State and local environmental agencies for the Property and for sites located within an approximate minimum search distance. Available information was compiled from computerized database sources of regulatory agency records. The purpose of this database records review is to help assess the likelihood of problems from migrating hazardous substances or petroleum products. The minimum search distances are specified within ASTM Practice E 1527-13.

The database searches were conducted by EDR at the request of CA RICH on January 15, 2015, (Inquiry Number: 4182947). The existence of an actual toxic hazard at a specific site can be concluded only when government authorities make that determination or when that conclusion is fully documented by the findings of an appropriate site investigation undertaken by licensed professionals.

The resulting database information is briefly summarized below. Complete copies of the database report and radius maps are included in Appendix B. Additional site-specific information was requested elsewhere by CA RICH under the provisions of the Freedom of Information Law (FOIL). As part of the newly issued ASTM E 1527-13, nearby properties that present an environmental threat to the Site should be the subject of FOIL requests to Federal, State, and local environmental agencies along with a regulatory review. Based upon the information reviewed there does not appear to be a threat to the subject Property from neighboring properties; therefore, requests were not made for off-site properties.

6.1 Federal

The number of ASTM federally-listed database sites identified in proximity to the Property is tabulated below. The search categories and database review findings are discussed in greater detail below the summary table.

Federal ASTM Database Search Category	Approx. Minimum Search Distance	Subject Property	Total Sites Plotted
EPA National Priority List Sites (NPL)	1.0 mile	Not identified	0
EPA DELISTED NPL	1.0 mile	Not identified	0
EPA CERCLIS Sites	0.50 mile	Not identified	0
EPA CERCLIS-NFRAP	0.50 mile	Not identified	0
CORRACTS	1.0 mile	Not identified	1
RCRIS-TSD	0.50 mile	Not identified	0
RCRIS Lg. Quan. Gen.	0.250 mile	Not identified	1
RCRIS Sm. Quan. Gen.	0.250 mile	Not Identified	2
RCRA-CESQG	0.250 mile	Not Identified	4
ERNS	TP	Not identified	0
FINDS	TP	Not identified	0
CONSENT	1.0 mile	Not identified	0
ROD	1.0 mile	Not identified	0
US ENG CONTROLS	0.50 mile	Not identified	0
US INST ENG CONTROL	0.50 mile	Not identified	0
US Brownfield	0.50 mile	Not identified	1

- **EPA Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS), National Priorities List (NPL)**

The CERCLIS list is a compilation by the USEPA of sites that the USEPA has investigated or is currently investigating for a release or threatened release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), commonly known as the Superfund Act. Once sites are designated on the CERCLIS list, the USEPA uses its Hazard Ranking System to determine potential risks to human health and the environment. Those CERCLIS sites that present the greatest risk are placed on the National Priority List (NPL), which qualifies the sites to receive remedial funding.

The subject Property was not identified as a CERCLIS or NPL site. There are no CERCLIS or NPL sites located within the minimum search distance from the Property.

- **Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), No Further Remedial Action Planned (NFRAP)**

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was quickly removed without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat these investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities; states, private investors and affected citizens promote economic redevelopment of unproductive urban sites.

The subject Property is not identified as a CERCLIS-NFRAP site. There are no CERCLIS-NFRAP sites reported within the minimum search distance from the Property.

- **Delisted National Priority List (Delisted NPL)**

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425. (e), sites may be deleted from the NPL where no further response is appropriate.

The subject Property does not appear as a Delisted NPL site and there are no Delisted NPL sites located within the approximate search radius from the Property.

- **Corrective Action Activity (CORRACTS)**

CORRACTS is a list of handlers with RCRA Corrective Action Activity. It reports which nationally defined corrective action core events have occurred for every handler that has had a corrective action activity.

The subject Property is not identified as a CORRACTS site. There is one CORRACTS site located within the minimum search distance. The site is identified as American Bank Note Company, Bronx Plating. The site is also listed in the RCRA-TSDF, RCRA NonGen, RAATS, and the NY Manifest databases. The Corrective Action Process was terminated on 4/26/2012 and No Further Action is warranted at the site. The site did have violations historically that included, written informal and compliance violations from the EPA. The site previously disposed of heavy metals and solvents from cleaning tubes. The site does not presently dispose of hazardous waste and does not pose a threat to human health or the environment. Based on this

information and the location of the property nearly 1-mile away from the subject Property, it is not expected to have a negative impact on the Property.

- **Resource Conservation and Recovery Act (RCRA) (RCRIS-TSD)**
  Large and Small Quantity Generators (LQG/SQG)
  Conditionally Exempt Small Quantity Generators (CESQGs)

RCRA was enacted to regulate facilities that generate, store, transport, or dispose of hazardous waste. These facilities must file notification forms with the EPA, which maintain the records in the RCRA Information System (RCRIS) Notifiers database. Inclusion on the RCRIS list does not signify contamination or mishandling of hazardous materials by hazardous waste Notifiers. RCRIS-listed sites are not indicative of an environmental concern unless an actual hazard is known to exist. The database includes selective information on sites which generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

The subject Property is not listed as a LQG/SQG. There is one LQG and two SQG located within the approximate search radius. The LQG is identified as Rite Aid # 7909 and has no violations listed. The two SQG's are identified as NYC Department of Education PS157 and De Colores Cleaners, these sites do not have any violations identified.

The subject Property is not listed as a RCRA-CESQG. There are four RCRA-CESQG sites listed within the approximate search radius from the Property. These site are identified as, MTA NYCT-Jackson Ave Station, Con Edison Manhole #9475, Hong Cleaners, and Rite Aid #7848. These sites do not have any violations identified in the database.

- **Emergency Response Notification System (ERNS)**

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. Pursuant to the ASTM Practice E 1527-13, the ERNS database is searched only for the subject Property.

The subject Property is not identified in the U.S. EPA ERNS database.

- **Facility Index System/Facility Identification Initiative Program Summary Report (FINDS)**

The Facility Index System (FINDS) contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

The subject Property is not identified in the U.S. EPA FINDS database.

- **Records of Decision (ROD)**

ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid cleanup.

The subject Property is not identified in the U.S. ROD database. There are no ROD sites located within the minimum search radius.

- **EPA CERCLIS Consent Order**

A signed Order on Consent signifies major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites.

There have been no Federal Consent Orders signed with respect to the subject Property.

- **US Engineering (ENG) Controls**

The US Engineering Controls Site List is a listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

There are no documented Engineering Controls listed for the subject Property. There are no Engineering Controls sites within the minimum search radius of the Property.

- **US Institutional (INST) Controls**

The US Institutional Controls List is a listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

There are no documented Institutional Controls listed for the subject Property. There are no Institutional Controls sites within the minimum search radius of the Property.

- **US Brownfield**

The US Brownfields is an EPA listing of Brownfield properties from the cleanups in NY Community program, which provides information on Brownfield properties for which information is reported back to the EPA, as well as areas served by Brownfield Grant Programs.

The subject Property is not listed on the US Brownfield list. However, there is one US Brownfield property listed in the database. The site is identified as Bronxchester Urban Renewal Area, which is a one acre property noted as historically contaminated. The Bronxchester Urban Renewal Area is located .0122 miles from the subject Property. However, the existence of this area is not expected to have a negative impact on the subject Property.

6.2 State and Tribal

The numbers of state-listed database sites identified in proximity to the Property are tabulated below. The search categories and database review findings are discussed in greater detail below the summary table.

State ASTM Database Search Category	Approx. Minimum Search Distance	Subject Property	Total Sites Plotted
NYS Inactive Hazardous Waste Sites (SHWS)	1.0 mile	Not identified	0
NYS Solid Waste Disposal Sites or Landfills (SWF/LF)	0.50 mile	Not identified	0
NY Vapor Reopened	1.0 mile	Not identified	0
NYS Leaking Underground Storage Tanks (LTANKS)	0.50 mile	Not identified	36
NYS HIST LTANKS	0.500 miles	Not identified	0
NYS Registered Storage Tank (UST)	0.250 mile	Not identified	6
NYS Chemical Bulk Storage Facilities (CBS UST)	0.250 mile	Not identified	0
NYS Major Oil Storage Facilities (MOSF UST)	0.50 mile	Not identified	0
NYS Hazardous Substance Waste Disposal Sites (HSWDS)	0.50 mile	Not identified	0
NYS Registered Storage Tank (AST)	0.250 mile	Not identified	26
NYS Chemical Bulk Storage Facilities (CBS AST)	0.250 mile	Not identified	0
NYS Major Oil Storage Facilities (MOSF AST)	0.50 mile	Not identified	0
NY Spills (NY SPILLS)	0.125 mile	Identified	6
NY Hist SPILLS	0.125 mile	Not identified	0
NY Brownfield	0.50 mile	Not identified	9
ENG Controls	0.50 mile	Not identified	6
INST Control	0.50 mile	Not identified	6
NY Dry Cleaner	0.25 mile	Not identified	3
Historic Auto Station	0.25 mile	Not identified	3

- **New York State Inactive Hazardous Waste Sites (SHWS)**

New York State Department of Environmental Conservation (NYSDEC) publishes an annual directory of Inactive Hazardous Waste Disposal Sites currently being investigated or requiring investigation. Sites are assigned a Classification number from 1 to 5. Class 1 sites are believed to be an imminent danger to the public health or environment and Class 5 sites have been properly closed and require no further action.

The subject Property does not appear as a NYS-Inactive Hazardous Waste Site. There are no SHWS sites located within the minimum search radius

- **New York State Landfills**

State landfill records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

The subject Property is not identified as a solid waste disposal facility or landfill and there are no documented landfills within the approximate search radius.

- **New York State LUST Sites (LTANKS), Historical (HIST LTANKS), Spills (SPILLS), and Hist SPILLS**

The Leaking Storage Tank Incident Reports contain an inventory of reported leaking storage tank reported from April 1, 1986 through the most recent update. Causes of the incidents include tank test failures, tank failures and tank overfills or releases determined during the removal of USTs that have leaked.

The subject Property is not identified on the LTANKS, HIST LTANKS, or HIST SPILLS lists. The subject Property is listed on the NY Spills database. The NYSDEC Spill number for the subject Property is 1407081 and was Closed on 11/12/2014. The Spill details describe, motor oil spilled onto soil at the Property due to poor housekeeping from a passenger vehicle during an oil change being conducted on the neighboring property. The property owner witnessed someone dump waste motor oil that later seeped onto the subject Property. The spiller cleaned up the motor oil and this Spill was closed. According to the database a court date was set for the spiller on 1/2/2015.

There are 36 LTANKS, no HIST LTANKS, six NY SPILLS, and no HIST SPILLS identified within the approximate search radius from the Property. All of the off-site LTANKS and SPILLS sites identified have been closed out to the satisfaction of the New York State Department of Environmental Conservation, or are undergoing corrective action. The still open spills are summarized below:

1. NYSDEC # 0904507 – Tank test failure of a # 2 fuel oil tank located .308-mile from the subject property at a higher elevation. According to the database, no spill occurred; caller was reporting a tank test failure only.

2. NYSDEC # 9807441 – Tank test failure from a # 2 fuel oil tank located .489-miles from the subject Property at a higher elevation. The spill is listed as affecting the soil.

3. NYSDEC # 9416142 – Tank test failure from a # 2 fuel oil tank located .491-miles from the subject Property at a higher elevation. The spill is listed as affecting the soil.

4. NYSDEC # 9412263 – Tank test failure from a # 2 fuel oil tank located .315-miles from the subject Property at a lower elevation. The spill is listed as affecting the soil.

5. NYSDEC # 9501356 – Impacted soil identified during a tank removal located .384-miles from the subject Property at a lower elevation. The spill is listed as affecting the soil.

6. NYSDEC # 8801261 – Tank test failure from a gasoline oil tank at a gasoline station located .456-miles from the subject Property at a lower elevation. The spill is listed as affecting the groundwater.

- **New York State Registered Storage Tank List (UST/AST)**

New York State requires the registration of all bulk petroleum storage tank facilities with a combined storage capacity that is greater than 1,100 gallons and less than 400,000 gallons.

The subject Property is not identified on the UST or the AST list. There are six UST and 26 AST sites located within the approximate search radius of the subject Property. The existence of these sites is not expected to have a direct negative impact on the subject Property.

- **New York State Chemical Bulk Storage Facilities (CBS UST/AST)**

New York State requires the registration of all facilities storing hazardous substances listed in 6 NYCRR Part 597, in aboveground tanks with capacities of 185-gallons or greater, and/or in underground tanks of any size. The presence of Chemical Bulk Storage facilities does not indicate an area of environmental concern unless the tanks have leaked product into the subsurface.

