ENVIRONMENTAL ASSESSMENT STATEMENT (EAS)
AND
SUPPLEMENTAL STUDIES TO THE EAS

52nd Street Rezoning

43-13 – 43-21 52nd Street
Queens, NY 11377

Prepared for:
Woodside Equities LLC
c/o Regent Baby Products Corp.
182-20 Liberty Avenue
Jamaica NY 11412

Prepared by:
AECOM
125 Broad Street
New York, NY 10004

AECOM Project No. 60515759

October 11th, 2019

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* 52nd Street Rezoning, Queens

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
18DCP020Q	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
180154ZMQ, 180155ZRQ	

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY New York City Department of City Planning			NAME OF APPLICANT Woodside Equities LLC		
NAME OF LEAD AGENCY CONTACT PERSON Olga Abinader, Director of EARD			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Richard Lobel, Sheldon Lobel, P.C.		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 18 East 41st Street, 5th Floor		
CITY New York	STATE NY	ZIP 10271	CITY New York	STATE NY	ZIP 10017
TELEPHONE (212) 720-3493	EMAIL rdobrus@planning.nyc.gov		TELEPHONE (212) 725-2727	EMAIL rlobel@sheldonlobelpc.com	

5. *Project Description*

The Applicant, Woodside Equities LLC, is seeking a zoning map amendment to rezone Tax Block 1321, Lots 7, 10, 12, 15, 16, 17 and a portion of (p/o) Lots 1, 19, 55, 57 and 58 from an existing R5B zoning district to an R7A zoning district with a C2-3 commercial overlay. The proposed actions also include a Zoning Text Amendment to establish a new Mandatory Inclusionary Housing (MIH) Area in Appendix F of the Zoning Resolution. These actions would facilitate the Applicant's proposed development of a new mixed-use, residential building with a total of 85,565 gross square feet (gsf) (68,625 zoning square feet [zsf]) containing approximately 61 residential units, ground floor retail and 47 parking spaces (on Lots 12, 15, 16 and 17 which are controlled by the Applicant). It is assumed that the residential units would include approximately 12 affordable housing units under the MIH program. To conservatively consider the effects on the greater area, development is also projected to occur on three additional sites not controlled by the Applicant (Lots 7, 10 and 19). Refer to the attached Supplemental Studies for a detailed project description.

Project Location

BOROUGH Queens	COMMUNITY DISTRICT(S) 2	STREET ADDRESS 43-27, 42-25, 43-21, 43-15, 43-15A, 43-13, 43-09, and 43-41 52nd Street and 52-06, 52-08, and 52-10 Roosevelt Avenue
TAX BLOCK(S) AND LOT(S) 1321, Lots 7, 10, 12, 15, 16, 17 and a portion of (p/o) Lots 1, 19, 55, 57 and 58		ZIP CODE 11377
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS 52nd Street, Queens Boulevard and Roosevelt Avenue		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R5B		ZONING SECTIONAL MAP NUMBER 9b

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 Appendix F,Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Areas

***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
☐ RULEMAKING
☐ CONSTRUCTION OF PUBLIC FACILITIES
☐ 384(b)(4) APPROVAL
☐ OTHER, explain:

☐ FUNDING OF CONSTRUCTION, specify:
☐ POLICY OR PLAN, specify:
☐ FUNDING OF PROGRAMS, specify:
☐ PERMITS, specify:

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:

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.): +/- 33,000 sf
Roads, buildings, and other paved surfaces (sq. ft.): +/- 23,000 sf
Waterbody area (sq. ft) and type: N/A
Other, describe (sq. ft.): +/- 10,000 unpaved, vegetated land

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): +/- 165,000
NUMBER OF BUILDINGS: 4
GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 82,500 (site 1); 22,000 (site 2); 33,000 (site 3); 27,500 (site 4)
HEIGHT OF EACH BUILDING (ft.): +/- 95
NUMBER OF STORIES OF EACH BUILDING: +/- 9

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: 15,000
The total square feet not owned or controlled by the applicant: +/-18,000

Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? ☒ YES ☐ NO
If "yes," indicate the estimated area and volume dimensions of subsurface permanent and temporary disturbance (if known):
AREA OF TEMPORARY DISTURBANCE: +/- 30,000 sq. ft. (width x length)
VOLUME OF DISTURBANCE: TBD cubic ft. (width x length x depth)
AREA OF PERMANENT DISTURBANCE: +/- 30,000 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.)	135,000	25,000	5,000	0
Type (*e.g.,* retail, office, school)	136 units	retail	house of worship	

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

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 210 NUMBER OF ADDITIONAL WORKERS: 97

Provide a brief explanation of how these numbers were determined: Incremental number of residents (relative to No Action) estimated using average household size of 2.52 (based on 2010-2014 ACS Census data); incremental number of workers estimated via standard rates used in other EAS/EIS documents. (Refer to Supplemental Studies for details.)

Does the proposed project create new open space? ☐ YES ☒ NO If "yes," specify size of project-created open space: 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: No-Action Scenario: As-of-right R5B residential building constructed on Lots 12, 15, 16 & 17; existing conditions to remain on Lots 7, 10 and p/o Lots 1, 19, 55, 57 and 58.

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2024

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: approximately 16-20 (for each projected development site)

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: Each development site would be constructed in a single phase.

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

☒ RESIDENTIAL MANUFACTURING ☒ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ☒ OTHER, specify: mixed use (residential/ commercial)

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.		
(e) Is the project a large, publicly sponsored project?	☐	☒
o If "yes," complete a PlaNYC assessment and attach.		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	☐	☒
o If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
o Generate a net increase of 200 or more residential units?	☐	☒
o Generate a net increase of 200,000 or more square feet of commercial space?	☐	☒
o Directly displace more than 500 residents?	☐	☒
o Directly displace more than 100 employees?	☐	☒
o Affect conditions in a specific industry?	☐	☒
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
o 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		
o **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)	☐	☒
o **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)	☐	☒
o **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)	☐	☒
o **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?	☒	☐
o 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?	☐	☐
o 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 attached Supplemental Studies		
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?	☐	☒
o 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?	☐	☒
o If "yes," complete the Jamaica Bay Watershed Form, and submit according to its instructions.		
9. *HAZARDOUS MATERIALS*: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	☐	☒
(b) 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?	☒	☐
o If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: See attached Supplemental Studies	☐	☐
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	☐	☒

	YES	NO
Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?		
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or 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): 12,050		
o 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): 17,687,771 MBTUs		
(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:		
o 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.*	☐	☐
o 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?	☐	☒
o 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?	☒	☐
o If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed)	☒	☐
(c) Does the proposed project involve multiple buildings on the project site?	☐	☒
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) 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?	☐	☒

	YES	NO
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	☒	☐
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary. See attached Supplemental Studies		
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 attached Supplemental Studies		
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 attached Supplemental Studies		

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
AECOM – Max Meltzer, AICP	October 11th, 2019

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? ☐ YES ☒ NO

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

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

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

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

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

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

TITLE	LEAD AGENCY
Director, Environmental Assessment and Review Division	Department of City Planning, acting on behalf of the City Planning Commission
NAME	**DATE**
Olga Abinader	October 11, 2019

SIGNATURE

NEGATIVE DECLARATION (Use of this form is optional)

Statement of No Significant Effect

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

Reasons Supporting this Determination

The above determination is based on information contained in this EAS, which finds the proposed actions sought before the City Planning Commission would have no significant effect on the quality of the environment. Reasons supporting this determination are noted below.

Hazardous Materials, Air Quality and Noise:
An (E) designation (E-497) for hazardous materials, air quality and noise has been incorporated into the proposed actions. Refer to Appendix 1: "(E) Designation", attached to this Determination of Significance, for a list of sites affected by the (E) designation and applicable (E) designation requirements. The analysis conducted for hazardous materials, air quality and noise conclude that with the (E) designation requirements in place, the proposed actions would not result in significant adverse impacts to hazardous materials, air quality and noise.

Land Use, Zoning, and Public Policy:
A Land Use, Zoning and Public Policy analysis is included in this EAS. The Proposed Action involves a Zoning Map Amendment from R5B to R7A with a C2-3 commercial overlay and Zoning Text Amendment to Appendix F of the Zoning Resolution to map a new Mandatory Inclusionary Housing area on Block 1321, Lots 7, 10, 12, 15, 16, 17 and portions of Lots 1, 19, 55, 57 and 58. The requested actions would facilitate the development of a new nine-story mixed-use residential development with 68 dwelling units and 15,000 square feet of commercial space. The analysis concludes that no significant adverse impacts related to Land Use, Zoning and Public Policy would result from the proposed actions.

Open Space:
A detailed analysis of the effects of the proposed actions on Open Space was included in this EAS. A significant adverse open space impact may occur if a proposed action would reduce the open space ratio by more than five percent in areas that are currently below the CIty's median community district open space ratio 1.5 acres per 1,000 residents. In areas that are extremely lacking in open space, a reduction as little as one percent may be considered significant. As a result of the proposed actions, the total residential study area open space ratio would decrease by 0.57 percent to 0.186 acres per 1,000 residents. Therefore, the proposed project would not result in a significant adverse impact related to open space.

Urban Design and Visual Resources:
A assessment related to urban design and visual resources is included in the EAS. In the future with the proposed actions, the visual appearance within the primary study area and development site would change; however, this change would not meet the 2014 CEQR Technical Manual threshold for a significant adviser urban design impact in that it would not alter the arrangement, appearance, or functionality of the primary study area such that the alteration would negatively affect a pedestrian's experience of the area. The analysis concludes that the proposed actions would not result in significant adverse impacts to urban design or visual resources.

No other significant effects upon the environment that would require the preparation of a Draft Environmental Impact Statement are foreseeable. This Negative Declaration has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law (SEQRA). Should you have any questions pertaining to this Negative Declaration, you may contact Alexander McClean at (212) 720-3429.

Project Name: 52nd Street Rezoning
CEQR #: 18DCP020Q
SEQRA Classification: Unlisted

TITLE Director, Environmental Assessment and Review Division	LEAD AGENCY Department of City Planning, acting on behalf of the City Planning Commission 120 Broadway, 31st Fl. New York, NY 10271 | (212) 720-3493
NAME Olga Abinader	DATE October 11, 2019
SIGNATURE	
TITLE Chair, City Planning Commission	
NAME Marisa Lago	DATE October 15, 2019
SIGNATURE	

Project Name: 52nd Street Rezoning
CEQR #: 18DCP020Q
SEQRA Classification: Unlisted

Appendix 1: (E) Designations

To ensure that there would be no significant adverse hazardous material, air quality or noise impacts associated with the proposed project, an E designation (E-497) will be placed on the project sites as follows:

Hazardous Material

The E designation requirements related to hazardous materials would apply to:

Projected Development Site 2:
Block 1321, Lot 7

Projected Development Site 3:
Block 1321, Lot 19

The E designation language related to hazardous materials is as follows:

Task 1
The fee owners of the lot restricted by this (E) designation will be required to prepare a scope of work for any soil, gas, or groundwater sampling and testing needed to determine if contamination exists, the extent of the contamination, and to what extent remediation may be required. The scope of work will include all relevant supporting documentation, including site plans and sampling locations. This scope of work will be submitted to the
OER for review and approval prior to implementation. It will be reviewed to ensure that an adequate number of samples will be collected and that appropriate parameters are selected for laboratory analysis.
No sampling program may begin until written approval of a work plan and sampling protocol is received from the OER. The number and location of sample sites should be selected to adequately characterize the type and extent of the contamination, and the condition of the remainder of the site. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of the sampling data. Guidelines and criteria for choosing sampling sites and performing sampling will be provided by OER upon request.

Task 2
A written report with findings and a summary of the data must be presented to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such test results, a determination will be provided 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 necessary according to test results, a proposed remediation plan must be submitted to OER for review and approval. The fee owners of the lot restricted by this
(E) designation must perform such remediation as determined necessary by OER. After completing the remediation, the fee owners of the lot restricted by this (E) designation should provide proof that the work has been satisfactorily completed.

An OER-approved construction-related health and safety plan would be implemented during excavation and construction activities to protect workers and the community from potentially

significant adverse impacts associated with contaminated soil and/or groundwater. This Plan would be submitted to OER for review and approval prior to implementation.

Air Quality

The E designation requirements related to air quality would apply to:

Projected Development Site 1:
Block 1321, Lots 12, 15, 16 and 17

Projected Development Site 4:
Block 1321, Lot 10

The E designation language related to air quality is as follows:

Any new residential or commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC) and hot water system to avoid any potential significant adverse air quality impacts.

Noise

The E designation requirements related to noise would apply to:

Projected Development Site 1:
Block 1321, Lots 12, 15, 16 and 17

Projected Development Site 2:
Block 1321, Lot 7

Projected Development Site 3:
Block 1321, Lot 19

Projected Development Site 4:
Block 1321, Lot 10

The E designation language related to noise is as follows:

Block 1321, Lots 12, 15, 16, and 17 (Projected Development Site 1): In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 28 dB(A) window/wall attenuation on all facades facing south (Queens Boulevard) and 33 dB(A) of attenuation on all facades facing east (53rd Street), north (Roosevelt Avenue), and west (52nd Street) for floors at or below the third floor (30 ft) and 35 dB(A) of attenuation for floors above the third floor (30 ft) to maintain an interior noise level of 45 dB(A). To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

Block 1321, Lot 7 (Projected Development Site 2): In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 28 dB(A) window/wall attenuation on all building's facades in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners.

Block 1321, Lot 19 (Projected Development Site 3): In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 33 dB(A) window/wall attenuation on all building's facades for floors at or below the third floor (30 ft) and 35 dB(A) of attenuation for floors above the third floor (30 ft) in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners.

Block 1321, Lot 10 (Projected Development Site 4): In order to ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 28 dB(A) window/wall attenuation on all building's facades in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners.