The subject Property is not identified as a CBS UST/AST site and there are no CBS UST or CBS AST sites located within the approximate search radius from the Property.

- **New York State Major Oil Storage Facilities (MOSF UST/AST)**

These are facilities that may be onshore facilities or vessels, with petroleum storage capacities of 400,000 gallons or greater.

The subject Property is not identified on the MOSF UST/AST list and there are no MOSF USTs or MOSF AST sites located within the approximate search radius from the Property.

- **New York State Hazardous Substance Waste Disposal Sites (HSWDS)**

The Hazardous Substance Waste Disposal Site Inventory includes any known or suspected hazardous substance waste disposal sites. Also included are sites delisted from the Registry of Inactive Hazardous Waste Disposal Sites and non-registry sites which the U.S. EPA Preliminary Assessment reports or Site Investigation reports were prepared.

The subject Property is not identified as a HSWDS site. There are no documented HSWDS sites reported within the approximate search radius from the Property.

- **New York Brownfield**

The US Brownfields is a listing of Brownfield properties currently or historically in the brownfield program. The database includes properties in various stages of the program.

The subject Property is not identified as a NY Brownfield site. However, there are nine (9) documented NY Brownfield sites reported within the approximate search radius from the Property. The existence of these sites is not expected to have a negative impact on the subject Property. The sites are identified as; New Housing New York Legacy Project, Cornerstone Site B1, Bronxchester urban Renewal Site, Parkview Commons, Elton Crossing, Courtlandt Corners II, Lot 52 Tax Block 2408, Lot 5 Tax Block 2407; and Courtlandt Corners II off-site.

- **Engineering (ENG) Controls**

The Engineering Controls Site List is a listing of sites with engineering controls in place.

No Engineering Controls are listed for the subject Property. There are six (6) documented Engineering Controls reported within the approximate search radius from the Property. The engineering controls are summarized below:

1. New Housing New York Legacy Project – Composite cover system and vapor barrier

2. Cornerstone Site B1 – Composite cover system, vapor barrier, and groundwater pump and treat system

3. Parkview Commons – Composite cover system, vapor barrier, and Sub-Slab Depressurization System (SSDS)

4. Courtlandt Corners II – Composite cover system, vapor barrier, and SSDS

5. Lot 52, Tax Block 2408 – Composite cover system, vapor barrier, and SSDS

6. Lot 5, Tax Block 2407 - Composite cover system, vapor barrier, and SSDS

- **Institutional (INST) Controls**

The Institutional Controls List is a listing of sites with institutional controls in place.

No Institutional Controls are listed for the subject Property. There are six (6) documented Institutional Controls reported within the approximate search radius from the Property summarized below:

1. New Housing New York Legacy Project – Land Use Restriction, groundwater restriction, monitoring plan, soil management plan, site management plan, environmental easement, IC/EC plan and O&M Plan

2. Cornerstone Site B1 – Site management plan, monitoring plan, O&M Plan, IC/EC Plan, landuse restriction, soil management plan, groundwater restriction and environmental easement

3. Parkview Commons – Site management plan, monitoring plan, O&M Plan, IC/EC Plan, landuse restriction, soil management plan, groundwater restriction and environmental easement

4. Courtlandt Corners II – Site management plan, monitoring plan, O&M Plan, IC/EC Plan, landuse restriction, soil management plan, groundwater restriction and environmental easement

5. Lot 52, Tax Block 2408 – Site management plan, monitoring plan, O&M Plan, IC/EC Plan, landuse restriction, soil management plan, groundwater restriction and environmental easement

6. Lot 5, Tax Block 2407 - Site management plan, monitoring plan, O&M Plan, IC/EC Plan, landuse restriction, soil management plan, groundwater restriction and environmental easement

- **NY Drycleaners**

The NY Drycleaners is a listing of all registered dry cleaning facilities.

The subject Property is not listed as a registered dry cleaning facility; however there are three dry cleaning facilities located nearby which are identified as De Clolores Cleaners, Hong's Cleaners and EJ Cleaners. There are no violations listed in the database records. There are no violations listed for De Colores Cleaners or EJ Cleaners. Hong's Cleaners is also listed as an historic cleaner as it is no longer operational.

- **Historic Auto Station**

The Historic Auto Stations is a listing of potential gas station/filling station/service stations. Categories included but are not limited to gas, gas station, gasoline station, filling station, auto, auto service station, etc.

The subject Property is not listed as an Historic Auto Station. There are three Historic Auto Stations listed in the database. They are located at 692 Eagle Avenue, 800 Saint Anns Avenue, and 3045 3rd Avenue.

- **Historic Dry Cleaners**

The Historic Dry Cleaner database is a list of potential dry cleaner sites from historical records located by EDR.

The subject Property is not listed as a Historical Dry Cleaner. There are six Historic Dry Cleaner Sites located within the approximate search radius. The addresses include, 843 Trinity Avenue, 3060 3rd Avenue, 613 Westchester Avenue, 607 Westchester Avnue,727 Westchester Avenue, 486 East 159th Street.

- **Orphan Sites**

The Federal and State database records search also revealed the presence of 4 sites that were not mapped. These sites are listed in the Executive Summary on page 480 of Appendix B. Based on the limited information reviewed for this report, there is no indication that these Orphan Sites represent a significant environmental liability to the subject Property.

6.3 Local

New York State Department of Environmental Conservation (NYSDEC)

CA RICH conducted a site-specific search via the NYSDEC on-line records for information regarding spills or leaks at the Site. No opened or closed spill numbers were identified for the Site. A copy of the on-line search records is included in Appendix D.

New York City Department of Environmental Protection (NYCDEP)

CA RICH requested a site-specific search via the Freedom of Information Law (FOIL) of the New York City Department of Environmental Protection (NYCDEP) records for information regarding bulk storage tanks, violations, spills, leaks, inspections, and solid waste. CA RICH has received a response from the NYCDEP indicating that there are no records on file. A copy of the FOIL request and the response is included in Appendix D.

New York City Department of Health (NYCDOH)

CA RICH requested a site-specific search via the Freedom of Information Law (FOIL) of the New York City Department of Health (NYCDOH) records for information regarding bulk storage tanks, violations, spills, leaks, inspections, and solid waste. CA RICH has received a response from the Department indicating that there are no records on file. A copy of the FOIL request and Department FOIL response is included in Appendix D.

New York City Department of Buildings (NYCDOB)

CA RICH conducted a search of the New York City Department of Buildings (NYCDOB) building information search database for 600 East 156th Street, Block: 2624; Lots: 41 and 48-52. The lots are identified as follows:

Lot: 41 - E9-Warehouse
Lot: 48 – G6-Garage/Gas Station
Lot: 49 - G6-Garage/Gas Station
Lot: 50 - G6-Garage/Gas Station
Lot: 51 - G6-Garage/Gas Station
Lot: 52 - G6-Garage/Gas Station

There is one open violation on Lot 41 listed as 'construction' and dated, 12/21/2000. There are no other open violations listed under other tax lots. A Certificate of Occupancy (CO) is listed in the database for the Property from 1921 for Lot 41 for use as a private garage. A CO from 1948 for Lot 45 (now Lot 41) listed in the database for a ground floor storage and bathroom. A CO from 1952 for Lots 41 and 45 described occupancy as a basement and first floor factory and office with approval for fuel oil tank installation. A temporary CO is listed from 2001 for Lot 41 in the database as a public parking garage, an unoccupied factory, and accessory offices. A CO is listed in 2002 for Lots 41 and 58-52 as a public parking garage, dead storage, warehouse and offices, and an open parking lot, as it is today. These NYCDOB records are included in Appendix D.

New York City Searchable Property Environmental E-Database (SPEED)

CA RICH conducted a search of the New York City searchable property environmental database for the Site. The database indicated that the Property is located in a Brownfield Opportunity Area (BOA) and in a New York State Environmental Zone (EN Zone).

New York City Department of Finance (NYCDOF)

CA RICH conducted a search of the New York City Department of Finance (NYCDOF) ACRIS database for the subject Property.

Block: 2624; Lot: 41

According to the database, the deed was transferred from Peters Novelty Manufacturing to BP Industries in 1980, from BP Industries to Jagdat Singh in 1985, and from Jagdat Singh to 600 East 156th Street Corp in 1988.

Block: 2624; Lots: 48

According to the database, the deed was transferred from Jorge Colon to Rosa Negron in 1967, from NYC to Singh Jagdat in 1986, and from Singh Jagdat to 600 East 156th Street Corp. in 1988.

Block: 2624; Lots: 49

According to the database, the deed was transferred from NYC Dept. of Finance to Peters Novelty manufacturing in 1973, from Peters Novelty Manufacturing to Bronx Baptist Church in 1980, from Bronx Baptist Church to NYC in 1986, from NYC to Singh Jagdat in 1986, and from Singh Jagdat to 600 East 156th Street Corp. in 1988.

Block: 2624; Lots: 50

According to the database, the deed was transferred from the City of New York to Singh Jagdat in 1986 and from Singh Jagdat to 600 East 156th Street Corp. in 1988.

Block: 2624; Lots: 51

According to the database, the deed was transferred from Aaron Tepper to Meltep Realty in 1966, the to the City of New York in 1972, from NYC to Singh Jagdat in 1986, and from Singh Jagdat to 600 East 156th Street Corp. in 1988.

Block: 2624; Lots: 52

According to the database, the deed was transferred from Vincent Lanza to David Medina in 1972, from David Medina to the City of New York in 1977, the NYC to Singh Jagdat in 1986 and

from Singh Jagdat to 600 East 156th Street Corp. in 1988. Copies of these records are included in Appendix D.

New York City Fire Department (NYCFD)

CA RICH requested a site-specific search via the Freedom of Information Law of the New York City Fire Department (NYCFD) records for information regarding bulk storage tanks, violations, spills, leaks, inspections, and solid waste. CA RICH has received a response from the Department, and was informed no records were found for the subject Property. A copy of the FOIL request is included in Appendix D.

6.4 Vapor Encroachment Survey (VES)

A Tier 1 Vapor Encroachment Survey (VES) was conducted. The field inspection identified two suspect pipes that if confirmed as UST's could present a vapor encroachment condition at the subject Property.

The EDR database (Appendix B) was used to aid in identifying neighboring properties that may present a vapor encroachment condition. A review of the database identified the following Spills:

The subject Property is not identified on the LTANKS, HIST LTANKS, or HIST SPILLS lists. The subject Property is listed on the NY Spills database. The NYSDEC Spill number for the subject Property is 1407081 and was closed on 11/12/2014. The spill details described a, motor oil spill onto soil at the Property due to poor housekeeping from a passenger vehicle during an oil change being conducted on the neighboring property. The Property owner witnessed someone dump waste motor oil that later seeped onto the subject Property. The spiller cleaned up the motor oil and the spill was Closed. According to the database, a court date was set for the spiller on 1/2/2015.

There are 36 LTANKS, no HIST LTANKS, six NY SPILLS, and no HIST SPILLS identified within the approximate search radius from the Property. All of the off-site LTANKS and SPILLS sites identified have been closed out to the satisfaction of the New York State Department of Environmental Conservation or are undergoing corrective action. The remaining still open spills are summarized below:

1. NYSDEC # 0904507 – Tank test failure of a # 2 fuel oil tank located .308-mile from the subject property at a higher elevation. According to the database, no spill occurred; caller was reporting a tank test failure only.

2. NYSDEC # 9807441 – Tank test failure from a # 2 fuel oil tank located .489-miles from the subject Property at a higher elevation. The spill is listed as affecting the soil.

3. NYSDEC # 9416142 – Tank test failure from a # 2 fuel oil tank located .491-miles from the subject Property at a higher elevation. The spill is listed as affecting the soil.

4. NYSDEC # 9412263 – Tank test failure from a # 2 fuel oil tank located .315-miles from the subject Property at a lower elevation. The spill is listed as affecting the soil.

5. NYSDEC # 9501356 – Impacted soil identified during a tank removal located .384-miles from the subject Property at a lower elevation. The spill is listed as affecting the soil.

6. NYSDEC # 8801261 – Tank test failure from a gasoline oil tank at a gasoline station located .456-miles from the subject Property at a lower elevation. The spill is listed as affecting the groundwater.

Based on the Fire Insurance Sanborn maps from 1935 to at least 1944 the Property was a garage with 2-550 gallon buried gasoline tanks. The 1947 map then shows the usage as a brewery but does not show the buried tanks. The 1951 Sanborn map then indicates that the usage is W.G Skylight which again does not show the buried tanks.

The City Directory indicates that the building was occupied by Garage Corp from 1927 to at least 1940. Additionally, it indicates that an Erection and Steel Partition Company occupied the building from 1956-1961. The NYCDOB records indicate that the subject property is now identified a G6 garage/gas station and E9 Warehouse. They also indicate that in 1952 the Property was a factory. The NYCDOF records indicate that Tax Lot 41 in 1980 was a manufacturer and in 1985 was owned by BP Industries and Tax Lot 49 was a manufacturer.

Based upon the field inspection and the aforementioned database review, a vapor encroachment condition cannot be ruled out for this site.

7.0 ADDITIONAL SERVICES

7.1 Asbestos

Until the late 1970s, asbestos was used in, but not limited to, insulating materials, fire proofing, roofing, flooring, and decorative building materials. The U.S. EPA defines asbestos material as any material containing greater than 1-% asbestos by weight. Asbestos-Containing Materials (ACM), in a form which can crumble or be reduced to powder under hand pressure (friable), can release asbestos fibers which are proven to be carcinogenic and cause respiratory illness. The presence of asbestos in a building does not mean that the health of building occupants is necessarily endangered. As long as ACM remains in good condition and is not disturbed, exposure to asbestos fibers is unlikely.

Based upon the age of the building asbestos is likely present in some of the building materials especially in the lower layers of the tar roofing material and pipe insulation. This is not considered a REC. However, if the building is to undergo any renovation or demolition in the future that may disturb suspect ACM, then an asbestos survey should be conducted prior to such activity. At the time of inspection, no suspect ACM was identified.

7.2 Radon Gas

Radon is a naturally occurring, invisible, odorless, carcinogenic gas that is generated by the decay of radioactive elements found in certain crystalline rock types or derivatives thereof. Inhalation of radon gas represents the principal exposure pathway. In outdoor air, radon is diluted to such low concentrations that it does not pose a health hazard. However, once inside an enclosed space such as basements, pipe chases, drains and foundation crawl spaces, radon gas may accumulate to dangerous concentrations. The New York State Department of Health and the United States Environmental Protection Agency use 4 pCi/L as a recommended action level for the lowest primary living area of the home. Confirmation of the presence or absence of radon gas is possible through testing.

Our review of geologic maps prepared by the United States Geological Survey and the findings of an EPA Residential Radon Survey (Appendix B, page A-17) revealed that the Property is located in an area identified as Zone 3, which indicates that the average indoor living area levels of radon are below the action level of 4 pCi/L. The potential for naturally-occurring radon gas contamination at the Property is unlikely.

7.3 Lead-Based Paint

Research has shown that, when ingested, lead can cause permanent neurological problems and brain damage. Federal regulations were promulgated in 1978 that ban the sale of paint containing more than 0.06 percent lead by weight. Consequently, any paint known to contain lead in excess of 0.06 percent is considered to be lead-based.

Based on the age of the building it is possible that lead may be present in covered layers of paint on the walls and ceilings. This is not considered a REC. However, if the building is to undergo any renovation or demolition in the future that may disturb suspect lead-based paint, then a survey should be conducted prior to such activity. At the time of inspection no peeling paint was identified in the building.

8.0 FINDINGS AND PROFESSIONAL OPINION

The property is located at 600 East 156th Street, in the Bronx, New York and is situated between Eagle Avenue and Cauldwell Avenue along the south side of East 156th Street. The Property is improved with an asphalt parking lot on the corner of Cauldwell Avenue and East 156th Street and a building that is split into a one-story portion that does not have a basement and two-story section that does include a small basement. The building is currently occupied by Visual Effects, IND. which is a distributor of lighting equipment on the second floor and a parking lot attendant which occupies the first floor and the parking area. The one-story portion of the Property was vacant at the time of inspection for repairs, but is typically used for storage.

The building is heated by natural gas and the Property is connected to municipal sewer and water.

Based on the Fire Insurance Sanborn maps from 1935 to at least 1944, the Property was a garage with two-550 gallon buried gasoline tanks. The 1947 map then shows the usage as a brewery but does not show the buried tanks. The 1951 Sanborn map then indicates that the usage is W.G Skylight which again does not show the buried tanks. It is recommended that a GPR survey be conducted to locate any suspect buried tanks.

The City Directory indicates that the building was occupied by Garage Corp from 1927 to at least 1940. Additionally, it indicates that an Erection and Steel Partition Company occupied the building from 1956-1961. The NYCDOB records indicated that the subject property is now identified as G6 garage/gas station and E9 Warehouse. The New York city Department of Building records indicate that in 1952 the property was a factory. The New York City Department of Finance records indicate that Tax Lot 41 in 1980 was a manufacturer and in 1985 was owned by BP Industries, and Tax Lot 49 was a manufacturer. Based on the historical usage of the Property a Phase II Investigation is recommended.

The historical database search indicates that the surrounding area includes multiple, brownfields, dry cleaners, engineering controls, institutional controls, historical auto stations, historical dry cleaners. Based on the usage of the surrounding area and the historical usage of the subject Property, it is recommended that a vapor encroachment study be conducted at the subject Property.

9.0 CONCLUSIONS

We have performed this Phase I Environmental Site Assessment Update in conformance with the scope and limitations of ASTM Practice E 1527-13. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. Based upon the information reviewed for this Phase I ESA, we did identify the following "Recognized Environmental Conditions" (RECs) in connection with the subject Property. Additionally, other issues (OI) were identified that do not meet the criteria to be identified as RECs, and are also summarized below.

REC-1 Based on the Fire Insurance Sanborn maps from 1935 to at least 1944, the Property was a garage with two-550 gallon buried gasoline tanks. The 1947 map then shows the usage as a brewery but does not show the buried tanks. The 1951 Sanborn map then indicates that the usage is W.G Skylight which again does not show the buried tanks. It is recommended that a GPR survey be conducted to locate any suspect buried tanks.

REC-2 The City Directory indicates that the building was occupied by Garage Corp from 1927 to at least 1940. Additionally it indicates that an Erection and Steel Partition Company occupied the building from 1956-1961. The NYCDOB records indicated that the subject property is now identified as G6 garage/gas station and E9 Warehouse. The New York city Department of Building records indicate that in 1952 the property was a factory. The New York City Department of Finance records indicate that Tax Lot 41 in 1980 was a manufacturer and in 1985 was owned by BP Industries, and Tax Lot 49 was a manufacturer. Based on the historical usage of the Property a Phase II Investigation is recommended.

REC-3 The historical database search indicates that the surrounding area includes multiple, brownfields, dry cleaners, engineering controls, institutional controls, historical auto stations, historical dry cleaners. Based on the usage of the surrounding area and the historical usage of the subject Property, it is recommended that a vapor encroachment study be conducted at the subject Property.

OI-1 Based on the age of the structure, asbestos is likely present in some of the building materials especially in the underlying layers of the tar roofing materials, pipe insulation and vinyl-floor tiles. If the building is to be renovated or demolished, it is recommended that an Asbestos Containing Material (ACM) survey be performed and appropriate measures be taken to protect the health and safety of building occupants or workers during activities that may disturb the ACM. At the time of the inspection, no suspect ACM was identified.

OI-2 Based upon the age of the structure, lead-based paint is likely present in some of the building materials especially in the underlain lower layers of paint. If the building is to be renovated or demolished, it is recommended that a lead-based paint survey be performed. At the time of the inspection, no peeling paint was identified.

10.0 DECLARATIONS OF ENVIRONMENTAL PROFESSIONALS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed this all appropriate inquiry in conformance with the standards and practices set forth in 40 CFR Part 312.

CA RICH CONSULTANTS, INC.

Victoria Whelan, QEP, CPG
Assocciate

Reviewed by:

Richard J. Izzo, CPG
Vice President

PHASE II INVESTIGATION REPORT

600 ASSOCIATES, LLC
600 EAST 156TH STREET
BRONX, NEW YORK

December 2015

Prepared for:

600 Associates, LLC
902 Broadway, 13th Floor
New York, NY 10010-6033

Prepared by:

CA RICH CONSULTANTS, INC.
17 Dupont Street
Plainview, NY 11803-1614

December 11, 2015

600 ASSOCIATES, LLC.
902 Broadway, 13th Floor
New York, New York 10010

Attn: Mr. Michael Wadman, Vice President

Re: Phase II Investigation Report
600 Associates, LLC
600 East 156th Street
Bronx, New York

Dear Mr. Wadman:

CA RICH Consultants, Inc. (CA RICH) is pleased to provide you with this Phase II Investigation Report for the above-referenced project. This Report was prepared for 600 Associates, LLC. to support a New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) application.

If you have questions or require any additional detail, please do not hesitate to call our office.

Sincerely,

CA RICH CONSULTANTS, INC.

Victoria Whelan, QEP, CPG
Associate

Reviewed by:

Richard J. Izzo, CPG
Vice President

Attachments

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Phase II Investigation Report
600 Associates, LLC
600 East 156th Street
Bronx, New York

1.0 INTRODUCTION

The following Phase II Investigation Report was prepared by CA RICH Consultants, Inc. (CA RICH) of Plainview, New York on behalf of 600 Associates, LLC (600 Associates) relative to the planned residential redevelopment and improvement of Block: 2624, Lots: 41 and 48-52 in the Bronx, New York (hereinafter referred to as the 'Site').

600 Associates wishes to enter into a Brownfield Cleanup Program (BCP) Agreement with the New York State Department of Environmental Conservation (NYSDEC) to perform both additional investigation and remedial activities at the above-referenced Site. This Phase II Investigation was purposely designed to accompany the BCP Application for this Site, and was performed in substantive conformance with BCP requirements outlined in NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation (Ref. 1), 6 NYCRR Part 375 (Ref. 2) and the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York; October 2006 (Ref. 3).

The Phase II Investigation scope of work was developed based on a Phase I Environmental Site Assessment dated February 2015 (updated October 2015) conducted by CA RICH (Ref. 4).

2.0 PHYSICAL SITE CHARACTERISTICS

2.1 Site Description

The Site is located between Eagle Avenue and Cauldwell Avenue along East 156th Street. It is improved with an asphalt parking lot on the corner of Cauldwell Avenue and East 156th Street and a building that is split into a one-story portion that does not have a basement and two-story section that does include a small basement. The area is currently serviced with municipal sewers and water. The Site is located in a well-developed, mixed use residential/commercial section of the Bronx, New York, and occupies a residential (M1-1) zone. A Site Location Map is included as Figure 1; a Site Plan is included as Figure 2.

2.2 Site History

Sanborn® Maps, local directory records, and New York City Department of Building (NYCDOB) database records were reviewed and are summarized below.

Sanborn® Maps

The following table summarizes the findings of the Sanborn® map review.

Year	Description and Comments
1891	The subject Property appears to contain five two-story structures in the northwest corner of the Property. The surrounding area has minor developments including, a large brewery, residences, and a park to the north.
1903	The subject Property appears to be vacant. The surrounding area appears to be underdeveloped.
1908	The subject Property appears to have five dwellings along Cauldwell Avenue. The surrounding area appears to have been developed with more dwellings.
1935 & 1944	The subject Property appears to be a garage with 120 car capacity on the eastern portion that contains two 550-gallon gasoline tanks buried beneath the foundation. There is a furniture storage and warehouse in the middle tax lot. The eastern portion contains six dwellings, one is also a storefront. 612 and 614 East 156th Street appear to be vacant. The surrounding area appears to have more dwellings. The northern Sanborn Map has been excluded. Land usage to the north cannot be determined.
1947	The subject Property now contains Ebling Brewery in the location of the former garage (600-608 East 156th Street), lockers in the location of the former storage area (610 East 156th Street). The dwellings remain unchanged, and 612 and 614 East 156th Street appear to be vacant. There are apartment buildings located directly south and dwellings located to the east and west. The northern Sanborn Map has been excluded. Land usage to the north cannot be determined.
1951	The subject Property is identified as W.G. Skylights from 600-612 East 156th Street. The six dwellings remain unchanged and there continues to be two vacant tax lots in the middle of the Property. The surrounding areas to the south, east and west remain similar to 1947. The northern surrounding area includes Ebling brewery, machine shop, garage, bowling and offices.
1969 & 1970	The Sanborn Maps do not include the subject Property. The surrounding area to the north is included and shows a public school is now located directly across the street from the Property.
1977, 1978, 1980, 1981, & 1984	The western portion of the Property appears similar to 1951; however the eastern portion of the Property now appears to be vacant.
1986, 1989, 1991 & 1992	The subject Property appears to remain unchanged. The surrounding area appears to be more vacant in areas to the south, north and east with fewer dwellings than previous years.
1993	The subject Property appears to remain unchanged. The properties surrounding the subject Property appear to be under construction to the south, east and west for residential redevelopment.