AECOM Environment

Prepared for:
Woodside Equities LLC
c/o Regent Baby Products Corp.
182-20 Liberty Avenue
Jamaica, NY, 11412

Prepared by:
AECOM
125 Broad Street
New York, NY, 10004

52nd Street Rezoning

Supplemental Studies to the Environmental Assessment Statement

October 11th, 2019,

Proposed Development Site:

43-13 – 43-21 52nd Street
Queens NY 11377

Prepared for:

Woodside Equities LLC
c/o Regent Baby Products Corp.
182-20 Liberty Avenue
Jamaica NY 11412

Prepared by:

AECOM
125 Broad Street
New York NY 10004

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Appendix F – Air Quality Technical Appendix

1.0 PROJECT DESCRIPTION

1.1 Proposed Actions

The Applicant, Woodside Equities LLC, is seeking a zoning map amendment to rezone Tax Block 1321, Lots 7, 10, 12, 15, 16, 17, and a portion of (p/o) Lots 1, 19, 55, 57 and 58 from an existing R5B zoning district to an R7A zoning district with a C2-3 commercial overlay. The proposed actions also include a Zoning Text Amendment to establish a new Mandatory Inclusionary Housing (MIH) Area in Appendix F of the Zoning Resolution.[1] These actions would facilitate the Applicant's proposed development of a new mixed residential/ commercial building with a total of 85,565 gross square feet (gsf) (68,625 zoning square feet [zsf]) of floor area containing approximately 61 residential units, ground floor retail and 47 accessory parking spaces on the proposed development site (Block 1321, Lots 12, 15, 16 and 17). The residential units would include affordable housing units under the MIH program.

There are two options for the MIH Area; Option 1 requires 25 percent of residential floor area to be provided at an average of 60 percent of the area median income (AMI) with 10 percent of residential floor area to be provided at an average of 40 percent AMI; Option 2 requires 30 percent of residential floor area to be provided at an average of 80 percent AMI. The Applicant proposes mapping both Option 1 and Option 2 to provide maximum flexibility.[2]

As described below, the development generated by the proposed actions would contain residential uses on the Applicant's proposed development site. Therefore, this EAS contemplates a development assessment scenario based on the applicable MIH and Zoning for Quality and Affordability (ZQA) regulations. To conservatively consider the effects on the greater area, development is also projected to occur on three additional sites not controlled by the Applicant (Lots 7, 10 and 19).

1.2 Project Location

The rezoning area (the "affected area") is in the Woodside neighborhood of Queens Community District 2 and consists of Block 1321, Lots 7, 10, 12, 15, 16, 17 and a portion of (p/o) Lots 1, 19, 55, 57 and 58. (**Figures 1.2-1** and **1.2-2**). Photographs of the site and surrounding area are shown in **Figure 1.2-4** (a key to the photographs is included as **Figure 1.2-3**).

The proposed development site is located at 43-13 – 43-21 52nd Street on Block 1321, Lots 12, 15, 16 and 17. The Applicant owns all four lots. Lot 12 has a total lot area of 7,000 square feet and contains a 14,000 sf (2.0 FAR), two-story warehouse that is currently vacant. Lot 15 has a lot area of approximately 2,000 sf and is currently vacant. Lots 16 and 17, with lot areas of 2,000 sf and 4,000 sf, respectively, are also vacant. Thus, the proposed development site has a combined lot area of 15,000 sf, including 8,000 sf of vacant land.

43-27 52nd Street (Lot 7) has a lot area of approximately 4,000 sf and is improved with a non-complying, 996 sf, 0.25 FAR, single-story automobile repair facility built in 1931.

43-25 52nd Street (Lot 10), with a lot area of approximately 5,000 sf, is improved with a 10,000 sf, 2.0 FAR, two-story house of worship.

43-41 52nd Street (Lot 1) is only partially within the rezoning area. Approximately 2,000 sf of the 12,000-sf lot is in the rezoning area. This parcel is currently improved with a 53,738-sf (4.48 FAR), nine-story mixed use building with commercial office and retail space on the ground floor and 66 dwelling units built in 2008. The 2,000-sf rectangular portion proposed to be rezoned is currently within the R5B zoning district to the north. This portion of the lot is used for access/egress to the at-grade and below-grade accessory parking and loading docks used for

[1] Refer to **Appendix A** for the proposed MIH Text Amendment Map

[2] As the Applicant has not yet determined which MIH option would be selected, the EAS technical analyses conservatively assume that 20 percent of the residential floor area would be provided as affordable units at 80 percent AMI and below.

the existing commercial uses. The remaining portion of the lot is within the R7X/C2-3 zoning district mapped along Queens Boulevard.

43-09 52nd Street (Lot 19), located partially within the rezoning area, has a lot area of approximately 6,000 sf, and is improved by a 8,076-sf (1.35 FAR), three-story, 11-unit residential building that was constructed in 2005. Approximately 62 percent of the lot is located within the R5B zoning district. The remaining small portion of the lot is within the R6/C2-3 zoning district mapped along Roosevelt Avenue.

52-06 Roosevelt Avenue (Lot 55), located partially within the rezoning area, has a lot area of approximately 2,131 sf, and is improved with a 4,480-sf (2.1 FAR), four-story, five-unit residential building. The majority of the lot is located within the R6/C2-3 zoning district mapped along Roosevelt Avenue.

52-08 Roosevelt Avenue (Lot 57), located partially within the rezoning area, has a lot area of approximately 2,366 sf, and is improved with a 5,200-sf (2.2 FAR), four-story, six-unit residential building. The majority of the lot is located within the R6/C2-3 zoning district mapped along Roosevelt Avenue.

52-10 Roosevelt Avenue (Lot 58), located partially within the rezoning area, has a lot area of approximately 2,524 sf, and is improved with a 5,200 -sf (2.06 FAR) four-story, six-unit residential building. The majority of the lot is located within the R6/C2-3 zoning district mapped along Roosevelt Avenue.

This EAS studies the potential for individual and cumulative environmental impacts related to the proposed actions occurring in a study area of approximately 400 feet around the affected area. As illustrated in **Figure 1.2-1**, this study area is generally bound by Queens Boulevard to the south, 51st Street to the west, 54th Street to the east, and midblock between 43rd/ Roosevelt Avenue and Skillman Avenue to the north.

1.3 Proposed Development

The 15,000-sf proposed development site consists of Block 1321, Lots 12, 1 5, 16 and 17. The Applicant proposes to demolish the existing warehouse and replace it with an eight-story (plus cellar), 85,565-gsf (68,625-zsf) mixed-use building with an overall FAR of approximately 4.6. The development would contain 66,265 gsf (63,325 zsf) of residential floor area divided into approximately 61 residential units, 19,300 gsf (5,300 zsf) of commercial (ground floor retail) floor area, and 47 parking spaces. The Applicant would provide affordable housing units under the MIH program.

Parking is required for 50 percent of market rate dwelling units in an R7A zoning district (New York City Zoning Resolution [ZR] §25-23.[3] The Applicant proposes to provide 33 parking spaces for the residential units. In accordance with ZR §36-21, the ground floor retail use would require an additional 13 spaces (one space per 400 sf of general retail floor area). The Applicant proposes to provide a total of approximately 47 spaces in the rear yard and cellar, slightly more than required by zoning.

1.4 Purpose and Need

The Applicant is proposing a zoning map amendment to rezone a portion of the eastern side of 52nd Street between Roosevelt Avenue and Queens Boulevard from an existing R5B zoning district to an R7A/C2-3 zoning district. Development options are relatively limited under the existing R5B zoning designation, which allows for an as-of-right, three-story residential building with a FAR of 1.3 or a community facility building with a FAR of 2.0. The R7A zoning designation would permit up to a FAR of 4.6 for development of inclusionary housing in an MIH area. The proposed R7A/C2-3 zoning district would facilitate the redevelopment of the Applicant's existing non-conforming warehouse into a mixed-use residential building with ground floor retail. Refer to **Figure 1.4-1** for a zoning comparison map that depicts the current and

[3] As previously noted, the rezoning area would be mapped as an MIH Area in Appendix F of the Zoning Resolution, and is located within the Transit Zone. Within the Transit Zone, off street parking requirements are waived for Income Restricted Housing Units that will permanently comply with the MIH Program.

proposed zoning districts; and to **Figures 1.4-2** and **1.4-3** for the official City zoning map sections (12b and 12d) that depict the proposed rezoning area.

The proposed actions would permit mixed-use residential buildings that are similar to recent development trends in the area, including the seven- and eight-story residential facilities located at the southwest corner of 52nd Street and Queens Boulevard. Located one block from the No. 7 subway line, the affected area is well-positioned to accommodate additional residential population growth in a transit-oriented manner. The proposed actions also would allow development that would be consistent with, but lower than, the R7X zoning district mapped immediately south of the rezoning area along Queens Boulevard, where building heights of up to 125 feet are permitted. Additionally, the proposed C2-3 overlay is compatible with the existing commercial uses and commercial overlays mapped within the surrounding area. Furthermore, the provision of affordable housing would contribute to the goals of the Mayor's *Housing New York* plan.

1.5 Required Approvals

The proposed zoning map amendment is a discretionary public action which is subject to the City Environmental Quality Review (CEQR) as an Unlisted Action. Through CEQR, agencies review discretionary actions for the purpose of identifying the effects those actions may have on the environment. The proposed zoning map and text amendments are also discretionary public actions which are subject to public comment under the Uniform Land Use Review Procedure (ULURP). The ULURP process was established to assure adequate opportunity for public review of proposed actions. ULURP dictates that every project be reviewed at four levels: the Community Board; the Borough President; the City Planning Commission; and, in some cases the City Council. The procedures mandate time limits for each stage to ensure a maximum review period of seven months.

1.6 Analysis Framework (Reasonable Worst Case Development Scenario)

The boundaries of the proposed zoning map and text amendments would encompass Queens Block 1321, Lots 7, 10, 12, 15, 16, 17 and p/o Lots 1, 19, 55, 57 and 58. In addition to the Applicant's proposed development on Lots 12, 15, 16 and 17, the rezoning proposal is expected to induce development on Lots 7 and 19. The anticipated development is discussed in more detail below.

In general, the following factors are considered when evaluating whether some amount of development would likely be constructed by the build year on any nearby site. Known as Projected/ Potential Development Sites (or Soft Sites), the criteria include the following:

- *The uses and bulk allowed:* Buildings built to substantially less than the maximum allowable FAR under the existing zoning are considered "soft" enough such that there would likely be sufficient incentive to develop in the future, depending on other factors specific to the area, listed below; and
- *Size of the development site:* Lots must be large enough to be considered "soft." Generally, lots with a small lot size are not considered likely to be redeveloped, even if currently built to substantially less than the maximum allowable FAR. A small lot is often defined for this purpose as 5,000 square feet or less, but the lot size criteria is dependent on neighborhood specific trends, and common development sizes in the study area should be examined prior to establishing this criteria.

If sites meet both of the criteria above, then the following factors are considered:

- The amount and type of recent as-of-right development in the area;
- Recent real estate trends in the area;
- Recent and expected future changes in residential population and employment in the study area;
- Government policies or plans, such as a building on site being identified for a landmark designation, that may affect the development potential of a site or sites;

- Site specific conditions that make development difficult; and
- Issues relating to site control or site assemblage that may affect redevelopment potential.

Once sites are considered as development sites, they are divided into two categories – projected development sites and potential development sites. Projected development sites are considered more likely to be developed within analysis period because of their size (they are either large lots or contiguous small lots in common ownership that together comprise a large site). Potential development sites are less likely to be developed within the analysis period because they are not entirely under common ownership, have an irregular shape or have some combination of these features.

1.6.1 Projected Development Sites

Based on the above criteria and as illustrated in **Figure 1.1-2**, four projected development sites have been identified for the proposed actions. Projected Development Site 1, under the Applicant's control, comprises Block 1321, Lots 12, 15, 16 and 17; Projected Development Site 2 contains Block 1321, Lot 7; Projected Development Site 3 includes Block 1321, Lot 19; and Projected Development Site 4 comprises Block 1321, Lot 10.

1.6.2 Other Sites

The proposed rezoning is not expected to induce new development on Block 1321, p/o Lot 1 (43-41 52nd Street). Lot 1 is a split zoning lot; the smaller portion of Lot 1 included in the affected area (approximately 30 linear feet of frontage on 52nd Street) is zoned R5B while the portion fronting on Queens Boulevard (approximately 90 linear feet) is R7X/C2-3. Lot 1 is improved with a nine-story, multi-family, mixed-use building constructed in 2008 that contains 53,738 sf (43,931 sf residential, 9,807 sf commercial). With a lot area of approximately 12,000 square feet, this represents a built FAR of approximately 4.48. The northern portion of Lot 1 included in the affected area is used for access/egress to the at-grade and below-grade accessory parking and loading docks used for the existing commercial uses. Since the portion of the parcel included in the affected area represents less than half of the parcel, redevelopment is unlikely. Thus this partial lot is excluded from consideration as a development site.

The proposed rezoning also is not expected to induce new development on Block 1321, p/o Lots 55, 57 and 58. Only small portions of these three lots are located within the proposed rezoning area; the vast majority of these properties lie within the R6/C2-3 zoning district mapped along Roosevelt Avenue. As such, the existing four-story, walk-up residential buildings are expected to remain in the future, and these lots were not considered as development sites.

1.6.3 Build Year

Considering the time required for the environmental review and land use approval process, and assuming a construction period of approximately 16 to 20 months, the build year of the Applicant's proposed development is 2021. However, as the proposed actions are expected to induce development on three projected development sites that are not controlled by the Applicant, an analysis year of 2024 will be utilized for the environmental analyses to account for the projected development. This build year provides additional time that may be needed to realize the development potential proposed for the two other projected development sites.

1.6.4 Existing Conditions

The affected area consists of Block 1321, Lots 7, 10, 12, 15, 16, 17 and p/o Lots 1, 19, 55, 57 and 58. Lot 7 (4,000 sf) is currently occupied by a non-complying single-story automobile service station. The building contains approximately 996 sf. Lot 10 (5,000 sf) contains an approximately 10,000 sf, two-story house of worship. Lot 12 (7,000 sf) contains an approximately 14,000-sf, two-story warehouse that is currently vacant. Lot 15 (2,000 sf), Lot 16 (2,000 sf) and Lot 17 (4,000 sf) are currently vacant and void of structures. Lot 19 (6,000 sf) contains an approximate 8,076-sf, three-story, multi-family residential building. Lot 1

includes a 53,738-gsf, nine-story, mixed-use apartment building with 66 dwelling units. Approximately 2,000 sf, or 16.67 percent of the overall 12,000-sf lot, is included in the affected area. In addtion, small portions of Lots 55, 57 and 58 are located within the rezoning area. Lot 55 (2,131 sf) is improved with a 4,480-sf, four-story residential building with five units; Lot 57 (2,366 sf) is improved with a 5,200-sf, four-story residential building with six units; and Lot 58 (2,524 sf) is also improved with a 5,200-sf, four-story residential building with six units

1.6.5 Future No-Action Scenario

The rezoning area is in the Woodside neighborhood of Queens, which is densely developed. In the future without the rezoning, it is assumed that the Applicant would construct an as-of-right residential townhouse development on the proposed development site (Lots 12, 15, 16 and 17). The Applicant could build six three-story townhouses under the existing R5B zoning designation, each containing three units. Thus, the No-Action scenario assumes that a total of 18 market-rate residential units (combined residential floor area of approximately 30,000 gsf [20,250 zsf]) would be constructed on Projected Development Site 1 to a FAR of 1.35 with 11 parking spaces provided in the interior portion the site. Approximately 45 residents and one employee would be introduced by this development.[4]

Although new construction was observed within 400 feet of the proposed development site, the Sunnyside-Woodside Rezoning adopted by the City in July 2011 did not include the affected area. Therefore, for conservative analysis purposes, it is assumed that conditions for the remainder of the affected area (Lots 7, 10, 19 and p/o Lot 1) would remain consistent with existing conditions, as described above. It is assumed that Projected Development Site 3 (Lot 19) has an estimated residential population of approximately 28 and an estimated one employee (building maintenance), while the estimated number of employees for Projected Development Sites 2 (Lot 7) and 3 (Lot 10) are approximately one and 30, respectively. Therefore, under the Future No Action Condition, the estimated number of residents is approximately 73, while the estimated number of employees is approximately 33 (see **Table 1.6-2**).

1.6.6 Future With-Action Scenario

Under the Future With-Action scenario, the proposed rezoning would amend the zoning map to rezone the existing R5B zoning districts to an R7A/C2-3 district on the eastern side of 52nd Street between Roosevelt Avenue and Queens Boulevard, affecting Block 1321, Lots 7, 10, 12, 15, 16, 17 and p/o Lots 1, 19, 55, 57 and 58. In order to present a conservative assessment, the With-Action scenario assumes that Projected Development Site 1 would be constructed to the maximum allowable FAR of 4.6 and would have an average dwelling unit size of 1,000 gsf, which differs slightly from the Applicant's proposed project.

In an R7A/C2-3 district, a maximum building height of 95 feet (nine stories) is permitted with qualifying ground floor use (ZR §23-662), and the maximum allowable FAR of 4.0 can be increased to 4.6 with the provision of inclusionary housing. Residential Use Groups (UG) 1 and 2 and Community Facility UGs 3 and 4 are allowed as-of-right in R7A districts. The C2-3 commercial overlay permits local business and retail to establish shops and serve the local community. C2-3 overlays have a maximum allowable commercial FAR of 2.0 in an R7A district. When the building includes residential or community facility uses, the commercial use is limited to the ground floor and below. UGs 1 through 9 and UG 14 are permitted in the C2-3 overlay.

The RWCDS framework also assumes the induced residential and commercial development would build in conformance with the MIH standards that are part of the *Housing New York* plan. The MIH standards would result in more affordable housing that is responsive to the needs of each neighborhood. The RWCDS conservatively assumes that 20 percent of the residential floor area would be provided as affordable units at 80 percent AMI and below. Additionally, the RWCDS framework assumes an average residential unit size of 1,000 gsf.

[4] Population estimates are based on the following assumptions: 2.52 persons per household (based on 2010-2014 ACS Census data for Queens Census Tracts 253.02 and 251); one residential employee per 25 dwelling units; one employee per 50 accessory parking spaces; three employees per 1,000 sf of retail/ supermarket/ restaurant uses; three employees per 1,000 sf of community facility use; one employee per 1,000 sf of auto-related and industrial use.

Projected Development Site 1 (Block 1321, Lots 12, 15, 16 and 17)
Under the With-Action scenario, it is assumed that Projected Development Site 1 would be developed to the maximum residential FAR of 4.6, pursuant to ZR §23-952. Given a lot size of 15,000 sf, it is assumed that the proposed actions would result in an approximate 82,500-gsf (69,000-zsf) building with 15,000 gsf (15,000 zsf) of commercial floor area (1.0 commercial FAR) and 67,500 gsf (54,000 zsf) of residential floor area (3.6 residential FAR). Assuming 1,000 gsf per unit, an estimated 68 residential units would be constructed. Assuming that 20 percent of the residential floor area would be provided as affordable units at 80 percent AMI and below, approximately 14 of the 68 units would be affordable. The development requires approximately 65 off-street parking spaces (27 spaces for the 54 market-rate units plus 38 for the retail use), which would be provided in the rear yard and cellar of the proposed building. The development would generate an estimated 171 residents and 49 employees.[5]

Projected Development Site 2 (Block 1321, Lot 7)
Under the With-Action scenario, it is assumed that Projected Development Site 2 could be redeveloped with an approximately 22,000-gsf (18,400-zsf), mixed-use building with 18,000 gsf (14,400 zsf) of residential floor area (3.6 residential FAR) and 4,000 gsf (4,000 zsf) of commercial floor area (1.0 commercial FAR). Assuming 1,000 gsf per residential unit and 20 percent affordable, the building would include a total of 18 dwelling units, four affordable units and 14 market-rate units. In accordance with ZR §25-241, parking is required for 30 percent of dwelling units on small zoning lots (i.e., 10,000 sf or less) in an R7A district; and parking is waived for the affordable units. Thus, four parking spaces would be required for the market-rate dwelling units, and 10 spaces for the commercial use (one space per 400 sf of commercial floor area). However, in accordance with ZR §25-33, the commercial parking requirement would be waived as the total number of required spaces is less than 40. As per ZR §25-261, parking requirements for the residential use would be waived as the number of required spaces is less than 15. Therefore, it is assumed that no parking would be required for Projected Development Site 2. An estimated 45 residents and 13 employees would be introduced by this projected development site.

Projected Development Site 3 (Block 1321, Lot 19)
Under the With-Action scenario, it is assumed that an approximate 33,000-gsf (27,600-zsf) mixed-use building would be constructed Projected Development Site 3. Applying the maximum allowable residential FAR of 4.6, it is estimated that 27,000 gsf (21,600 zsf) of residential floor area (3.6 residential FAR) and 6,000 gsf (6,000 zsf) of commercial floor area (1.0 commercial FAR) could be constructed on this 6,000-sf lot. Assuming a unit size of 1,000 gsf and 20 percent affordable, it is projected that a total of 27 residential units would be provided, comprised of five affordable and 22 market-rate units. Per ZR §25-241, parking is required for 30 percent of dwelling units on this small lot, while parking is waived for the affordable units. The market-rate dwelling units would require six parking spaces, while the commercial use would warrant 15 spaces (one space per 400 sf of commercial floor area). However, the commercial parking requirement would be waived because less than 40 parking spaces would be required for all uses (ZR §25-33). Given that the required number of spaces for the residential use would be less than 15, it is assumed that parking requirements would also be waived for Projected Development Site 3 (ZR §25-261). The development would generate an estimated 68 residents and 19 employees.

Projected Development Site 4 (Block 1321, Lot 10)
Under the With-Action scenario, it is assumed that an approximate 27,500-gsf (23,000-zsf) mixed residential and community facility building would be constructed Projected Development Site 4. The building currently houses El Renuevo Christian Church, a long-term house of worship that has occupied the building since approximately 1986. As there are no known development or relocation plans affiliated with the Church, it is reasonable to assume that it would remain at its existing location, occupying the ground-floor level of the proposed new building. Applying the maximum allowable residential FAR of 4.6, it is estimated that 22,500 gsf (18,000 zsf) of residential floor area (3.6 residential FAR) and 5,000 gsf (5,000 zsf) of community facility floor area (1.0 community facility FAR) could be constructed on this 6,000 sf lot.

[5] Population estimates are based on the following assumptions: 2.52 persons per household (based on 2010-2014 ACS Census data for Queens Census Tracts 253.02 and 251); one residential employee per 25 dwelling units; one employee per 50 accessory parking spaces; three employees per 1,000 sf of retail/ supermarket/ restaurant uses; three employees per 1,000 sf of community facility use; one employee per 1,000 sf of auto-related and industrial use.

Assuming a unit size of 1,000 gsf and 20 percent affordable, it is projected that a total of 23 residential units would be provided, comprised of five affordable and 18 market-rate units. Per ZR §25-241, parking is required for 30 percent of dwelling units on this small lot, while parking is waived for the affordable units. The market-rate dwelling units would require five parking spaces, which would be waived as less than 15 spaces are required. The development would generate an estimated 58 residents and 16 employees.

1.6.7 Summary of Projected Development

A summary of the projected development expected in the Future With-Action Condition is exhibited below in **Table 1.6-1**. **Table 1.6-2** presents an overview of existing and proposed conditions, and the incremental amount of development that expected in the future with the proposed actions. To determine the incremental change, the Future With-Action scenario is compared to the Future No-Action scenario.

It is expected that the proposed actions would result in a net increment of approximately 96,924-gsf of residential floor area, 107 dwelling units (79 market rate plus 28 affordable units), 24,004-gsf of commercial floor area, 5,000 gsf of community facility floor area, and approximately 65 off-street parking spaces. Approximately 996 sf of commercial floor area (auto service station) on Lot 7 would be removed and redeveloped with a 22,000-gsf mixed-use building as described above for Projected Development Site 2. In addition, approximately 8,076 sf of residential use on Lot 19 would be removed and redeveloped with a 33,000-gsf mixed-use building as described above for Projected Development Site 3. The existing church on Projected Development Site 4 would be replaced by 27,500-gsf mixed-use building as described above, resulting in a loss of 5,000 sf of community facility floor area. For Projected Development Site 1, it is assumed that the Applicant's as-of-right residential development would not be constructed, representing a loss of 18,000 sf of residential use relative to the Future No Action Condition. The projected development sites would generate a total of approximately 343 residents and 97 employees, or an increment of 270 residents and 64 employees relative to the Future No-Action scenario.

Table 1.6-1 Projected Development under the Proposed Rezoning

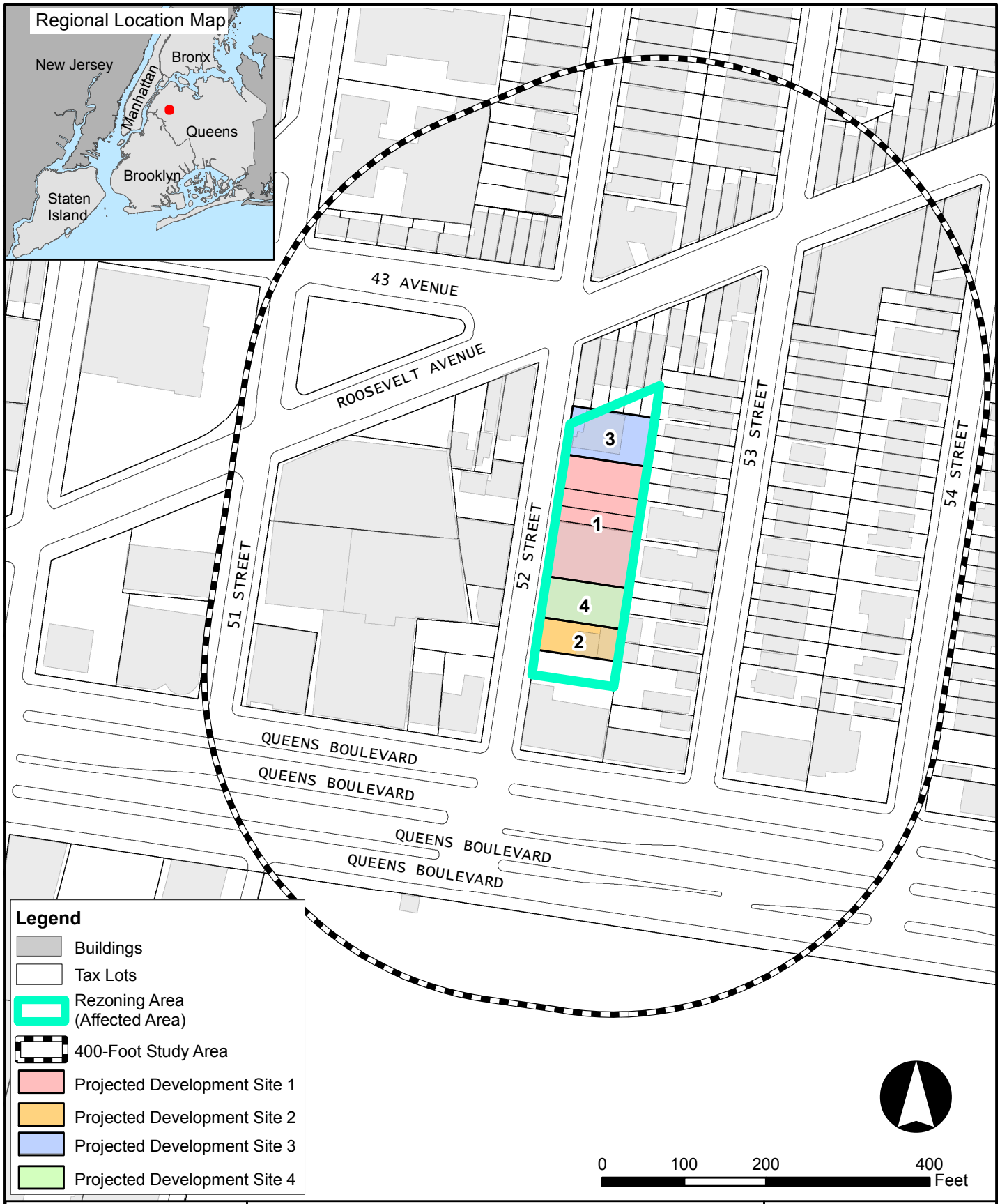
Site No.	*Block*	*Lot*	*Lot Area*	*Existing Zoning*	*Existing FAR*	*Proposed Zoning*	*Projected Res. Floor Area (gsf)*	*Projected Com./ Com. Facil. Floor Area (gsf)*	*Projected FAR*	*DUs*	*Parking Requirements*	*Height and Floor Count*
1	*1321*	*12, 15, 16, 17*	*15,000*	*R5B*	*0.93*	*R7A/C2-3*	*67,500*	*15,000 (com)*	*4.6*	*68*	*65*	*95 feet 9 floors*
2	*1321*	*7*	*4,000*	*R5B*	*0.25*	*R7A/C2-3*	*18,000*	*4,000 (com)*	*4.6*	*18*	*Waived*	*95 feet 9 floors*
3	*1321*	*19*	*6,000*	*R5B*	*1.35*	*R7A/C2-3*	*27,000*	*6,000 (com)*	*4.6*	*27*	*Waived*	*95 feet 9 floors*
4	*1321*	*10*	*5,000*	*R5B*	*2.00*	*R7A/C2-3*	*22,500*	*5,000 (com. facil.)*	*4.6*	*23*	*Waived*	*95 feet 9 floors*
						Total	***135,000***	***30,000***	--	***136***	***65***	--