1994, 1995, 1996, 1998, 2001, 2002, 2003, 2004, 2005, 2006 & 2007	The subject Property appears to remain unchanged. The properties surrounding the subject Property are mostly residential.

Local Directory

CA RICH conducted a review of available Local Directory records for the address of 600 East 156th Street, Bronx New York for the years 1927 through 2015. According to the database, the Property was listed as follows:

1927 – Zola Garage Corp.
1940 – Arvic Garage Corp.
1956 – Naparco Erection Corp. and National Steel Partition Company, Inc.
1961 – Naparco Erection Corp. and National Steel Partition Company, Inc.
1965 – Bantam Travelware Corp.
1993 – Gem Sound Corp.
2000 – Gem Sound Corp.
2005 – Gem Sound Corp. and Webster Parking. Inc.
2008 – 610 Eight Avenue Corp.; Gem Stone; and Webster Parking, Inc.

New York City Department of Buildings

CA RICH conducted a search of the New York City Department of Buildings (NYCDOB) building information search database for 600 East 156th Street, Block: 2624; Lots: 41 and 48-52. The lots are identified as follows:

Lot: 41 - E9-Warehouse
Lot: 48 – G6-Garage/Gas Station
Lot: 49 - G6-Garage/Gas Station
Lot: 50 - G6-Garage/Gas Station
Lot: 51 - G6-Garage/Gas Station
Lot: 52 - G6-Garage/Gas Station

A Certificate of Occupancy (CO) is listed in the database for the Property from 1921 for Lot 41 for use as a private garage. A CO from 1948 for Lot 45 (now Lot 41) listed in the database for a ground floor storage and bathroom. A CO from 1952 for Lots 41 and 45 described occupancy as a basement and first floor factory and office with approval for fuel oil tank installation. A temporary CO is listed from 2001 for Lot 41 in the database as a public parking garage, an unoccupied factory, and accessory offices. A CO is listed in 2002 for Lots 41 and 58-52 as a public parking garage, dead storage, warehouse and offices, and an open parking lot, as it is today.

2.3 Surrounding Land Use

The Site is located in a developed area consisting of a mixed-use of residential and commercial buildings.

Specific neighboring property usage is outlined below:

North: The Grove Hill Elementary Public School 157 (across E 156th Street)
South: Residential buildings
East: Residential buildings (across Cauldwell Avenue)
West: Restaurant and residential building (across Eagle Avenue)

2.4 Previous Environmental Reports

No previous environmental testing has been performed on the Site. Previous on-site environmental investigations are limited to the Phase I ESA conducted by CA RICH in February 2015 and updated October 2015 (Ref. 4). The Phase I ESA identified multiple Recognized Environmental Concerns (RECs) associated with the Site, summarized below:

REC-1 Based on the Fire Insurance Sanborn® maps from 1935 to at least 1944, the Property was a garage with two 550-gallon buried gasoline tanks. The 1947 map then shows the usage as a brewery but does not show the buried tanks. The 1951 Sanborn map then indicates that the usage is W.G Skylight which again does not show the buried tanks. It is recommended that a GPR survey be conducted to locate any suspect buried tanks.

REC-2 The City Directory indicates that the building was occupied by Garage Corp from 1927 to at least 1940. Additionally it indicates that an Erection and Steel Partition Company occupied the building from 1956-1961. The NYCDOB records indicated that the subject property is now identified as G6 garage/gas station and E9 Warehouse. The New York City Department of Building records indicate that in 1952 the property was a factory. The New York City Department of Finance records indicate that Tax Lot 41 in 1980 was a manufacturer and in 1985 was owned by BP Industries, and Tax lot 49 was a manufacturer. Based on the historical usage of the Property a Phase II Investigation is recommended.

REC-3 The historical database search indicates that the surrounding area includes multiple, brownfields, dry cleaners, engineering controls, institutional controls, historical auto stations, historical dry cleaners. Based on the usage of the surrounding area and the historical usage of the subject Property, it is recommended that a vapor encroachment study be conducted at the subject Property.

Additional issues not classified as RECs were also identified. These other Issues (OIs) are summarized below:

OI-1 Based on the age of the structure, asbestos is likely present in some of the building materials especially in the underlying layers of the tar roofing materials, pipe insulation and vinyl-floor tiles. If the building is to be renovated or demolished, it is recommended that an Asbestos Containing Material (ACM) survey be performed and appropriate measures be taken to protect the health and safety of building occupants or workers during activities that may disturb the ACM.

OI-2 Based upon the age of the structure, lead-based paint is likely present in some of the building materials especially in the underlain lower layers of paint. If the building is to be renovated or demolished, it is recommended that a lead-based paint survey be performed. At the time of the inspection, no peeling paint was identified.

The findings of the Phase I ESA were investigated as part of this Phase II Investigation.

3.0 SUMMARY OF WORK PERFORMED

3.1 Objectives

The objective of this Investigation was to:

1) Determine if soil, groundwater or soil vapor have impacted by the historical usage of the Property.

The Scope of Work of the Investigation included:

- Utility Clearance/Geophysical Survey;
- Soil Vapor Sampling and Analysis;
- Soil Sampling and Analysis; and
- Report Preparation.

3.2 Utility Clearance/Geophysical Survey

The New York City (NYC) One-Call Center, utility mark-out service, was notified of the soil boring and soil vapor point installation activities planned on the Site at least three business days prior to their commencement. All public underground utility line mark-outs were performed prior to the commencement of fieldwork.

An on-site geophysical investigation was conducted to determine if USTs, subsurface anomalies, or underground utility lines are present beneath the Site. The investigation included the sidewalk area along Eagle Avenue where a suspect vent pipe was identified during the Phase I Investigation walk through. The geophysical investigation used a combination of electromagnetic and ground penetrating radar (GPR) to locate any buried material beneath the surface of the Site.

The piping locations were traced but appeared to dead-end without confirmation of a tank location. Multiple interferences were observed in the field including, a six-inch-thick concrete

slab. The GPR was conducted inside of a parking garage, and bedrock is shallow across the Site ranging from 3 feet below grade to 13 feet below grade.

A copy of the Geophysical Survey is included in Appendix H.

3.3 Soil Gas and Air Sampling

On November 13, 2015, three temporary soil vapor points were installed throughout the Site in accordance with the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006 (Ref. 3). Soil vapor point locations are illustrated on Figure 3.

Soil vapor points were installed using a Geoprobe™. Each sub-slab soil vapor sampling point was placed two inches directly beneath the slab within unconsolidated fill or earth materials. The points were constructed of a stainless steel screen connected to ¼-inch stainless steel tubing. The annular space around the screened zone was filled with No. 2 Morie sand. The surface seal of the interior sampling points consisted of a bentonite seal.

On November 13, 2015, soil vapor samples were collected from each temporary soil vapor point in addition to an indoor air sample and an outdoor ambient air sample for comparison purposes. The soil vapor and air samples were obtained in accordance with the applicable guidance. Prior to sampling, three volumes of soil vapor were purged from each soil vapor point using an air sampling pump set to a rate of approximately 0.2 liters per minute. A bucket was then placed over the sample assembly and helium gas was used to enrich the atmosphere around the sample location in combination with real-time air monitoring (for helium) to verify that ambient air was not infiltrating the sampling assembly during purging and sampling.

Once it was confirmed that ambient air was not being drawn into the assembly, the stainless steel tubing was connected to the SUMMA canister and a soil vapor sample was collected. The indoor air sample and ambient air sample were also collected using SUMMA canisters. All samples were collected via a SUMMA canister set over an approximate 8-hour time period with a flow rate not exceed 0.2 liters per minute. Upon completion of sample collection, the canisters were disconnected and sealed for shipment to Alpha Analytical of Mahwah, New Jersey (an Environmental Laboratory Accreditation Program (ELAP) certified laboratory) for analysis of Volatile Organic Compounds (VOCs) via EPA method TO-15.

This method includes typical VOC compounds which present soil vapor concerns and is specified in the NYSDOH Soil Vapor Intrusion Guidelines. Analysis by the laboratory was performed at

dilutions due to hydrocarbon presence. Based on the dilutions the laboratory also performed testing via Selective Ion Monitoring (SIM) techniques to achieve NYSDEC detection levels for chlorinated compound detection.

A complete copy of the soil vapor data package is attached as Appendix B.

3.4 Soil Sampling

The Phase II Investigation included installation of soil borings in targeted locations across the Property to determine if the subsurface soils have been impacted by historical usage. On November 13, 2015, a CA RICH Environmental Scientist mobilized to the Site. A total of nine borings were advanced from the ground surface to bedrock utilizing a Geoprobe™ 6610DT direct-push drilling machine. Continuous soil samples were collected from the borings using dedicated five-foot long MacroCore sample tubes.

A shallow soil sample was collected from each boring at approximately 0-2 feet below grade and a second sample was collected from the soil exhibiting the highest degree of impact based upon both a visual inspection and PID readings and/or the deepest sample above the bedrock surface.

All reusable on-site sampling equipment was decontaminated between each use in the following manner: laboratory grade detergent and fresh water wash using a scrub brush, followed by two fresh water rinses and a final air dry. Gloves worn for sample handling were discarded between sample collections. A CA RICH scientist oversaw all soil boring activities; logged (characterized) the shallow fill lithology, and screened the earth materials (fill) samples with a photoionization detector (PID).

In addition, the following samples were collected for QA/QC purposes: one field blank per matrix and one duplicate sample. Each sample was placed in sterilized laboratory-supplied containers including encore samplers for VOCs. The sampled earth materials were settled and capped to EnCore that little or no headspace was present within the sample. The samples were stored on ice in an air tight cooler to preserve the samples at approximately 4º Celsius prior to and during shipment. All samples were uniquely identified, and all information associated with the samples were recorded utilizing standard chain-of-custody sampling protocols. Boring logs were generated for each borehole and are enclosed as Appendix A.

The samples were submitted to Alpha Analytical of Mahwah, New Jersey (an ELAP certified laboratory) for chemical analysis. All of the soil samples were analyzed for VOCs via EPA

Method 8260, Semi-Volatile Organic Compounds (SVOCs) via EPA Method 8270, pesticides via EPA Method 8081, Poly-Chlorinated Biphenyls (PCBs) via EPA Method 8082, and Target Analyte List (TAL) metals.

4.0 FINDINGS

4.1 Soil Vapor

The sub-slab soil vapor, indoor and outdoor air quality samples were collected concurrently at the Site over an 8-hour period on November 13, 2015. Various VOCs were detected in the sub-slab soil vapor and indoor air. The NYSDOH Decision Matrix Tables 1 and 2 were utilized to evaluate the sample results. The "decision matrices" have guideline levels for only seven compounds, which uses the sub-slab soil vapor and indoor air concentrations for comparison to determine the quality of the air and the appropriate action to take when elevated levels are encountered.

The sampling results are summarized on Table 1 and indicate the following:

- Carbon Tetrachloride was identified in the one of the soil vapor samples; SV-3 at .415 ug/m³. Carbon tetrachloride was also identified in the indoor air analytical results at 0.459 ug/m³. Utilizing the decision matrices, it indicated to take reasonable and practical actions to identify sources and reduce exposure.

- Benzene, Ethylbenzene, Toluene and Xylene or "BETX" are common indicator compounds for gasoline releases. Total BTEX at each location in the soil vapor samples resulted in totals of 508.5 ug/m³ in SV-1; 633.5 ug/m³ in SV-2; and 411.5 ug/m³ in SV-3. The same compounds were detected in the indoor air at a total BTEX concentration of 13.3 ug/m³. These same compounds were detected minimally in outdoor air sample at a total BTEX concentration of 1.14 ug/m³.

- Additional petroleum related compounds were identified in all three soil vapor samples, maximum concentrations include, 1,2,4-trimethylbenzene (37.4 ug/m³); 1,3,5-trimethylbenzene (9.68 ug/m³); 2,2,4-trimethylpentane (7,710 ug/m³); 2-butanone (22.7 ug/m³); n-hexane (187 ug/m³); cyclohexane (55.1 ug/m³); and heptane (125 ug/m³);

- Chlorinated solvent constituents were detected in the soil vapor samples including, tetrachloroethene at a maximum concentration in SV-3 of 5.14ug/m³; trichloroethene at a maximum concentration in SV-3 of 2.74ug/m³; dichlorodifluoromethane at a maximum

concentration of 2.63 ug/m³ in SV-2; and 1,1,1-trichloroethane at a maximum concretration of 3.61 ug/m³.

Soil vapor, indoor air, and ambient air sample locations are illustrated on Figure 3 and the analytical results are summarized on Table 1 and Figure 4. A copy of the laboratory report is included as Appendix B.

4.2 Soil

The site is underlain by medium grained sand and historical fill material from surface to bedrock. The bedrock ranged across the Property from a minimum of 3 feet below grade to 13 feet below grade.

Soils/fill materials were sampled at nine locations (SB-1 through SB-9). No elevated PID readings were recorded during the investigation activities. The laboratory analytical results were compared to their applicable 6 NYCRR Part 375 Unrestricted, Restricted and Residential Use Soil Cleanup Objectives (SCOs) (Ref. 2), and are summarized on Tables 2 through 6 and Figures 5, 6, and 7. The results indicated the following:

VOCs – Low level VOCs were detected but not at or above the applicable standards. However, SB-2 (0-2), SB-4 (9-10), and SB-5 (0-3) resulted in interference at the laboratory. Samples were run at a higher dilution resulting in detection limits about some standards; therefore the laboratory reported the Tentatively Identified Compounds (TICs) to identify older constituents. Total TICs for the impacted locations were, SB-2 (0-2) at 9,850ppb, SB-4 (9-10) at 87,800 ppb and SB-5(0-3) at 40,500ppb.

SVOCs – Multiple SVOCs were detected in the soil/fill materials throughout the Site. Nine SVOCs were detected above the applicable Restricted Residential SCOs including 2,6-dinitrotoluene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and 2-methylnaphthalene. Samples were run at a higher dilution resulting in detection limits above some standards; therefore, the laboratory reported the Tentatively Identified Compounds (TICs) to identify older constituents. Total TICs for the impacted locations were, SB-1 (0-2) at 2,900 ppb, SB-2 (0-2) at 38,100 ppb and SB-4(0-2) at 14,500ppb.

Pesticides – Four of the detected pesticides, including dieldrin, 4,4'-DDE, 4,4'-DDD, and 4,4'-DDT exceeded Part 375 Unrestricted Use SCOs. No pesticide detections exceeded Restricted

Residential or Residential SCOs. The elevated pesticide detections were all on the exterior portion of the property along the parking lot.

PCBs – Three PCBs: aroclor 1248, aroclor 1254, and aroclor 1260 were noted in sample SB-7 (7'-8') above Unrestricted Residential Standards but below Restricted Residential standards. It should be noted that aroclor 1248 and aroclor 1254 were detected at 941 ppb and 929 ppb respectively which is near the Restricted Residential Standards of 1,000ppb.

Metals – The metals barium, copper, chromium, lead, mercury, nickel, iron, and zinc were detected above Unrestricted and Residential SCOs. However, most compounds were below the Restricted Residential Use SCOs with the exception of barium, in SB-3 (7-8), SB-4(0-2), SB-8(0-3) and SB-9(0-3); copper in SB-4(0-2); lead in (SB-3(0-2) and SB-3(7-8); and mercury in SB-3(0-2).

4.3 Third Party Review

CA RICH contracted Lori Beyer, of American Analytical Laboratories in Farmingdale, NY to review the laboratory results received. Ms. Beyer reviewed the laboratory data for the soil and soil vapor samples along with the chromatographs for the diluted samples. A summary of her review is presented below:

Soil

Soil volatile analytical results identified non-target aromatic hydrocarbons and alkanes in borings SB-2 (0-2 ft), SB-4 (9-10 ft) and SB-5 (0-3 ft). As a result of the high concentration of potentially weathered and unweathered gasoline contaminants present in the soil, the laboratory was required to perform analysis at high level and therefore, the reporting limits and non-detect values for several compounds in these samples exceed the NYSDEC SCOs for Unrestricted Use. SB-5 (0-3ft) also demonstrated 1,2-Dichloroethane, Benzene, Toluene and Xylenes above the Unrestricted Use SCOs. The source of 1,2-Dichloroethane is unknown and additional investigation would be required to determine the source of this compound identified in the soil sample since it has many industrial uses. Benzene, Toluene and Xylenes are likely due to gasoline presence and contamination at the site. Although several non-detects exceed the SCOs, the presence of Tentatively Identified Compounds (TICs) indicates that the soil is impacted with petroleum. TICs primarily consist of substituted naphthalene isomers and unknown aromatic benzene derivatives.

Soil VOC analytical results demonstrated unique challenges during analysis. The presence of heavier molecular weight hydrocarbons in locations SB-1 (0-3), SB-2 (0-2) and SB-4 (0-2) prohibited the laboratory meeting detection limits for some of the SCOs. Sample extracts could not be concentrated to the method required final volumes due to solidification of the sample during the concentration step. Non-target peaks were evaluated and it was determined that unknown PAHs and substituted naphthalene isomers are present in these soil samples.

Although several analytes detection could not be evaluated to the SCOs, all three of these locations yielded PAHs above the Unrestricted, Residential and Restricted Residential Use criteria. SB-3 (0-2) and SB-3 (7-8) also yielded PAHs above the SCOs.

Soil Vapor

As discussed in Section 3.3, soil vapor and indoor/ambient air samples were submitted to Alpha Analytical for VOC analysis via USEPA Method TO-15. Analysis by the laboratory was performed at dilutions due to hydrocarbon presence. The laboratory also performed testing via Selective Ion Monitoring (SIM) techniques to achieve NYSDEC detection levels for chlorinated compound detection. The results indicate the presence of both chlorinated solvent constituents and gasoline constituents.

The chromatographs attached in the requisite laboratory data packages, Appendices B and C.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

- The piping locations were traced using geophysical methods, but appeared to dead-end without confirmation of a tank location. Multiple interferences were observed in the field including, a six-inch-thick concrete slab. The GPR was conducted inside of a parking garage, and bedrock is shallow across the Site ranging from 3 feet below grade to 10 feet below grade.

- The subsurface soil/fill materials encountered at the Site generally consisted of concrete or asphalt at the surface followed by fill materials containing medium grained sand along with brick fragments. Bedrock was present at depths ranging from 3 to 13 feet across the Site beneath the overburden soil/fill. Twelve soil samples were analyzed from multiple depths across the Site. Results are indicative of an urban fill material beneath the current slab of the Property down to bedrock.

- VOC and SVOC soil analytical results indicate that petroleum contamination does exist in the subsurface. The results indicate that the contamination has been there for an extended period of time and has broken down. This resulted in mixed data as the compounds that are breakdown products caused interference in laboratory analysis. The TICs, lithology, chromatographs, and elevated SVOC detections are indicative of impacted soil from historical usage of the Site.

- Inorganic results for soil/fill samples indicate the presence of metals including barium, copper, chromium lead, mercury, nickel, iron, and zinc above Unrestricted and Residential SCOs with some detections exceeding Restricted Residential SCOs. When this soil is removed during construction activities, analysis for metals using the Toxicity Characteristic Leaching Procedure (TCLP) will be required to determine if hazardous levels of metals (specifically lead) exist.

- Three PCBs, aroclor 1248 and aroclor 1254, and aroclor 1260 were noted in sample SB-7 (7'-8') above Unrestricted Residential Standards but below Restricted Residential standards. It should be noted that aroclor 1248 and aroclor 1254 were detected at 941 ppb and 929 ppb respectively which is near the Restricted Residential Standards of 1,000ppb.

- Samples collected from each of the soil vapor points indicated the presence of petroleum related compounds as well as solvents in the soil vapor.

- Carbon Tetrachloride was identified in the one of the soil vapor samples; SV-3 at .415 ug/m³. Carbon tetrachloride was also identified in the indoor air analytical results at 0.459 ug/m³. Utilizing the decision matrices, it indicated to take reasonable and practical actions to identify sources and reduce exposure.

- The Site has historically been used as a garage with two 550-gallon buried gasoline tanks, a brewery, lighting manufacturer, steel partition company, warehouse, factory, manufacturer, and an auto garage. The Property was also identified as a garage/gas station in the New York City Department of Building records. These historical uses as well as the presence of fill ports, vent lines, suspect USTs, and the potential presence of hydraulic lifts are the contributing sources for the petroleum, solvent, metals, pesticides, and PCB contamination noted throughout the Site.

5.2 Recommendations

Based on the conclusions, CA RICH recommends the following:

- An application should be submitted to the NYSDEC for enrollment in the NYSDEC Brownfield Cleanup Program (BCP). Additionally, a Remedial Investigation Work Plan (RIWP) should be submitted to the NYSDEC once the BCP application is approved.

- The RIWP should include installation of groundwater monitoring wells within the fractured bedrock as groundwater was not encountered above the soil/bedrock interface during this investigation. A Remedial Investigation Report (RIR) should be submitted to the NYSDEC summarizing the investigation activities and include a Qualitative Exposure Assessment for contaminants of concern within all impacted media along with identified receptors.

- Lastly, based on the RIR, a Remedial Action Work Plan (RAWP) should be prepared for this Site. The RAWP should incorporate remediation of the Site concurrent with redevelopment. The RAWP should include the excavation and removal of impacted on-site soils/fill materials as needed for the proposed new buildings' foundation. In addition, groundwater monitoring and/or treatment along with engineering and institutional controls may be deemed necessary following completion of the Remedial Investigation. The RAWP should also include removal of any suspect USTs, hydraulic lifts, fill ports, and vents in accordance with NYSDEC regulations. Also, lead and asbestos should be tested and abated, if necessary, prior to building demolition, and all Construction and Demolition (C&D) debris should be properly disposed of in accordance with applicable regulations.

6.0 REFERENCES

1. NYSDEC. DER-10 Technical Guidance for Site Investigation and Remediation. New York: Author, issued May 3, 2010, effective June 18, 2010.

2. NYSDEC. 6 NYCRR Part 375 Environmental Remediation Programs, Environmental Remediation Programs, Subparts 375-1 to 375- 4 & 375-6. New York: Author, December 2006.

3. NYSDOH. Guidance for Evaluating Soil Vapor Intrusion in the State of New York. New York, Author, October 2006.

4. CA RICH. Phase I Environmental Site Assessment Report. New York: Author, February 2015 (updated October 2015).

APPENDIX III

TRANSPORTATION PLANNING FACTORS MEMORANDUM

Philip Habib & Associates
Engineers and Planners • 102 Madison Avenue • New York, NY 10016 • 212 929 5656 • 212 929 5605 (fax)

DRAFT TECHNICAL MEMORANDUM

TO: New York City Department of City Planning –
Environmental Assessment and Review Division