Table 1.6-2 Description of Existing and Proposed Conditions

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Land Use				
Residential	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	
If "yes," specify the following:				
Describe type of residential structures	Multi-family (Lot 19)	Multi-family (Lot 19), 1- & 2-family (Lots 12, 15, 16, 17)	Multi-family (Lots 7, 10, 12, 15, 16, 17 & 19)	Multi-family
No. of dwelling units	11	29	136	107
No. of low- to moderate-income units	0	0	27	27
Gross floor area (sq. ft.)	8,076	38,076	135,000	96,924
Commercial	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	
If "yes," specify the following:				
Describe type (retail, office, other)		Other (auto service station)	Retail (Lots 7, 10, 12, 15, 16, 17 & 19)	Retail
Gross floor area (sq. ft.)		996	25,000	24,004
Manufacturing/Industrial				
If "yes," specify the following:				
Type of Use	Vacant warehouse (Lot 12)			
Gross floor area (sq. ft.)	14,000	0	0	0
Open storage area (sq. ft.)				
If any enclosed activities, specify:				
Community Facility	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	
If "yes," specify the following:				
Type of Use	House of worship (Lot 10)	House of worship (Lot 10)	House of worship (Lot 10)	
Gross floor area (sq. ft.)	10,000	10,000	5,000	-5,000
Vacant Land	☑ Yes ☐ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes", describe:	8,000 sf of vacant land (Lots 15 - 17)	N/A	N/A ☑ No	
Publicly Accessible Open Space	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes	
If "yes," specify type (mapped City, State, or Federal Parkland, wetland-mapped or otherwise known, other):	N/A	N/A	N/A	
Other Land Uses	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," describe:	N/A	N/A	N/A	
Parking				
Garages	☐ Yes ☑ No	☐ Yes ☑ No	☑ Yes ☐ No	
If "yes," specify the following:				
No. of public spaces	N/A	N/A		
No. of accessory spaces	N/A	N/A	65	65
Operating hours	N/A	N/A	TBD	
Attended or non-attended	N/A	N/A		

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Lots	☑ Yes ☐ No	☑ Yes ☐ No	☐ Yes ☑ No	
If "yes," specify the following:				
No. of public spaces	N/A	N/A	N/A	
No. of accessory spaces	6 (Lot 18)	6 (Lot 18) 11 (Lots 12, 15, 16 & 17)	N/A	-17
Operating hours				
Other (includes street parking)	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," describe:	N/A	N/A	N/A	
Population				
Residents	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	
If "yes," specify number:	28 (Lot 19)	73 (Lots 12, 15, 16, 17 & 19)	343 (Lots 7, 10, 12, 15, 16, 17 & 19)	270
Briefly explain how the number of residents was calculated:	Estimate uses Census data (average household size of 2.52)			
Businesses	☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	
If "yes," specify the following:				
No. and type	1 auto service station (Lot 7); 1 non-profit (Lot 10)	1 auto service station (Lot 7); 1 non-profit (Lot 10)	3 retail (Lots 7, 12, 15, 16, 17 & 19); 1 non-profit (Lot 10)	3 retail; -1 other
No. and type of workers by business	1 auto service station; 17 non-profit	1 auto service station; 30 non-profit ; 2 res.bldg.maint.	75 retail; 15 non-profit; 7 res.bldg.maint.	75 retail; 5 res.bldg.maint.; -15, non-profit; -1, auto service station
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated:	Estimate uses standard industry assumptions (i.e., 3 workers per 1,000 sf of retail and community facility space; 1 worker per 1,000 sf of auto-related use;			
Other (students, visitors, concert-goers, *etc*.)	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If any, specify type and number:	N/A	N/A	N/A	
Briefly explain how the number was calculated:				
Zoning				
Zoning classification	R5B	R5B	R7A/C2-3	

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Maximum amount of floor area that can be developed	R5B: 1.35 Residential FAR; 2.0 Community Facility FAR	R5B: 1.35 Residential FAR; 2.0 Community Facility FAR	4.0 Residential FAR (4.6 with Inclusionary Housing designated area bonus); 4.0 Community Facility FAR 2.0 Commercial FAR (overlay)	
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	Multi-family residential, 1- & 2-family residential, mixed-use, commercial, community facility; R5B, R6, R4, R6/C2-3, R6/C1-4, R5D	Multi-family residential, 1- & 2-family residential, mixed-use, community facility, commercial; R5B, R6, R4, R6/C2-3, R6/C1-4, R5D	Mixed-use, multi-family residential, 1- & 2-family residential, commercial, community facility; R7A/C2-3, R5B, R6, R4, R6/C2-3, R6/C1-4, R5D	



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Environmental Assessment Statement
52nd Street Rezoning
Queens, NY

Project Site Location

Figure 1.2-1



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Tax Map

Figure 1.2-2

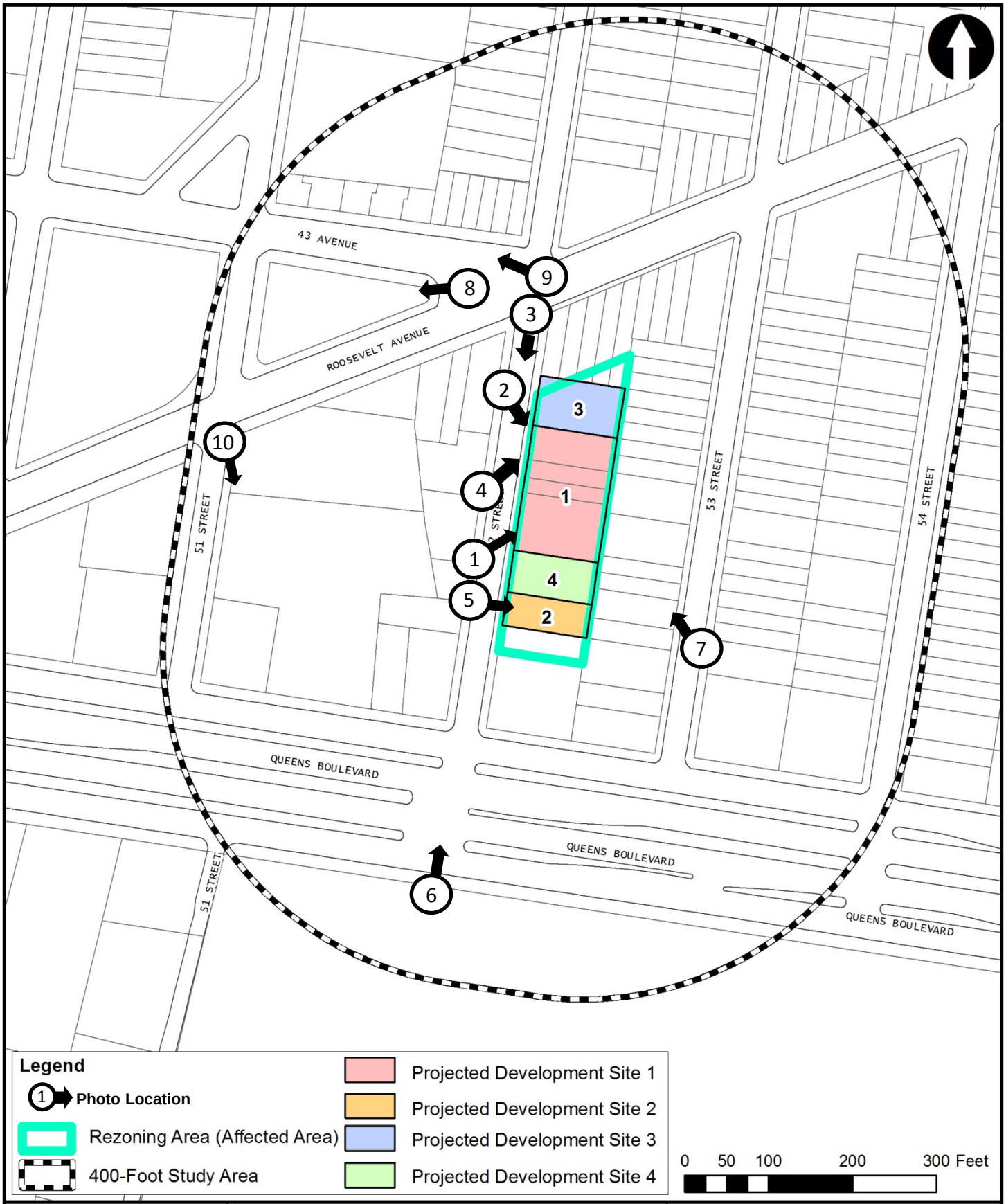

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Photo Location Map

Figure 1.2-3

Figure 1.2-4 Photographs of the Site and Surrounding Area



Photo 1: View of Projected Development Site 1 from 52nd Street looking northeast. A small portion of the adjacent Projected Development Site 4 is visible in the forefront.



Photo 2: View from 52nd Street looking southeast towards the northern part of Projected Development Site 1, which contains vacant land.



Photo 3: View of 52nd Street from northern end looking south. Projected Development Sites 1 and 3 are visible along the eastern (left) side of the street.



Photo 4: View from 52nd Street in front of Projected Development Site 1 looking northeast toward Projected Development Site 3.



Photo 5: View of the existing auto service station on Projected Development Site 2 from 52nd Street looking east. Part of the existing El Renuevo Christian Church, located immediately to the north on Projected Development Site 4, is also visible.



Photo 6: View of surrounding area residential buildings on the northwest and northeast corners of 52nd Street and Queens Boulevard from south side of Queens Boulevard looking north.



Photo 7: View of surrounding area residential buildings from 53rd Street looking west.



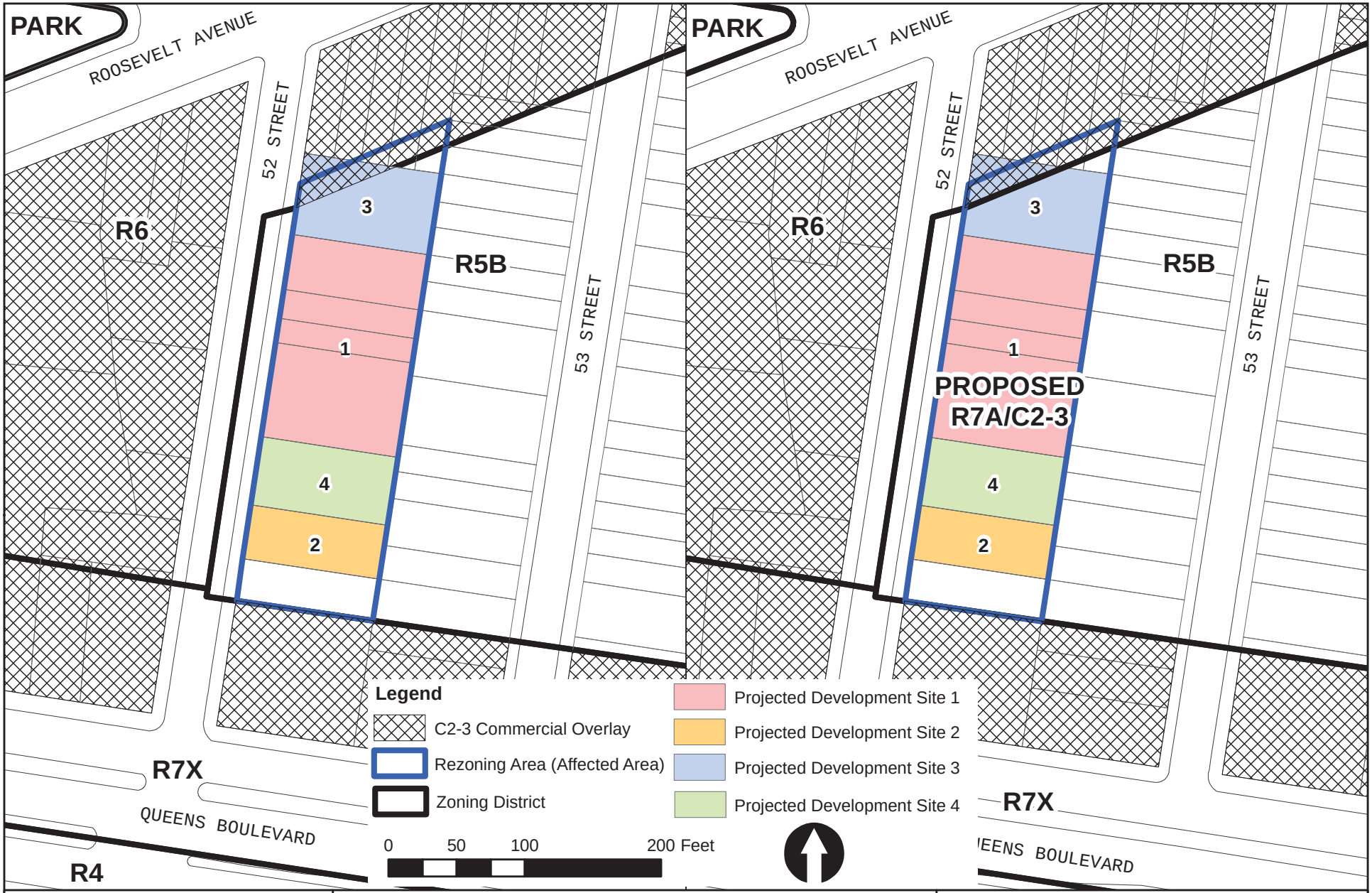
Photo 8: View of subway station and Vincent Daniels Square from the corner of 43rd Avenue and Roosevelt Avenue looking west.