FROM: Philip Habib & Associates

DATE: October 11, 2016

PROJECT: 600 East 156th Street EAS

RE: Transportation Planning Factors

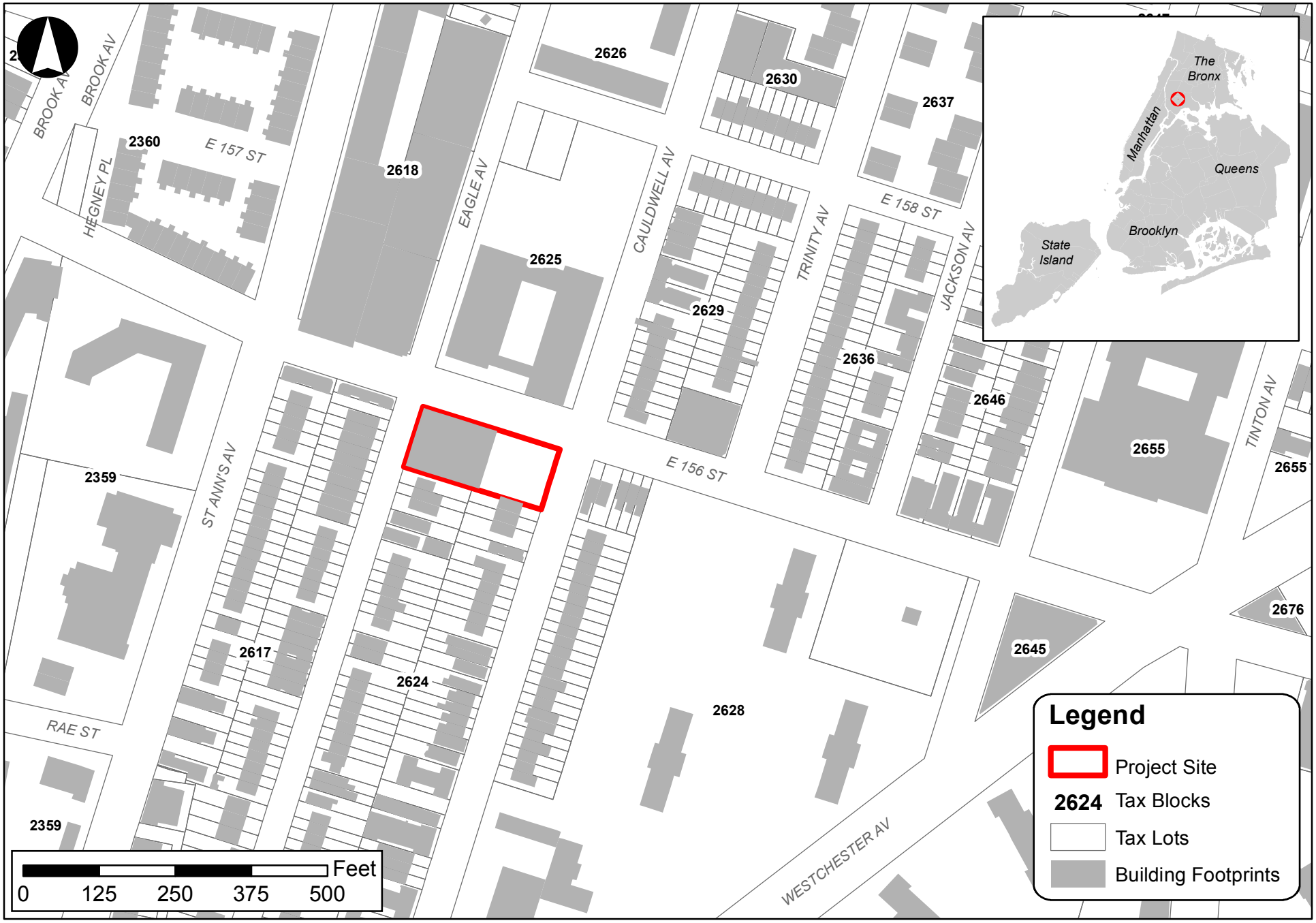
600 Associates LLC (the "applicant"), is seeking approval for zoning map and text amendments (the "proposed actions") that would affect an approximately 23,000-sf property in the Melrose neighborhood of the Bronx. Under the proposed actions, Bronx Block 2624, Lot 41 (the "project site") would be rezoned from M1-1 to R8A and would be established as a Mandatory Inclusionary Housing (MIH) – designated area. The proposed actions would facilitate the development of approximately 170 affordable dwelling units and an approximately 32,300-gsf charter school (the "proposed project"). The proposed project would not include accessory parking. The proposed project is expected to be operational in 2019. This memorandum summarizes the transportation planning factors to be used for the environmental assessment statement (EAS) analyses of traffic, parking, transit, and pedestrian conditions.

Project Site

As shown in **Figure 1**, the project site is fronted by East 156th Street to the north, Eagle Avenue to the west, and Cauldwell Avenue to the east. East 156th Street is a two-way two-lane roadway, while Eagle Avenue serves one-way southbound traffic, and Cauldwell Avenue serves one-way northbound traffic. The intersection of East 156th Street and Cauldwell Avenue and the intersection of East 156th Street and Eagle Avenue are both signalized.

The western portion of the project site is currently occupied by an approximately 22,750-sf two-story building that serves as a 90-space public parking garage, with second floor office space above; office space is also located within the approximately 2,7000-sf one-story eastern portion of the building. The second floor office space is currently unoccupied. The remainder of the project site is occupied by an open vehicle storage lot. The existing public parking garage is accessed via separate entries and exits on East 156th Street; access to the at-grade vehicle storage lot to the east is also provided via East 156th Street.

Land uses in the vicinity of the project site are predominantly residential. To the south, the project site abuts lots occupied by one- and two-family residential buildings, with multi-family residential buildings also located along Cauldwell and Eagle Avenues. Directly north of the project site is P.S. 157—Grove Hill Elementary School, and west of the project site are several residential buildings with ground floor retail.



600 East 156th Street TPF Memorandum

Figure 1
Project Location

As presented in **Figure 1**, several public transportation facilities serve the surrounding area. The Jackson Avenue (2/5) Station is located less than 0.2 miles to the southeast of the project site (on Westchester Avenue). The Bx4 and Bx4A also run along Westchester Avenue, with the closest bus stop to the project site located at the intersection of Westchester and Jackson Avenues. Both the Bx4 and Bx4A bus routes provide connections between the Hub and Westchester Square in the Bronx.

Future No-Action and With-Action Assumptions

In the absence of the proposed actions in 2019, the project site is expected to remain as under existing conditions. The projects site would therefore continue to be occupied by the existing 90-space public parking garage and approximately 2,700 sf of office uses (on the western portion of the site), with an at-grade vehicle storage lot located on the eastern portion of the site in the 2019 No-Action condition.

In the future under the With-Action conditions, the proposed zoning map and text amendments would be approved and the proposed project would be fully occupied. The proposed project would comprise approximately 170 affordable dwelling units and a 32,300-gsf (350-seat) charter school. While the exact income mix has not yet been determined, it is expected that the units will be affordable to low- and moderate-income households.. As the specific grade levels that would be served by the proposed 350-seat charter school has not yet been determined, for environmental review purposes, it is assumed that the charter school would serve elementary level students, which are associated with comparatively higher trip generation rates (due to parents accompanying students to school) and auto and walk shares, as compared to intermediate and high school students. No accessory parking would be provided as part of the proposed project. As currently contemplated, the primary entrance to the proposed charter school would be along East 156th Street, with the primary residential entrance located on Cauldwell Avenue and a secondary residential entrance on Eagle Avenue (refer to **Figure 2**). As the proposed project would have the potential to exceed the applicable *City Environmental Quality Review* (CEQR) *Technical Manual* analysis thresholds, a preliminary travel demand forecast was prepared.

Travel Demand Factors

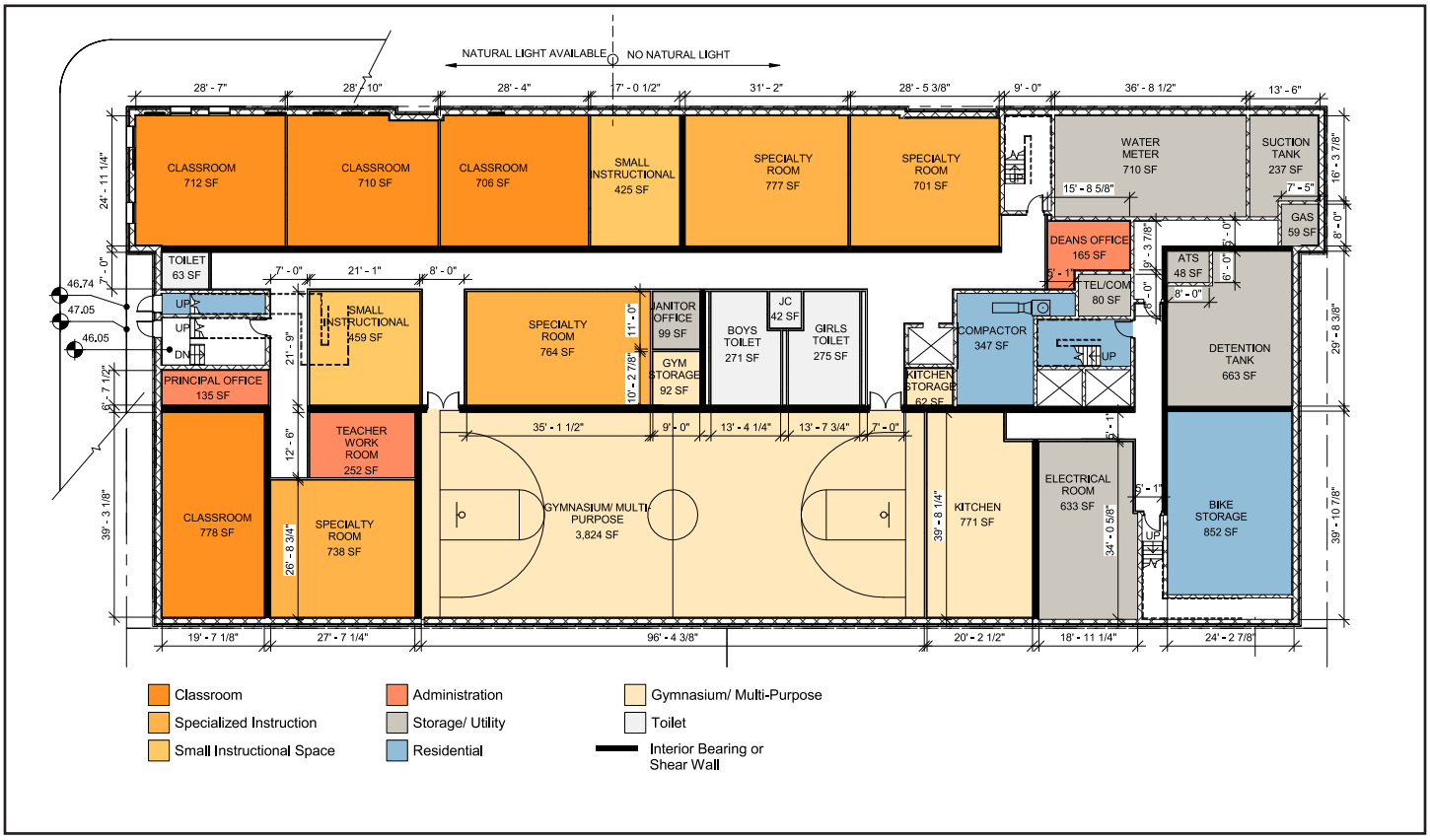
The transportation planning factors used to forecast travel demand for the land uses are summarized in **Table 1** and discussed below. The trip generation rates, temporal distributions, modal splits, vehicle occupancies, and truck trip factors for each of the proposed land uses were primarily based on those cited in the 2014 *CEQR Technical Manual*, 2010-2014 five-year American Community Survey (ACS) journey-to-work data, and recently completed environmental reviews. Factors are shown for the weekday AM, midday, and PM (2:30-3:30 PM and 5-6 PM) and Saturday midday peak periods.

Residential

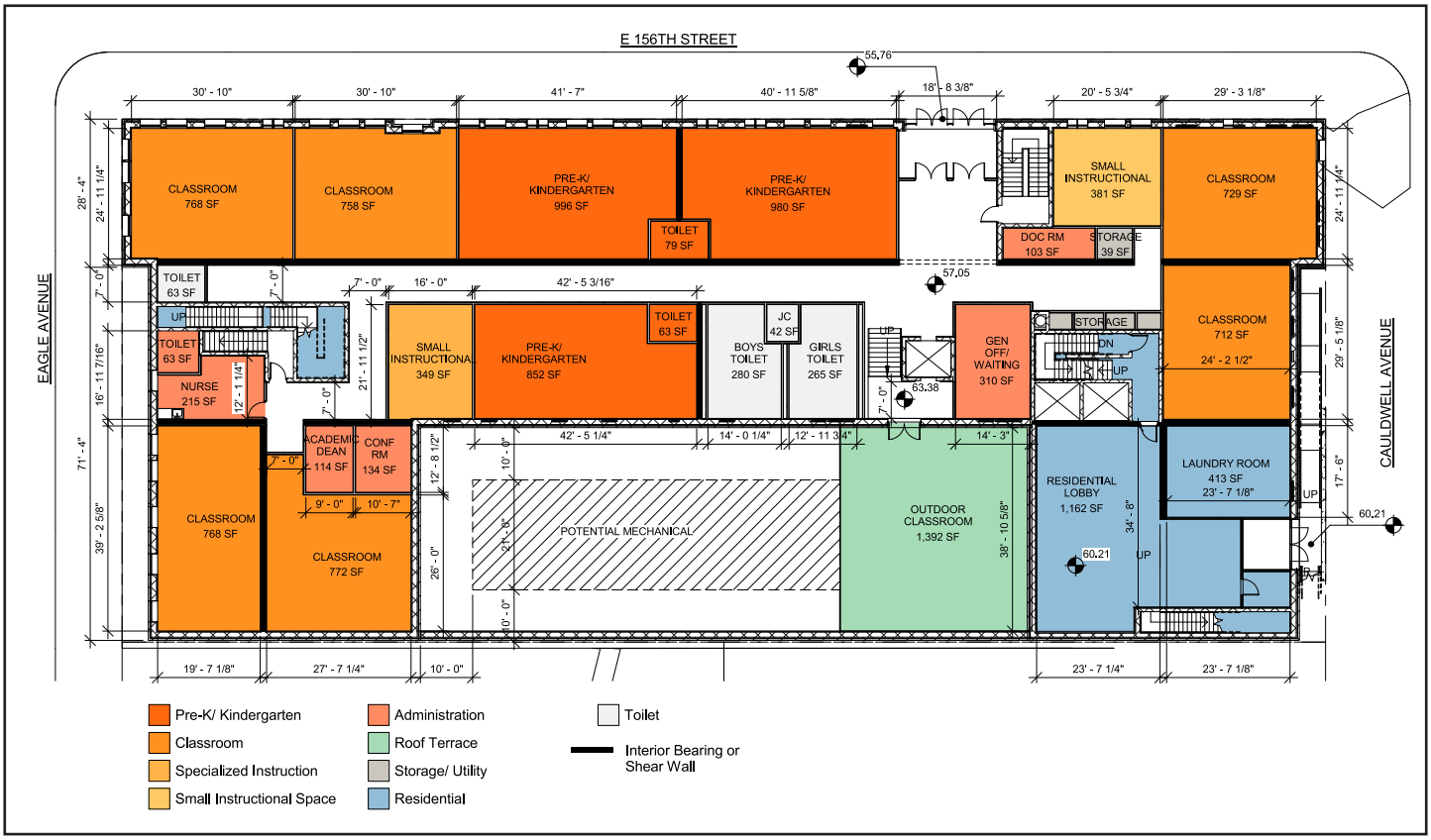
The residential travel demand forecasts were based on person trip and truck trip generation rates and temporal distributions cited in the 2014 *CEQR Technical Manual*. The directional in/out splits and taxi occupancy rates were based on data from the 2016 *La Central DEIS*. Modal splits, as well as the private auto occupancy rates, were derived from 2010-2014 five-year ACS journey-to-work data for census tracts within a quarter mile of the project site (Bronx tracts 71, 75, and 77). The 2:30-3:30 PM peak period temporal distributions and in/out splits were based on data from the 2016 *La Central DEIS.*

Figure 2

Proposed Project - Ground and Cellar Floor Plans



Cellar Level



Ground Floor

Table 1: Travel Demand Forecast Assumptions

Land Use:	**Residential**		**Elementary School (Student)**		**Elementary School (Staff)**		**Elementary School (Parent)**	
Size/Units:	170	DU	350	Students	39	Staff	1.6	Parent per walking student
Trip Generation:	(1)		(4)		(4)		(4)	
Weekday	8.075		2		2		N/A	
Saturday	9.6		0		0		N/A	
	per DU		per Student		per Staff		per Student	
Temporal Distribution:	(1)		(4)		(4)			
AM (7:45-8:45)	10.0%		35.0%		35.0%		N/A	
MD (12-1)	5.0%		0.0%		0.0%		N/A	
PM (2:30-3:30)[6]	5.2%		40.0%		40.0%		N/A	
PM (5-6)	11.0%		5.0%		5.0%		N/A	
Sat MD (1-2)	8.0%		0.0%		0.0%		N/A	
	(2)		(4)		(5)		(4)	
Modal Splits:	AM/MD/PM/SAT		AM	PM	AM/MD/PM/SAT		AM/MD/PM/SAT	
Auto	21.0%		17.0%	4.00%	35.3%		0.0%	
Taxi	0.9%		0.0%	0.0%	0.0%		0.0%	
Subway	49.9%		0.0%	0.00%	26.6%		0.0%	
Bus	16.2%		0.0%	0.00%	21.2%		0.0%	
School Bus	0.0%		20.0%	20.0%	0.0%		0.0%	
Walk/Other	12.0%		63.0%	76.0%	16.9%		100.0%	
	100.0%		100.0%	100.0%	100.0%		100.0%	
	(3)		(4)		(4)		(4)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out
AM (7:45-8:45)	15%	85%	100%	0%	100%	0%	50%	50%
MD (12-1)	50%	50%	0%	0%	0%	0%	0%	0%
PM (2:30-3:30)[6]	65%	35%	0%	100%	0%	100%	50%	50%
PM (5-6)	70%	30%	0%	100%	0%	100%	50%	50%
Sat MD (1-2)	53%	47%	0%	0%	0%	0%	0%	0%
Vehicle Occupancy:	(2,3)		(4)		(5)			
Auto	1.12		1.50		1.12		N/A	
Taxi	1.40		1.50		1.40		N/A	
School Bus			30.0					
Truck Trip Generation:	(1)		(4)					
	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday
	0.06	0.02	0.03	0.03	N/A	N/A	N/A	N/A
	per DU		per Student		per 1,000 sf		per 1,000 sf	
	(1)		(4)					
AM (7:45-8:45)	12.0%		9.6%		N/A		N/A	
MD (12-1)	9.0%		11.0%		N/A		N/A	
PM (2:30-3:30)	2.0%		1.0%		N/A		N/A	
PM (5-6)	2.0%		1.0%		N/A		N/A	
Sat MD (1-2)	9.0%		0.0%		N/A		N/A	
	In	Out	In	Out	In	Out	In	Out
All Peak Hours	50.0%	50.0%	50.0%	50.0%	N/A	N/A	N/A	N/A

Notes:
(1) 2014 *CEQR Technical Manual.*
(2) 2010-2014 ACS Data for Bronx census tracts 71, 75, and 77.
(3) 2016 *La Central DEIS.*
(4) 2011 *1070 Washington Avenue EA.*
(5) 2006-2010 AASHTO Reverse Journey to Work Data for Bronx census tracts 71, 75, and 77.
(6) 2:30-2:30 PM temporal distribution & in/out splits for residential use was based on data from the 2016 *La Central DEIS.*

Charter School

Trips generated by the proposed charter school include trips generated by the school's 350 students (conservatively not applying an absentee rate), parents, and staff; as noted above, as the specific grade levels that would be served by the proposed 350-seat charter school has not yet been determined, for environmental review purposes, it is assumed that the charter school would serve elementary level students, which are associated with comparatively higher trip generation rates (due to parents accompanying students to school) and auto and walk shares, as compared to intermediate and high school students. Based on data from the 2011 *Washington Avenue EA*, an average of 1.6 parents per walking student was assumed.

The person trip generation rates, temporal distributions, and in/out splits for the proposed project's charter school elementary students, parents, and staff, in addition to the modal splits and vehicle occupancy rates for the students and the school's truck trip generation rates were based on data from the 2011 *Washington Avenue EA*. The modal splits and vehicle occupancy rates for the school staff were based on 2006-2010 AASHTO reverse journey-to-work data for Bronx tracts 71, 75, and 77 (the three census tracts within a quarter mile of the project site).

Trip Generation

Tables 2a and 2b presents the person and vehicle trips, respectively, expected to be generated by the proposed project. As presented in **Table 2a**, the proposed project would generate approximately 655, 68, 722, 232, and 131 person trips in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. It should be noted that credit was taken for the existing parking and office uses that currently occupy the project site and are expected to continue to occupy the project site in the future without the proposed actions. Specifically, vehicular travel demand was forecasted based on counts conducted by PHA in November 5, 2015; no credit was taken for the existing pedestrian and transit trips generated by the existing project site uses.

Transportation demand by mode is discussed in detail below.

Traffic

As shown in **Table 2b**, the proposed project would generate a total of 99, 14, 37, 34, and 29 vehicle trips in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. Accounting for existing/No-Action traffic volumes to be eliminated in the future with the proposed actions, the proposed project would exceed the *CEQR Technical Manual* Level 1 threshold of 50 action-generated vehicle trips in only one peak hour (the weekday AM peak hour), thereby warranting a Level 2 (Trip Assignment) Screening Assessment. A Level 2 trip assignment assessment involves the identification of intersections where incremental traffic volumes would exceed 50 or more vehicles in a peak hour and require a quantitative level of service (LOS) analysis to determine the potential for significant adverse impacts.

Table 2a: Travel Demand Forecast – Person Trips

Land Use:		Residential		Elementary School (Student)		Elementary School (Staff)		Elementary School (Parent)		Total		
Size/Units:		170	DU	350	Students	39	Staff					
Peak Hour Person Trips:												
	AM (7:45-8:45)	137		245		27		246		655		
	MD (12-1)	68		0		0		0		68		
	PM (2:30-3:30)	71		280		31		340		722		
	PM (5-6)	151		35		4		42		232		
	Sat MD (1-2)	131		0		0		0		131		
Person Trips:												
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
AM (7:45-8:45)	**Auto**	4	24	42	0	9	0	0	0	55	24	79
	Taxi	0	1	0	0	0	0	0	0	0	1	1
	Subway	11	59	0	0	7	0	0	0	18	59	77
	Bus	3	19	0	0	6	0	0	0	9	19	28
	School Bus	0	0	49	0	0	0	0	0	49	0	49
	Walk/Other	2	14	154	0	5	0	123	123	284	137	421
	Total	20	117	245	0	27	0	123	123	415	240	655
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
MD (12-1)	**Auto**	7	7	0	0	0	0	0	0	7	7	14
	Taxi	0	0	0	0	0	0	0	0	0	0	0
	Subway	17	17	0	0	0	0	0	0	17	17	34
	Bus	6	6	0	0	0	0	0	0	6	6	12
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Walk/Other	4	4	0	0	0	0	0	0	4	4	8
	Total	34	34	0	0	0	0	0	0	34	34	68
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM (2:30-3:30)	**Auto**	10	5	0	11	0	11	0	0	10	27	37
	Taxi	0	0	0	0	0	0	0	0	0	0	0
	Subway	24	12	0	0	0	8	0	0	24	20	44
	Bus	7	4	0	0	0	7	0	0	7	11	18
	School Bus	0	0	0	56	0	0	0	0	0	56	56
	Walk/Other	6	3	0	213	0	5	170	170	176	391	567
	Total	47	24	0	280	0	31	170	170	217	505	722
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM (5-6)	**Auto**	22	10	0	1	0	1	0	0	22	12	34
	Taxi	1	0	0	0	0	0	0	0	1	0	1
	Subway	53	23	0	0	0	1	0	0	53	24	77
	Bus	17	7	0	0	0	1	0	0	17	8	25
	School Bus	0	0	0	7	0	0	0	0	0	7	7
	Walk/Other	13	5	0	27	0	1	21	21	34	54	88
	Total	106	45	0	35	0	4	21	21	127	105	232
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
Sat MD (1-2)	**Auto**	15	13	0	0	0	0	0	0	15	13	28
	Taxi	1	1	0	0	0	0	0	0	1	1	2
	Subway	34	31	0	0	0	0	0	0	34	31	65
	Bus	11	10	0	0	0	0	0	0	11	10	21
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Walk/Other	8	7	0	0	0	0	0	0	8	7	15
	Total	69	62	0	0	0	0	0	0	69	62	131

Table 2b: Travel Demand Forecast – Vehicle Trips

Land Use:		Residential		Elementary School (Student)		Elementary School (Staff)		Elementary School (Parent)		Total		
Size/Units:		170	DU	350	Students	39	Staff					
Vehicle Trips :												
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
AM (7:45-8:45)	**Auto**	4	21	28	28	8	0	0	0	40	49	89
	Taxi Balanced	1	1	0	0	0	0	0	0	1	1	2
	School Bus	0	0	2	2	0	0	0	0	2	2	4
	Truck	1	1	1	1	0	0	0	0	2	2	4
	Total	6	23	31	31	8	0	0	0	45	54	99
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
MD (12-1)	**Auto**	6	6	0	0	0	0	0	0	6	6	12
	Taxi Balanced	0	0	0	0	0	0	0	0	0	0	0
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	1	1	0	0	0	0	1	1	2
	Total	6	6	1	1	0	0	0	0	7	7	14
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM (2:30-3:30)	**Auto**	9	4	7	7	0	10	0	0	16	21	37
	Taxi Balanced	0	0	0	0	0	0	0	0	0	0	0
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0
	Total	9	4	7	7	0	10	0	0	16	21	37
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
PM (5-6)	**Auto**	20	9	1	1	0	1	0	0	21	11	32
	Taxi Balanced	1	1	0	0	0	0	0	0	1	1	2
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0
	Total	21	10	1	1	0	1	0	0	22	12	34
		In	Out	In	Out	In	Out	In	Out	In	Out	Total
Sat MD (1-2)	**Auto**	13	12	0	0	0	0	0	0	13	12	25
	Taxi Balanced	2	2	0	0	0	0	0	0	2	2	4
	School Bus	0	0	0	0	0	0	0	0	0	0	0
	Truck	0	0	0	0	0	0	0	0	0	0	0
	Total	15	14	0	0	0	0	0	0	15	14	29

Total Vehicle Trips	**Total With-Action Traffic Volumes**			**Total Existing/No-Action Traffic Volumes***			**Total With-Action Increment**		
	In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
AM (7:45-8:45)	**45**	**54**	**99**	**11**	**6**	**17**	**34**	**48**	**82**
MD (12-1)	**7**	**7**	**14**	**3**	**2**	**5**	**4**	**5**	**9**
PM (2:30-3:30)	**16**	**21**	**37**	**3**	**4**	**7**	**13**	**17**	**30**
PM (5-6)	**22**	**12**	**34**	**3**	**4**	**7**	**19**	**8**	**27**
Sat MD (1-2)	**15**	**14**	**29**						

* Based on traffic counts conducted on 11/5/15

Level 2 Trip Assignment

The Level 2 vehicle trip assignment for the AM weekday peak hour (when the proposed project is expected to generate more than 50 peak hour vehicles) is presented in **Figure 3**. As no parking would be provided as part of the proposed project, residential and school staff private auto trips were assigned to area public parking facilities, with taxi, school bus, student drop-off trips, and truck trips assigned to the project site, and assumed to pull over curbside along the site's East 156th Street frontage. It should also be noted that the AM peak hour trip assignment presented in **Figure 3** includes traffic diverted from the existing project site uses (a 90-space public parking facility and 2,700 sf of office space). As presented in **Figure 3**, the proposed project is not expected to exceed the 50-vehicle Level 2 screening assessment threshold at any study area intersections. Therefore, a detailed analysis is not warranted and no significant adverse impacts are anticipated.