Photo 9: View of surrounding mixed residential and commercial buildings on 43rd Avenue with subway station overhead from 52nd Street and Roosevelt Avenue looking northwest.



Photo 10: View of surrounding institutional buildings from 51st Street looking south.



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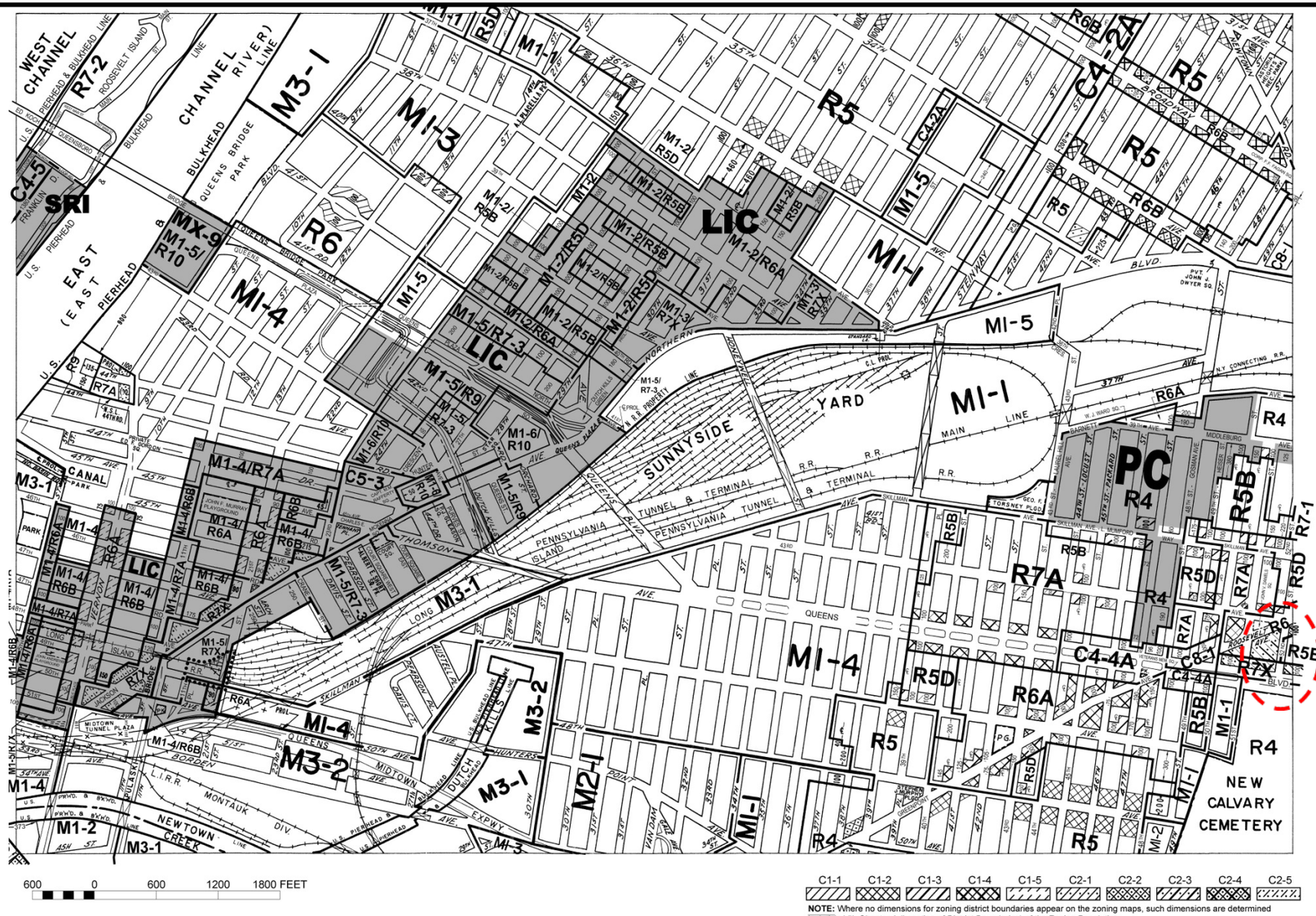
Existing and Proposed Zoning

Figure 1.4-1



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.

ZONING MAP

THE NEW YORK CITY PLANNING COMMISSION

Major Zoning Classifications:

The number(s) and/or letter(s) that follows an **R**, **C** or **M** District designation indicates use, bulk and other controls as described in the text of the Zoning Resolution.

R – RESIDENTIAL DISTRICT

C – COMMERCIAL DISTRICT

M – MANUFACTURING DISTRICT

SPECIAL PURPOSE DISTRICT
The letter(s) within the shaded area designates the special purpose district as described in the text of the Zoning Resolution.

AREA(S) REZONED

Effective Date(s) of Rezoning:

07-24-2014 C 140275 ZMQ

Special Requirements:

For a list of lots subject to CEQR environmental requirements, see

Proposed Rezoning Area with Approximate 400-Foot Study Area

MAP KEY

8c	9a	9c
8d	**9b**	9d
12c	13a	13c

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ZONING MAP **9b**

NOTE: Zoning information as shown on this map is subject to change. For the most up-to-date zoning information for this map, visit the Zoning section of the Department of City Planning website: **www.nyc.gov/planning** or contact the Zoning Information Desk at (212) 720-3291.

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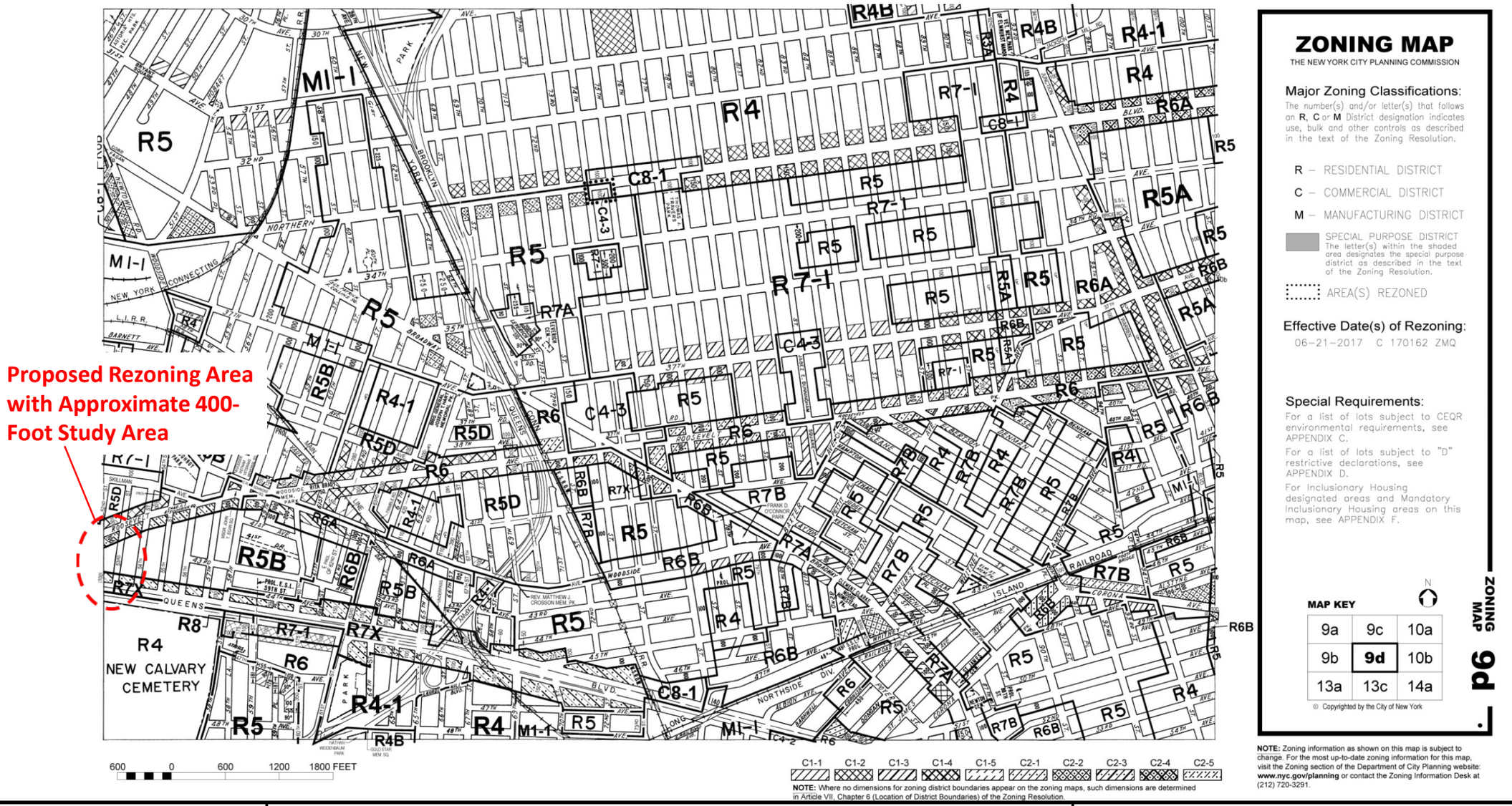
Zoning Map Section 9b

Figure 1.4-2



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52nd Street Rezoning
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Zoning Map Section 9d

Figure 1.4-3

2.0 ENVIRONMENTAL REVIEW

The following technical sections are provided as supplemental assessments to the Environmental Assessment Statement ("EAS") Short Form Part II: Technical Analyses of the EAS forms a series of technical thresholds for each analysis area in the respective chapter of the *CEQR Technical Manual*. If the proposed project was demonstrated not to meet or exceed the threshold, the 'NO' box in that section was checked; thus additional analyses were not needed. If the proposed project was expected to meet or exceed the threshold, or if this was not able to be determined, the 'YES' box was checked on the EAS Short Form, resulting in a preliminary analysis to determine whether further analyses were needed. For those technical sections, the relevant chapter of the *CEQR Technical Manual* was consulted for guidance on providing additional analyses (and supporting information, if needed) to determine whether detailed analysis was needed.

A 'YES' answer was provided in the following technical analyses areas on the EAS Short Form:

- Land Use, Zoning and Public Policy
- Open Space
- Shadows
- Historic and Cultural Resources
- Urban Design and Visual Resources
- Natural Resources
- Hazardous Materials
- Transportation
- Air Quality
- Noise
- Public Health
- Neighborhood Character
- Construction

In the following technical sections, where a preliminary or more detailed assessment was necessary, the discussion is generally divided into Existing Conditions, the Future No-Action Condition, and the Future With-Action Condition.

2.1 LAND USE, ZONING AND PUBLIC POLICY

The *CEQR Technical Manual* recommends procedures for analysis of land use, zoning and public policy to ascertain the impacts of a project on the surrounding area. Land use, zoning and public policy are described in detail below.

2.1.1 Land Use

The *CEQR Technical Manual* defines land use as the activity that is occurring on the land and within the structures that occupy it. Types of land use can include single- and multi-family residential, commercial (retail and office), community facility/institutional and industrial/manufacturing uses, as well as vacant land and public parks (open recreational space). The 2014 *CEQR Technical Manual* recommends that a proposed action be assessed in relation to land use, zoning, and public policy. For each of these areas, a determination is made of the potential for significant impact by a proposed action. If the action does have a potentially significant impact, appropriate analytical steps are taken to evaluate the nature of the impact, possible alternatives and possible mitigation.

Existing Conditions

A map of existing land use is included as **Figure 2.1-1**, while the mix of land use observed in the study area is summarized in **Table 2.1-2.** The *CEQR Technical Manual* recommends a land use; zoning and public policy study area extending 400 feet from the site of a proposed action. The proposed 400-foot land use study area is



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Environmental Assessment Statement
52nd Street Rezoning
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Land Use Map

Figure 2.2-1

generally bound by the midblock between 43rd Avenue/ Roosevelt Avenue and Skillman Avenue to the north, 54th Street to the east, 50th Street to the west, and Queens Boulevard to the south.

A field survey was undertaken to determine the existing land use patterns and neighborhood characteristics of the study area. The prevailing built form of the area is a mix of low to mid-rise non-residential buildings and one- to two-story commercial buildings, often with small parking lots.

Table 2.1-1 Summary of Existing Land Uses within the Study Area

LAND USE	PERCENT OF TOTAL (%)
Residential Uses	
1-2 Family	23
Multi-Family	39
Mixed Residential/ Commercial	18
Subtotal of Residential Uses	*80*
Non-Residential Uses	
Commercial/Office	4.3
Industrial	4.8
Transportation/Utility	4.7
Institutions	9.3
Open Space/Recreation	5.4
Parking Facilities	2.4
Vacant Land	4.6
Subtotal of Non-Residential Uses	*20*
TOTAL	**100.0**

Source: MapPluto GIS data (16V2), NYC Department of City Planning.
Note: Percentages may not add up to 100.0 percent due to rounding.

Study Area

The 400-foot study area contains a mix of land uses, including one- and two-family residences, multi-family apartment buildings, mixed residential and commercial (mixed-use) buildings, commercial, industrial, institutional, transportation, and open space. The commercial uses are comprised of local retail and service uses (delis, beauty salons, restaurants, grocery stores, etc.), larger retail establishments (typically with accessory parking areas), and home supply stores.

Low-rise, one- and two-family residential uses are generally found midblock north of Roosevelt Avenue and midblock south of Roosevelt Avenue along 53rd and 54th Streets. Larger apartment buildings, mixed-use buildings and commercial uses are typically located along transportation corridors, which include Roosevelt Avenue, 43rd Avenue, and Queens Boulevard. A large institutional use, the Presbyterian Church of Southern New York, is located on the east side of 51st Street, north of Queens Boulevard.

Commercial uses are found to west of the rezoning area along 51st Street, to the north along 43rd Avenue, and to the south fronting on Queens Boulevard. A five-story transient hotel (Quality Inn, a commercial use), is located on the northeast corner of Queens Boulevard and 53rd Street. The study area also contains a limited number of auto-related uses on the north side of Queens Boulevard, east of the rezoning area.

Affected Area
From north to south, the affected area contains the following land uses: four low-rise residential uses, three vacant lots, one vacant industrial warehouse, one two-story house of worship (institutional use), one non-complying automobile repair facility (transportation use), and one nine-story, mixed residential and commercial building.

Projected Development Sites
Projected Development Site 1 is located midblock at 43-13 – 43-21 52nd Street. The 15,000-sf projected development site is improved with an existing two-story 14,000-sf warehouse on Lot 12, as well as 8,000 sf of vacant land (Lots 15 through 17). Projected Development Site 2, located at 43-27 52nd Street, is an approximately 4,000-sf lot improved with a non-complying, 996-sf, single-story automobile repair facility. Projected Development Site 3 has a lot area of approximately 6,000 sf, and is improved by a 8,076-sf, three-story, 11-unit residential building. Projected Development Site 4, located at 43-25 52nd Street, is a 5,000-sf lot improved with an approximately 10,000 sf two-story house of worship (El Renuevo Christian Church).

Future No-Action Condition

The No-Action Condition assumes that land uses within the affected area would remain consistent with existing conditions, with the exception of Projected Development Site 1. Per the RWCDS, it is expected that this site would be developed with an as-of-right residential development comprised of six three-story townhouse buildings and a total of 18-market rate units.

Based on discussions with the New York City Department of Planning, no known development sites or planned projects have been identified in the study area.[6] Thus the Future No-Action Condition assumes that existing land use patterns would continue.

Future With-Action Condition

Under the Future With-Action Condition, it is expected that Projected Development Site 1 would be redeveloped with an 82,500-gsf mixed-use building that contains ground-floor retail, 68 residential units, and 74 off-street parking spaces. The redevelopment of Projected Development Site 2 is expected to result in the construction of a 22,000-gsf, mixed-use building with ground-floor retail and 18 dwelling units. It is assumed that a 33,000-gsf mixed-use building with ground-floor retail and 27 residential units would be contructed on Projected Development Site 3. Projected Development Site 4 is expected to be redeveloped as a 27,500-gsf mixed-use building with ground-floor commmunity facitly space and 23 residentail units. It is assumed that the existing house of worship would occpy the communtiy facilty space.

The redevelopment of these sites would be consistent with mixed-use development found through out the study area, including uses to north along Roosevelt Avenue and to the south along Queens Boulevard. The proposed project would not have a signficant adverse effect on land use.

2.1.2 Zoning

The *New York City Zoning Resolution* dictates the use, density and bulk of developments within New York City. Additionally, the Zoning Resolution provides required and permitted accessory parking regulations. The City has three basic zoning district classifications – residential (R), commercial (C), and manufacturing (M). These classifications are further divided into low-, medium-, and high-density districts.

Existing Conditions

Zoning designations within and around the study area are depicted in **Figure 2.1-2**, while **Table 2.1-2** summarizes use, floor area and parking requirements for the zoning districts in the study area.

[6] Personal communication, Alexis Wheeler, New York City Department of City Planning, Queens Borough Office, May 4, 2017.

Study Area

The study area is predominantly residentially zoned. Zoning districts in the study area include R5B, R5D, R6, R7X, R7A and R4; with a C1-4 commercial overlay mapped along the north side of Roosevelt and 43rd Avenues; and a C2-3 commercial overlay mapped along the south side of Roosevelt Avenue, the north side of Queens Boulevard, and west of 52nd Street between Roosevelt Avenue and Queens Boulevard. A contextual R5B district lies east of the rezoning area, an R6 district to the west and north, contextual R5D and R7A districts north of Roosevelt Avenue, and R7X and R4 districts south of Queens Boulevard.

R5B is a low-density contextual district where residential uses (UGs 1 and 2) as well as community facility uses (UGs 3 and 4) are allowed as-of-right. The traditional quality of contextual R5B districts is reflected in the height and setback, front yard and curb cut regulations that preserve the character of the neighborhood. The maximum allowable floor area ratio (FAR) is 1.35, which typically yields three-story rowhouse buildings with a maximum street wall height of 30 feet and a maximum height of 33 feet. Off-street parking is required for two-thirds of the dwelling units and can be waived when only one space is required.

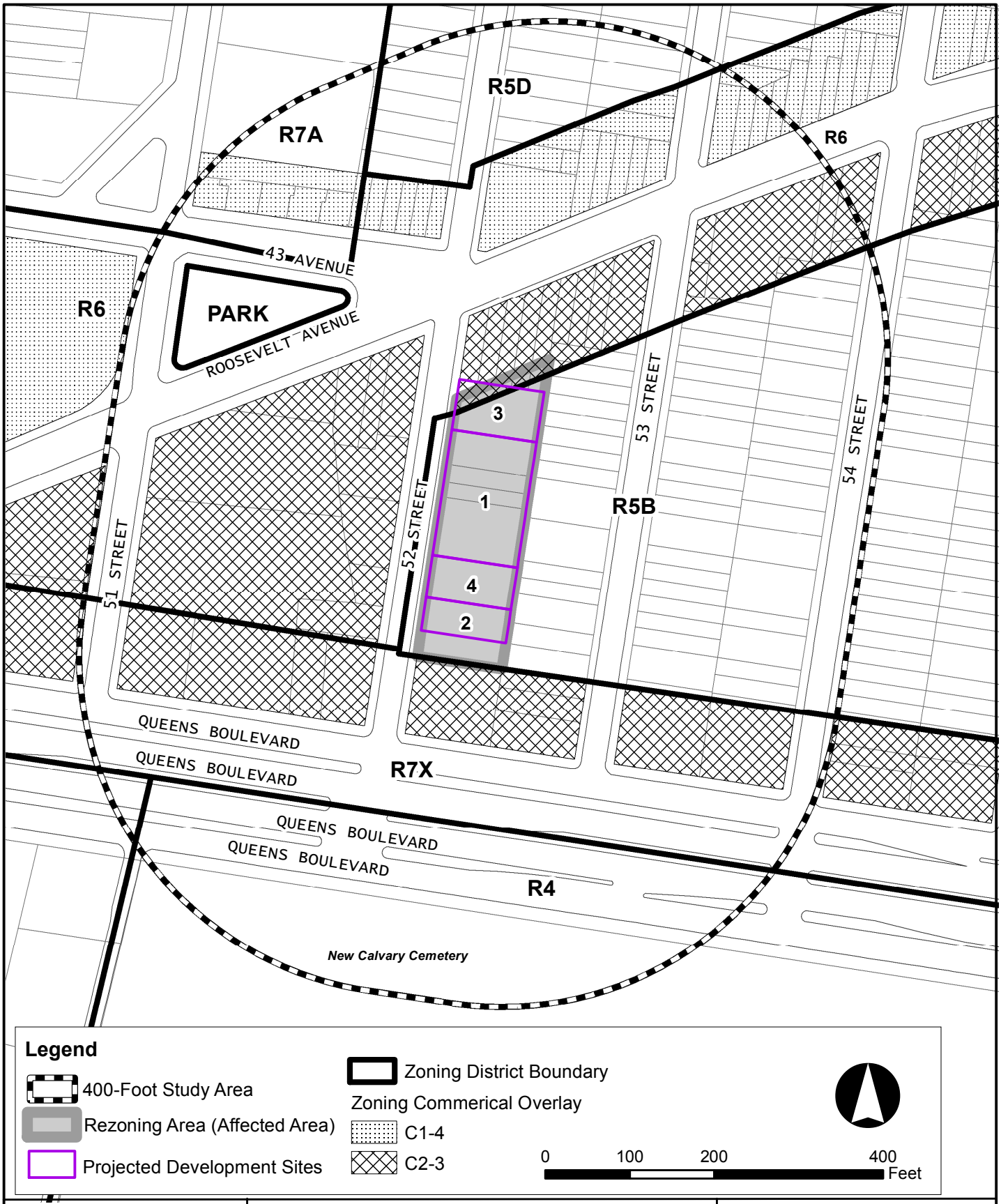
Table 2.1-2 Summary of Existing Zoning Regulations

Zoning District	Type and Use Group (UG)	Floor Area Ratio (FAR)	Parking (Required Spaces)
R4	Low-Density Residential UGs 1 - 4	Residential FAR: 0.75 (may be increased up to 20% for attic allowance) Community Facility FAR: 2.0	1 per dwelling unit
R5B	Low-Density Residential UGs 1 - 4	Residential FAR: 1.35 Community Facility FAR: 2.0	66 percent of dwelling units
R5D	Low-Density Residential UGs 1 - 4	Residential FAR: 2.0 Community Facility FAR: 2.0	66 percent of dwelling units
R6	Medium-Density Residential UGs 1 - 4	Residential FAR: 0.78 - 2.43 (3.0 under R6 QHR) Community Facility FAR 4.8	70 percent of dwelling units (50% under R6 QHR)
R7A	Medium-Density Residential UGs 1-4	Residential FAR: 4.0 Community Facility: FAR 4.0	50 percent of dwelling units
R7X	Medium-Density Residential UGs 1-4	Residential FAR: 5.0 Community Facility: FAR 5.0	50 percent of dwelling units
C1-4 Overlay	Local Retail UGs 1-6	Commercial FAR 1.0 (within R1 - R5) Commercial FAR 2.0 (within R6 - R10)	Varies by Use (often exempt)
C2-3 Overlay	Local Service UGs 1-9, 14	Commercial FAR 1.0 (within R1 - R5) Commercial FAR 2.0 (within R6 - R10)	Varies by Use (often exempt)

Sources: New York City Zoning Handbook, 2011; New York City Zoning Resolution.

Residential and community facility uses are allowed as-of-right in R6 zoning districts. The maximum allowable FAR ranges from 0.78 to 3.0 with the optional Quality Housing Regulations (QHR) for residential use. The FAR for community facilities in R6 zoning districts is 4.8. Building heights within R6 districts are governed by sky exposure planes, and parking is required for 70 percent of all dwelling units (50 percent for QHR). Parking requirements can be waived if five or fewer spaces are required.

The R5D contextual district serves as a transition between lower-density and moderate-density districts, and promotes residential growth along major corridors in auto-dependent areas of the City. The maximum building height is 40 feet, while the maximum allowable FAR is 2.0. Off-street parking is required for 66 percent of all dwelling units and is not permitted in front of the building.



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Existing Zoning Map

Figure 2.1-2

R7A districts adhere to mandatory Quality Housing regulations and produce high-lot coverage, seven- and eight-story apartment buildings. R7A districts have a maximum residential FAR of 4.0 and a maximum building height of 80 feet. The maximum FAR can be increased to 4.6 with the Inclusionary Housing designated area bonus. For Mandatory Inclusionary Housing developments with qualifying ground-floor retail, the maximum height limit increases to 95 feet. Parking is required for 50 percent of dwelling units, and can be waived if five or fewer spaces are required.

The R4 zoning district is a low-density general residence district that permits a maximum FAR of 0.75, which may be increased up to 20 percent for an attic allowance[7] and often results in three-story homes. All types of residences are permitted as-of-right, in addition to community facilities. The maximum perimeter wall is 25 feet and the maximum building height is 35 feet. One off-street parking space is required for each residential unit.

The medium-density R7X zoning district is governed by contextual QH bulk regulations that are rather flexible and can yield buildings of varying heights (i.e., nine-to 13-story buildings). The maximum permissible FAR is 5.0 (with Inclusionary Housing bonus). The maximum base height ranges from 60 to 85 feet, after which the building must be set back a depth of 10 feet on a wide street and 15 feet on a narrow street, before reaching a maximum height of 125 feet. Street wall requirements enable traditional streetscapes to be maintained. Parking is required for 50 percent of dwelling unit with waivers available when 15 or fewer spaces are required.

The C1-4 commercial overlay allows local retail uses (i.e., neighborhood grocery stores, restaurants and beauty parlors) to serve residential zoning districts, while the C2-3 commercial overlay permits a slightly wider range of uses including local services (i.e., funeral homes, repair services). When mapped in R6 through R10 districts, the C1-4 and C2-3 commercial overlays allow for a maximum commercial FAR of 2.0. Commercial buildings are subject to commercial bulk regulations. Parking requirements vary by use.

Affected Area
The affected area is located in a R5B zoning district.

Projected Development Sites
Projected Development Sites 1, 2 and 4 are currently zoned R5B. Projected Development Site 3 is a split zoning lot, with the majority of the property zoned R5B and roughly 1/3 (northwestern corner) zoned R6/C2-3.

Rezoning History
In 1992 the rezoning (affected) area, together with other midblock areas between Roosevelt Avenue and Queens Boulevard, was rezoned from R6 to R5B as a result of a City-sponsored rezoning (C 920126 ZMQ).

In May 2006 the City-sponsored 2006 Maspeth Woodside Rezoning (CEQR No. 06DCP065Q) was approved, which placed the C2-3 commercial overlay around the affected area along 52nd Street, Queens Boulevard and Roosevelt Avenue, and replaced existing commercial districts in the immediate area with R6 and R7X districts. The 2006 Maspeth Woodside Rezoning also incorporated an (E) designation on Block 1321, Lot 1; which, as described below in Section D, is one of the lots that comprise the affected area. The (E) designation (E-163) was placed on this lot to preclude the potential for significant adverse impacts related to hazardous materials, air quality and noise.

Most recently, the City adopted the Sunnyside-Woodside Rezoning in July 2011 (CEQR No. 11DCP080Q), which included map changes and zoning text amendments that affected blocks on Queens Boulevard between 39th and 50th Streets. The affected area that is the subject of this document, however, was not changed by that City-sponsored rezoning.

Future No-Action Condition

[7]An attic allowance is an increase of up to 20 percent in the maximum FAR for the provision of a pitched roof which are common in R4 districts.

In the Future No-Action Condition, zoning changes are not expected to occur on the project site or in the surrounding study area. The affected area would remain mapped as an R5B zoning district.