Parking

The 2014 *CEQR Technical Manual* states that if a detailed traffic analysis is not warranted, a detailed parking analysis is not warranted. As traffic generated by the proposed actions would not exceed the *CEQR Technical Manual* Level 2 Screening Assessment thresholds, and a detailed traffic analysis is not required for the proposed actions, a parking analysis is not warranted and no significant adverse parking impacts would result.

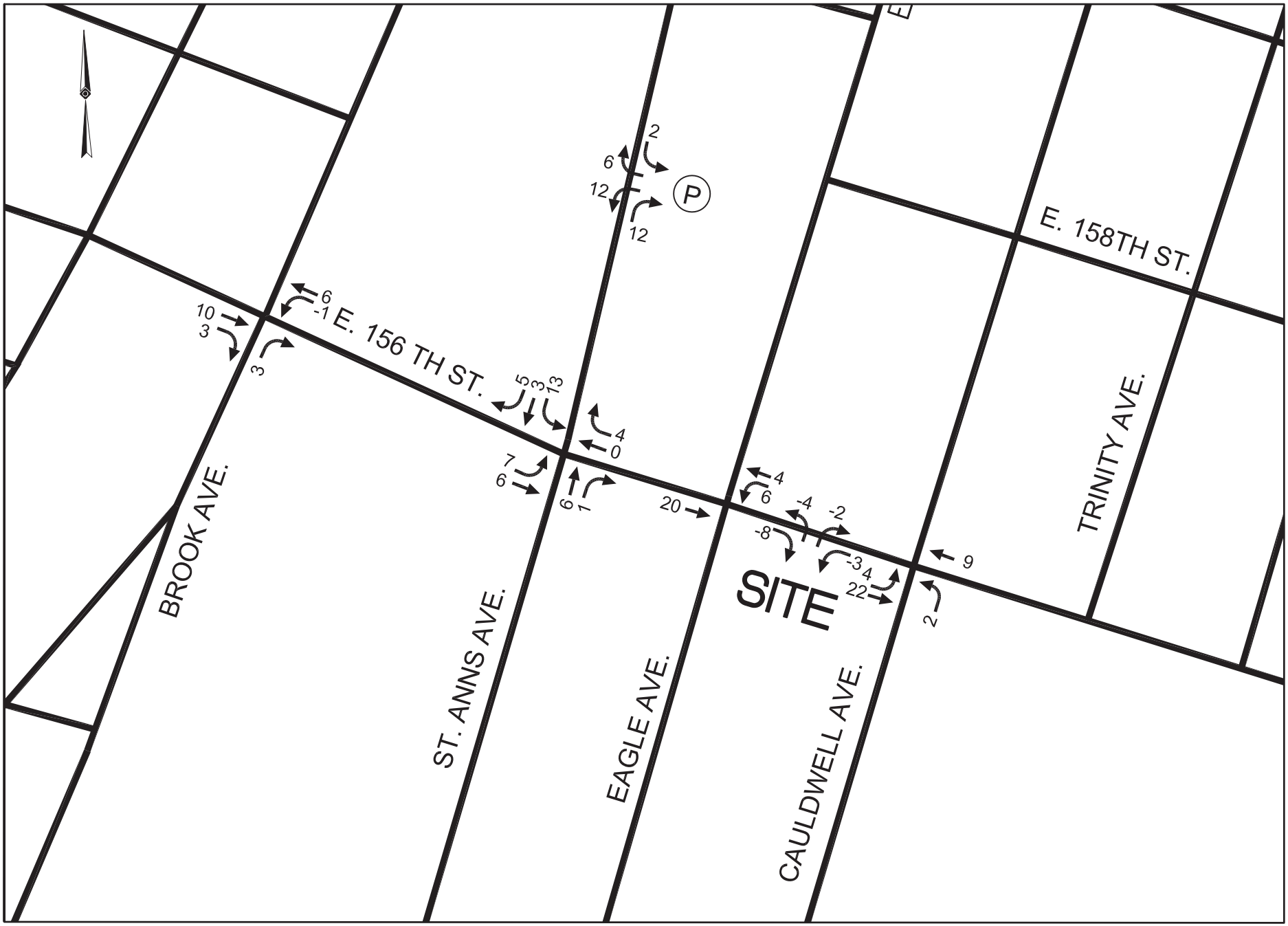
Transit

As also shown in **Table 2a**, the proposed project would generate 77, 34, 44, 77, and 65 subway trips in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. Bus-only trips associated with the proposed project are expected to be 28, 12, 18, 25, and 21 in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. Per *CEQR Technical Manual* Level 1 Screening Assessment guidelines, further transit analysis is not warranted as development facilitated by the proposed actions would not generate more than 200 subway trips or 50 bus trips in any of the five peak hours.

Pedestrians

As shown in **Table 2a**, the proposed project would generate a net 421, eight, 567, 88, and 15 walk-only trips in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively. Accounting for walk trips en route to and from area subway stations and bus stops, in addition to walk trips to/from area parking facilities (as the proposed project would not include on-site accessory parking), pedestrian trips associated with the proposed project are expected to total 563, 68, 655, 223, and 129 in the weekday AM, midday, 2:30-3:30 PM, and 5-6 PM and Saturday midday peak hours, respectively.

Per *CEQR Technical Manual* guidelines, as total action-generated pedestrian trips would exceed the Level 1 threshold of 200 action-generated pedestrian trips during the weekday AM, 2:30-3:30 PM, and 5-6 PM peak hours, a Level 2 (Trip Assignment) Screening Assessment is required. A Level 2 trip assignment assessment involves the identification of pedestrian locations where incremental pedestrian volumes would exceed 200 or more pedestrians in a peak hour and require a quantitative LOS analysis to determine the potential for significant adverse impacts.



600 East 156th Street TPF Memorandum

Figure 3
AM Peak Hour Traffic Assignment

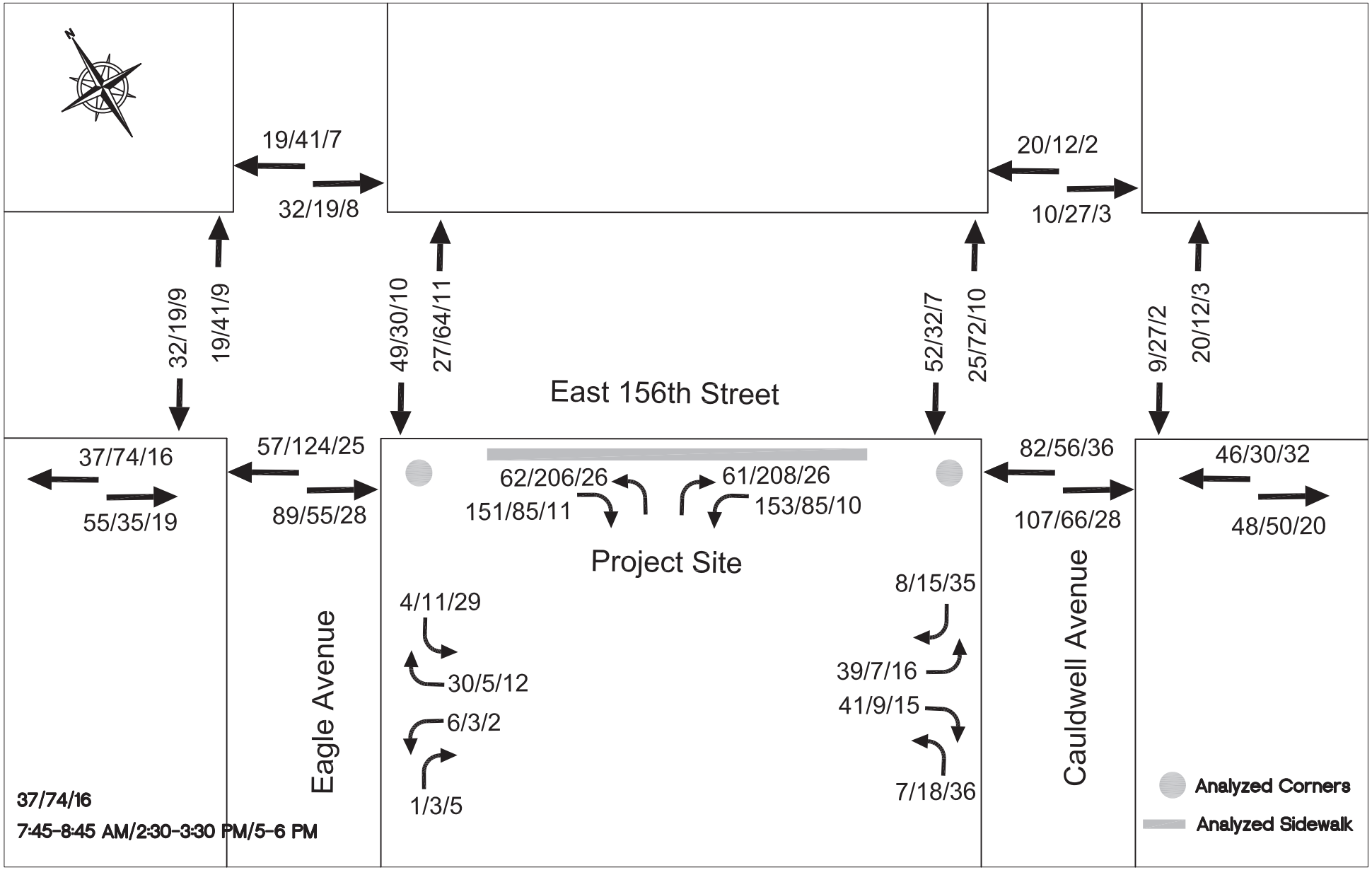


Figure 4
Peak Hour Pedestrian Assignments

Level 2 Trip Assignment

The Level 2 pedestrian assignment for the weekday AM, 2:30-3:30 PM, and 5-6 PM peak hours (when the proposed project is expected to generate more than 200 peak hour pedestrian trips) is presented in **Figure 4**, and reflect walk-only trip, trips to/from area subway stations and bus stop, and trips to/from area public parking facilities. As presented in **Figure 4**, while the proposed project is not expected to generate 200 or more pedestrian trips at any one pedestrian element during the weekday 5-6 PM peak hour, project-generated pedestrian trips in the weekday AM and 2:30-3:30 PM peak hours are expected to exceed the Level 2 screening assessment threshold at three study area pedestrian elements, including two corner areas (the southeast corner of East 156th Street and Eagle Avenue and the southwest corner of East 156th Street and Cauldwell Avenue) and one sidewalk (the south side of East 156th Street between Eagle and Cauldwell Avenues). As such, a detailed pedestrian analysis of these three locations is warranted for the weekday AM and 2:30-3:30 PM peak hours and will be provided in the EAS.

Conclusion

According to the travel demand forecast summarized above, development facilitated by the proposed actions would generate subway and bus trip volumes below the *CEQR Technical Manual* Level 1 Screening Assessment thresholds. While vehicle trips generated by the proposed project would exceed the CEQR Level 1 Screening Assessment threshold in the AM peak hour, based on the Level 2 vehicle trip assignment, project-generated vehicle trips would not exceed the Level 2 Screening Assessment threshold. Therefore, under the RWCDS, the proposed actions are not expected to significantly adversely impact the local street network, area subway station elements, subway lines, and bus routes and a quantitative analysis of these transportation modes is not warranted. As pedestrian demand under the RWCDS would exceed the *CEQR Technical Manual* Level 2 Screening Assessment threshold at three locations during the weekday AM and PM (2:30-3:30 PM) peak hours, detailed pedestrian analyses at these locations are warranted and will be provided in the EAS.