Future With-Action Condition

The proposed actions would change the rezoning area's existing R5B zoning designation to an R7A/C2-3 district. Doing so would increase the amount of residential and commercial floor area allowed on Projected Development Site 1, enabling the Applicant's proposed mixed-use development to be constructed as-of-right. The regulations for the proposed R7A/C2-3 zoning district are summarized in **Table 2.1-2**.

Under the Future With-Action Condition, it is assumed that Projected Development Sites 1, 2, 3 would be redeveloped with nine-story, mixed-use buildings that would contain ground-floor retail space with residential units on the upper floors and be built to a FAR of 4.6. Similarly, Projected Development Site 4 is expected to be redeveloped with a nine-story mixed-use building that would comprise ground-floor community facility space with residential units on the upper floors. The proposed actions would not have a significant impact on the extent of conformity within the current surrounding area and would not adversely affect the viability of conforming uses on nearby properties. Therefore, significant zoning impacts are not anticipated, and further zoning analysis is not warranted.

2.1.3 Public Policy

The study area affected area and projected development sites are not part of, or subject to, an Urban Renewal Plan (URP), adopted community 197-a Plan, Solid Waste Management Plan, Business Improvement District (BID), Industrial Business Zone (IBZ), or the New York City Landmarks Law. The proposed actions do not include a large publically sponsored project, and as such, consistency with the City's *PlaNYC 2030* for sustainability is not warranted. In addition, as the study area is not located within New York City's designated Coastal Zone, the proposed actions are not subject to review for consistency with the City's Waterfront Revitalization Program.

Furthermore, the proposed actions include a zoning text amendment that would establish a new MIH area and require permanent affordability for a portion of new residential development within the rezoning area. The the proposed actions' provision of affordable housing would be supportive of and consistent with the goals of the Mayor's *Housing New York* plan[8]. Accordingly, the proposed actions would not have a significant adverse impact with respect to public policy and do not require further analysis.

2.2 OPEN SPACE

Open space is defined as publicly or privately-owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment. According to the *CEQR Technical Manual*, an analysis of open space is conducted to determine whether or not a proposed project would have a direct impact resulting from the elimination or alteration of open space and/or indirect impacts resulting from overtaxing available open space. An open space analysis focuses on officially designated existing or planned public open space. An open space assessment may be necessary if a project would have the potential to result in a direct or indirect effect on open space.

For the majority of projects, an assessment for indirect effects is conducted if the proposed project would generate more than 200 residents or 500 employees, or a similar number of other users (such as the visitor population that might be introduced by a large shopping area). However, the need for an open space assessment may also vary in certain areas of the city that are considered either underserved or well-served by open space. Underserved areas are areas of high population density that are generally the greatest distance from parkland where the amount of open space per 1,000 residents is currently less than 2.5 acres. Well-served areas have an open space ratio above 2.5 accounting for existing parks that contain

[8] *Housing New York: A Five-Borough, Ten-Year Plan*, City of New York, 2104.

developed recreational resources or are located within 0.25 mile (approximately a 10-minute walk) from developed and publicly accessible portions of regional parks.

The location of the affected area is considered underserved by open space, and the relevant CEQR threshold of 50 residents or 125 employees would apply. As discussed above in Section 1.6, the RWCDS assumes that the proposed actions would result in a net increment of 107 residential units, 270 residents and 64 employees relative to the Future No-Action Condition. As such, a preliminary residential open space assessment is warranted.

2.2.1 Preliminary Open Space Assessment

The open space study area includes all U.S. Census Tracts that have 50 percent or more of the tract within a half-mile radius of the project site, as exhibited in **Figure 2.2-1.** The eight Census Tracts that comprise the study area are shown in **Table 2.2-1**. The affected area is located within Queens Census Tracts 253.02, and the half-mile study area lies within Queens Community District 2.

Table 2.2-1 Census Tracts and Population in the Study Area

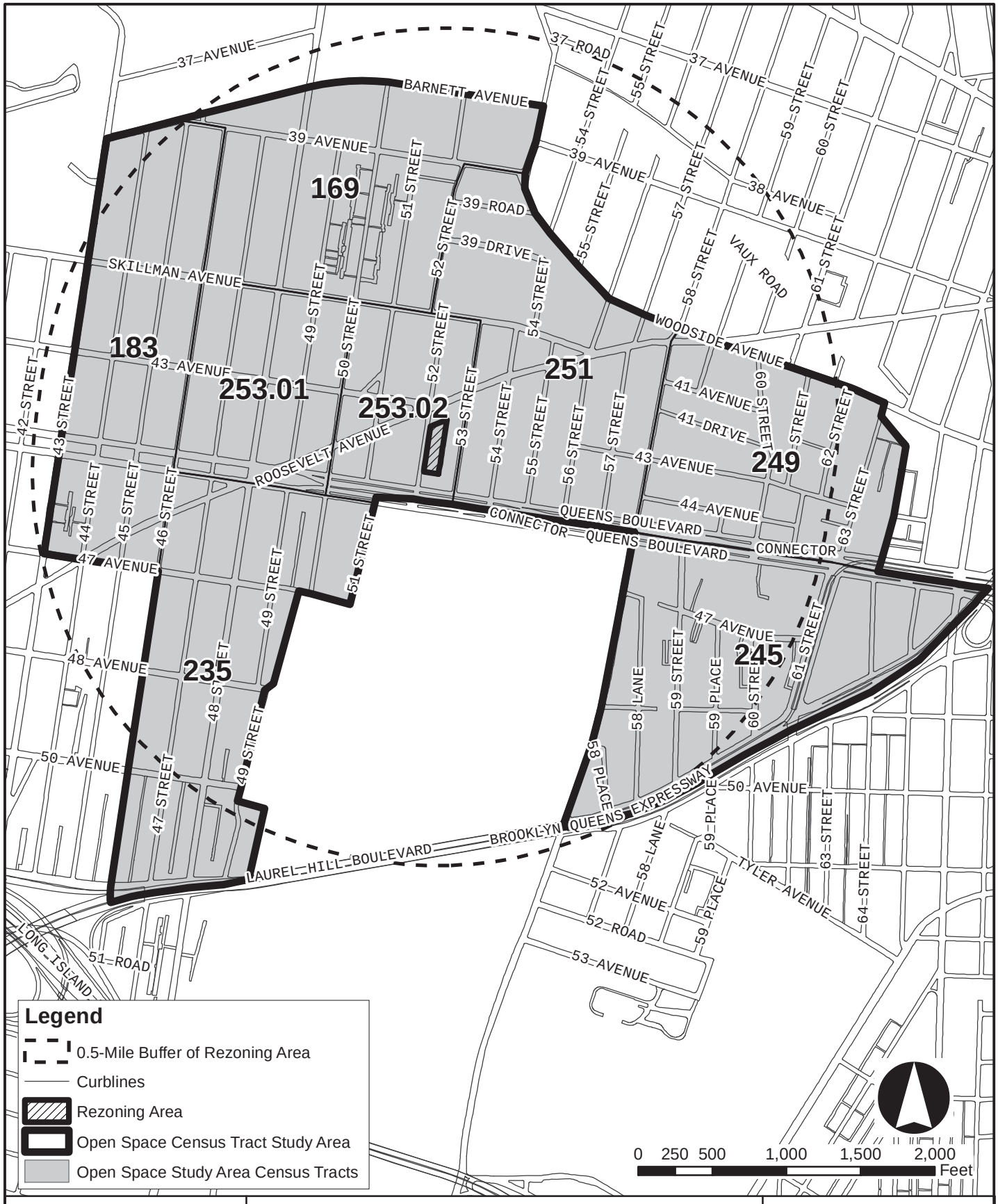
Census Tract Number	2010 Population (U.S. Census)	2017 Population (Projected)	2024 No-Action Population (Projected)
169	5,539	5,736	5,940
183	6,031	6,245	6,467
235	8,278	8,572	8,877
245	4,942	5,118	5,299
249	5,546	5,743	5,947
251	5,720	5,923	6,134
253.01	4,591	4,754	4,923
253.02	2,876	2,978	3,129[1]
Total	**43,523**	**45,069**	**46,716**

Source: Census Fact Finder, New York City Department of City Planning.
Notes: Shaded row indicates census tract of the project site.
[1] Includes the estimated 45 residents that would be introduced by Projected Development Site 1 in the Future No Action Condition.

Existing Conditions

According to 2010 U.S. Census population data that was compiled by the New York City Department of City Planning, there are a total of 43,523 residents in the study area, as shown above in **Table 2.2-1.** Assuming a standard background growth rate of 0.5 percent per year, the 2017 population is estimated to be approximately 45,069 residents. The study area contains a total of nine open space resources, as depicted in **Figure 2.2-2** and listed in **Table 2.2-2** below. Eight of these resources are accessible to the public on a constant and regular basis and as such, have been factored into the quantitative open space assessment (i.e., the open space ratio calculation). These eight resources provide a total of approximately 8.75 acres of open space (both active and passive). The additional open space resource located within the study area (key map ID A in **Table 2.2-2**), Sunnyside Gardens Park, provides another 1.97 acres of open space, but has not been included in the quantitative assessment due to its limited access.[9]

[9] Sunnyside Gardens Park membership is limited to residents that live within the Sunnyside Gardens zones. As per 2014 zone map available on the park's website (see http://sunnysidegardenspark.org/ZoneMap) this area is generally bounded by Barnett Avenue to the north, Woodside Avenue to the east, 43rd Street to the west, and Skillman Avenue to the south; and also includes portions of four additional blocks located between Skillman Avenue and Queens Boulevard, and 46th and 48th Streets.



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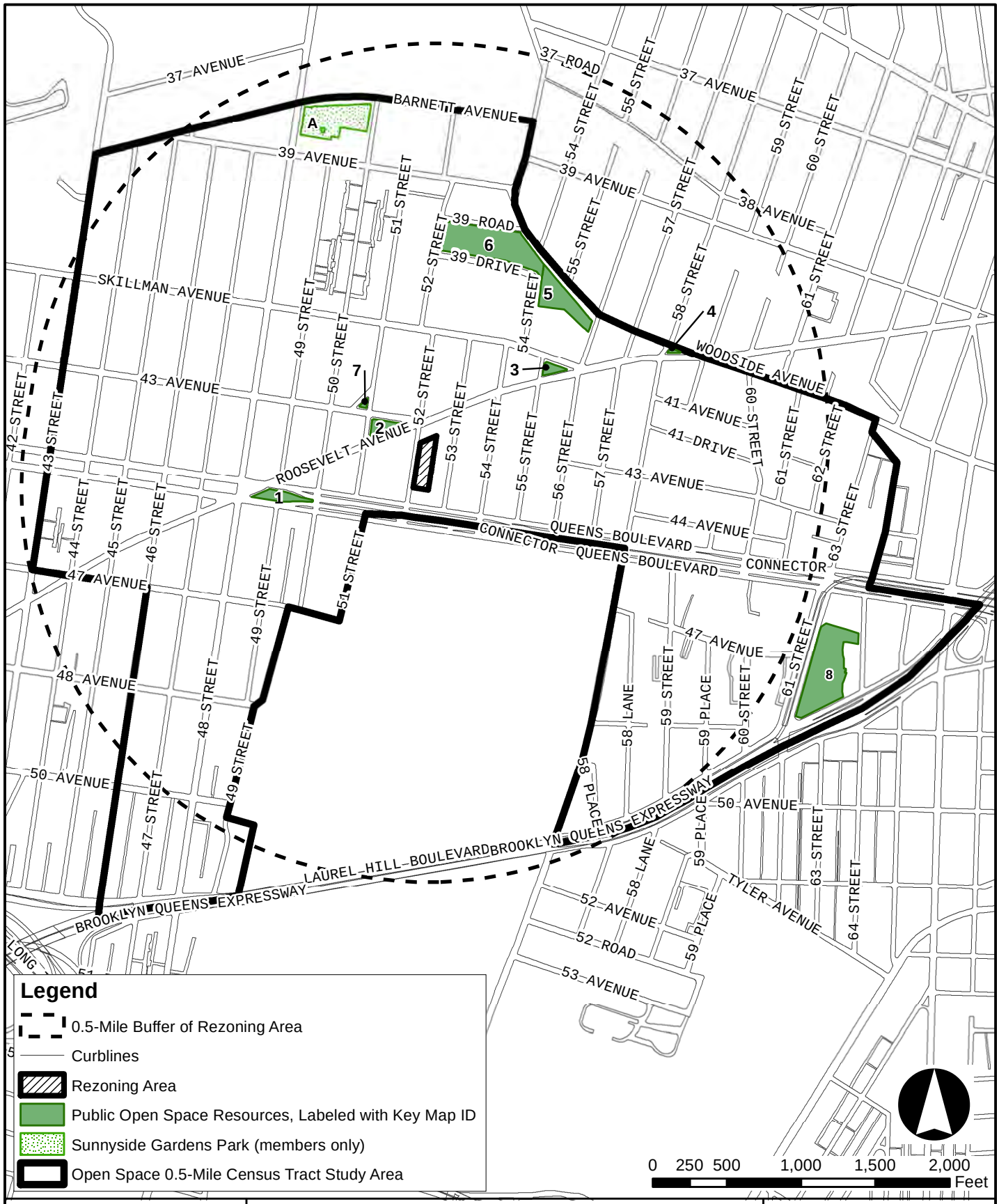
Open Space Study Area

Figure 2.2-1



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Open Space Resources

Figure 2.2-2

Table 2.2-2 Open Space Resources in the Study Area

Map Key ID	Open Space Resource	Location	Size (acres)
1	Sabba Park	Queens Blvd. bet. 48 St., Roosevelt Ave. & 50 St.	0.47
2	Vincent Daniels Square	43 Ave., Roosevelt Ave. bet. 50 St., 51 St. & 52 St.	0.25
3	Steinmann Triangle	Skillman Ave., Roosevelt Ave. bet. 55 St. & 56 St.	0.21
4	Sohncke Square	Woodside Ave., 58 St., Roosevelt Ave.	0.04
5	Doughboy Plaza	Woodside Ave. bet. 54 St. & 56 St.	1.71
6	Lawrence Virgilio Playground	52 St., Woodside Ave. bet. 39 Rd. & 39 Dr.	3.01
7	John Downing Park	43 Ave. & 51 St.	0.04
8	Big Bush Park	Laurel Hill Blvd. bet. 61 St. & 64 St.	3.02
		Total	**8.75**
Resources Not Included in Quantitative Assessment			
A	Sunnyside Gardens Park	Barnett Ave., 39th Ave., 50th St.	1.98

Sources: Selected Facilities & Program Sites, Queens Community District 2, NYC Department of City Planning; NYC DOITT GIS data.

In accordance, with CEQR methodology, the assessment of open space resources in the study area focuses on the calculated open space ratio (OSR), or the ratio of the acres of open space per 1,000 persons. The existing OSR in the study area is approximately 0.194 acres per 1,000 residents, well below the City's target OSR of 1.50 acres per 1,000 residents.

While the additional 1.97 acres of open space provided by Sunnyside Gardens Park is limited to members only (restricted based on location of residence), this well-kept and well-utilized resource helps to offset the existing shortfall of open space. Also, of note, additional resources are located within (or just beyond) one-half mile of the rezoning area. However, as they lie outside of the residential open space census tract study area, they were not factored into open space ratio calculation. Such proximate resources include the 1.05-acre Thomas P. Noonan Jr. Playground located between 47th and Roosevelt Avenues and 42nd and 43rd Streets; and the 2.0-acre Tornsey Playground, situated northwest of the intersection of Skillman Avenue and 43rd Street.

Future No-Action Condition

In the future without the proposed actions, it is expected that the population in the surrounding area would continue to grow by approximately 0.5 percent a year, representing a standard background growth rate. Thus, the approximately 45,069 residents in the study area under 2017 conditions would grow to approximately 46,671 residents by 2024. Adding in the residents that are assumed to be introduced by Projected Development Site 1, the residential population of the study area under the Future No-Action Condition is estimated at 46,716 (see **Table 2.2-1**). No additional open space is expected to be created within the study area by the 2024 build year. As a result, the existing OSR of 0.194 acres of open space per 1,000 residents is expected to be reduced to approximately 0.187 acres of open space per 1,000 residents in the future without the proposed actions (see **Table 2.2-3**).

Future With-Action Condition

Preliminary screening procedures from the *CEQR Technical Manual* indicate that impacts may occur if a project reduces the OSR by more than five percent. In areas that are lacking in open space resources, a reduction as small as one percent may be considered significant. **Table 2.2-3** presents a comparison of the OSR under the Future No-Action and Future With-Action Conditions. In the Future With-Action Condition, the proposed actions would be expected to result in an incremental increase of approximately 270 residents over the No Build Condition, thereby increasing the study area population to 46,986 residents under the Future With-Action Condition. The resulting OSR would decrease slightly from 0.187 acres per 1,000 residents under the Future No-Action Condition to 0.186 acres of open space per 1,000 persons under the Future With-Action Condition, a decrease of approximately 0.57 percent. The reduction in OSR related to

the proposed actions would be less than one percent. Therefore, significant adverse impacts to open space resources are not expected as a result of the proposed actions.

Table 2.3-3 Open Space Ratio: Future No-Action Condition versus Future With-Action Condition

	Residential Population	Open Space Acreage	Open Space Ratios per 1,000 residents
Future No-Action Condition	46,716	8.75	0.187
Future With-Action Condition	46,986	8.75	0.186
Percent change (Future No-Action to Future With-Action)			**0.57%**

Conclusion

As presented above, the study area is currently underserved by open space. In the Future No-Action scenario, the OSR would decrease slightly as a result of residential population growth without an increase in public open space. In the Future With-Action Condition, the study area would experience a slight decline in OSR over the No-Action Condition due to the additional residents expected to result from the redevelopment of the projected development sites.

As noted in the Existing Conditions discussion, a number of additional resources are located outside of the open space census tract study area, but within (or just beyond) one-half mile of the rezoning area. These resources, which include the 1.05-acreThomas P. Noonan Jr. Playground located between 47th and Roosevelt Avenues and 42nd and 43rd Streets; and the 2.0-acreTornsey Playground, situated northwest of the intersection of Skillman Avenue and 43rd Street; would help to reduce the shortage of open space that is expected to continue in the Future With-Action Condition. Furthermore, while it is not publicly-accessible open space, the 1.97-acre Sunnyside Gardens Park would also help to fill the study area's open space deficit.

The projected decrease in OSR between the Future No-Action and Future With-Action Conditions is approximately 0.5 percent. In accordance with *CEQR Technical Manual* guidance, as the projected reduction is less than one percent, a significant adverse open space impact to open space resources is not expected. Accordingly, the proposed actions do not warrant further analysis or the development of mitigation measures.

2.3 SHADOWS

The *CEQR Technical Manual* defines a shadow as the condition that results when a building or other built structure blocks the sunlight that would otherwise directly reach a certain area, space or feature. An incremental shadow is the additional or new shadow that a building or other built structure resulting from a proposed project would cast on a sunlight-sensitive resource during the year. Sunlight-sensitive resources are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, including public open space, architectural resources and natural resources. Shadows can have impacts on publicly accessible open spaces or natural features by adversely affecting their use and important landscaping and vegetation. In general, increases in shadow coverage make parks feel darker and colder, affecting the experience of park patrons. Shadows can also have impacts on historic resources whose features are sunlight-sensitive, such as stained-glass windows, by obscuring the features or details which make the resources significant.

Shadows also vary according to time of day and season. Shadows cast during the morning and evening, when the sun is low in the sky, are longer, while midday shadows are shorter in length. Shadows in winter, when the sun arcs low across the southern sky, are also longer throughout the day than at corresponding times in spring and fall seasons. During the summer, the high arc of the sun casts shorter shadows than at any other time of year, and early and late shadows are cast towards the south.

The *CEQR Technical Manual* states that a shadow assessment considers projects that result in new shadows long enough to reach a sunlight-sensitive resource. Therefore, a shadow assessment is

warranted only if the project would either result in: (a) 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.

2.3.1 Preliminary Shadow Screening Assessment

The shadow assessment begins with a preliminary screening assessment to ascertain whether a project's shadow may reach any sunlight-sensitive resources at any time of the year. If the screening assessment does not eliminate this possibility, a detailed shadow analysis is generally warranted in order to determine the extent and duration of the net incremental shadow resulting from the project.

Tier 1 Screening Assessment

The first step in the preliminary shadow screening assessment is a Tier 1 Screening Assessment. A base map is developed that illustrates the proposed site location in relation to any sunlight-sensitive resources. The longest shadow study area is then determined, which encompasses the project site and a perimeter around the project site boundary with a radius equal to the longest shadow that could be cast by the proposed structure. The longest shadow length is determined by multiplying the maximum height of the proposed structure (including any rooftop mechanical equipment) by a factor of 4.3, which represents the longest shadow that could be cast by the structure on December 21, the winter solstice.

As per the RWCDS, the projected development sites could result the development of buildings that are up to 95-feet tall, resulting in a shadow radius of 408.5 feet. It is conservatively assumed that footprint of development would encompass each site entirely; thus, the shadow radius extends from the boundaries of the projected development sites. As shown in **Figure 2.3-1A**, the results of the Tier 1 screening assessment indicate that Vincent Daniels Square is the only sunlight-sensitive resource of concern within the Tier 1 shadow study area. No sunlight-sensitive historic resources are located within the Tier 1 shadow study area. Thus, a Tier 2 shadow screening is warranted for Vincent Daniels Square.

Tier 2 Screening Assessment

According to *CEQR Technical Manual* methodology, if any portion of a sunlight-sensitive resource lies within the longest shadow study area, a Tier 2 screening assessment should be performed. Because of the path that the sun travels 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. For a Tier 2 screening assessment, sunlight sensitive resources within the triangular area that cannot be shaded by the proposed project site, starting from the southernmost portion of the site covering the area between -108° degrees from true north and +108 degrees from true north, are screened out.

The results of the Tier 2 screening assessment (see **Figure 2.3-1B**) indicate that Vincent Daniels Square fails to screen out and has the potential to be subject to incremental shadow from the proposed actions. Therefore, a Tier 3 screening assessment is needed.

Tier 3 Screening Assessment

A Tier 3 screening assessment is used to determine if project-generated shadows have the potential to reach a sunlight-sensitive resource. In order to determine whether the sun-sensitive features of the nearby resources would potentially be affected by shadows cast from the proposed actions, three-dimensional models were created surrounding the resource of concern identified in the Tier 2 assessment.

The *CEQR Technical Manual* states that for the New York City area, the months of interest for an open space resource encompass the growing season (March through October) and one month between November and February (usually December) representing a cold-weather month. Representative days for the growing season are generally the vernal equinox (or the autumnal equinox, which is approximately the same), the summer solstice, and a spring or summer day halfway between the summer solstice and equinoxes. For the cold-weather months, the winter solstice is usually included to demonstrate conditions

during cold-weather when people who do use open spaces rely most heavily on available sunlight for warmth. As representative of the full range of possible shadows, these months and days are used for assessing shadows on historic or natural sunlight-sensitive resources.

Assessments of the shadows cast during the following four representative dates were made in accordance with the *CEQR Technical Manual*: March 21/September 21, May 6/August 6, June 21 and December 21. As discussed in the preceding paragraph, the four analysis dates encompass the growing season as well as December, which represents a cold-weather month (and the longest shadow of the year). In accordance with *CEQR Technical Manual* guidance, shadows occurring within one and one-half hour of sunrise or sunset are not considered significant and thus were excluded from the screening assessment.

The results of the Tier 3 screening are shown in **Figures 2.3-2A** through **2.3-2D**. The Tier 3 screening results demonstrate that while shadows from the proposed actions would not reach the resource of concern on the May 6/August 6 or June 21 analysis dates, they would have the potential to affect the resource on the December 21 and March 21/September 21 dates. Therefore, in accordance with *CEQR Technical Manual* methodology, a detailed shadow analysis was completed for the December 21 and March 21/ September 21 analysis periods.

2.3.2 Detailed Shadow Analysis

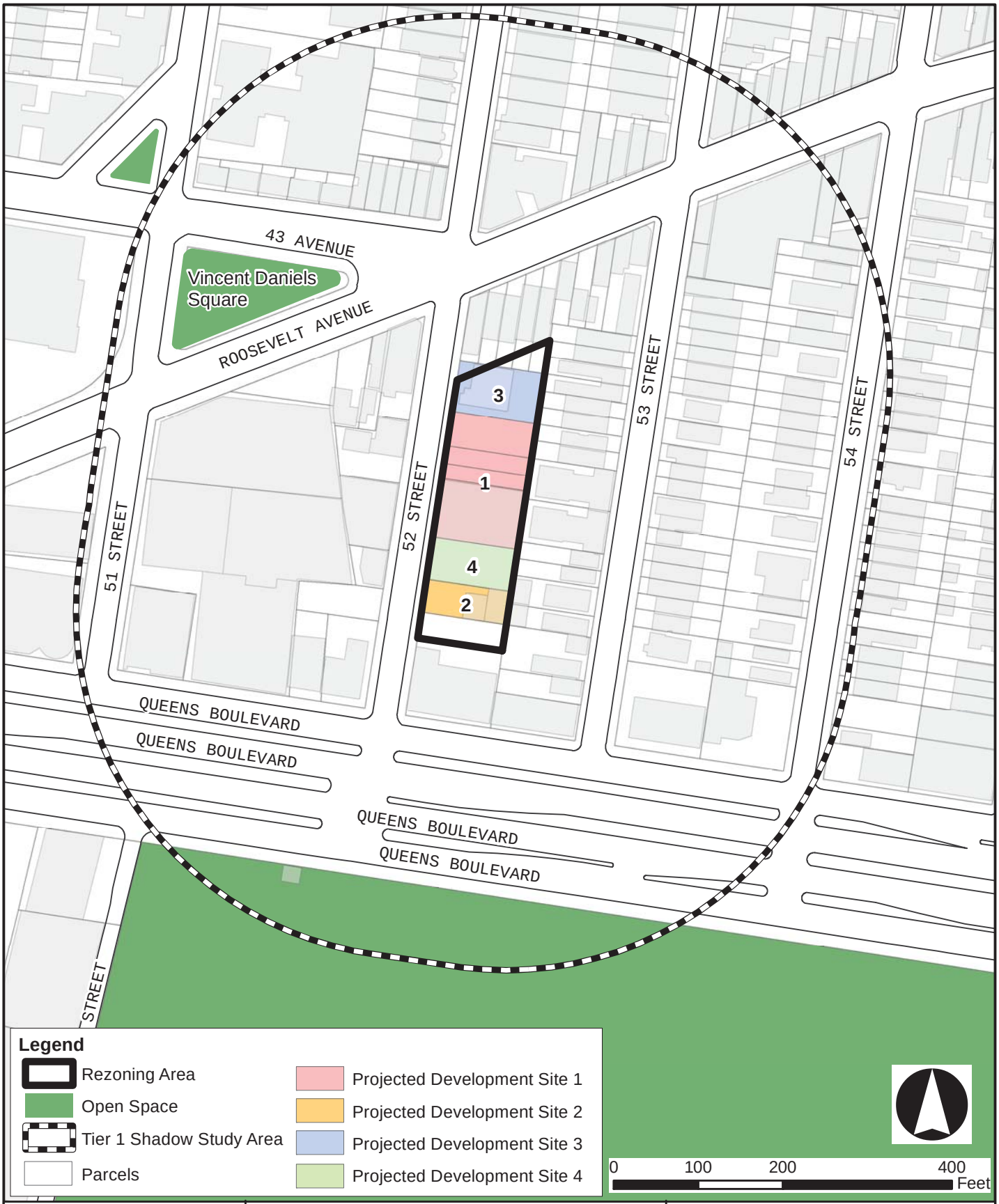
The *CEQR Technical Manual* states that a detailed shadow analysis is warranted when the screening analyses does not rule out the possibility that project-generated shadows would reach any sunlight-sensitive resources. The detailed shadow analysis establishes a baseline condition (the Future No-Action Condition) that is compared against the Future With-Action Condition, to illustrate the shadows cast by existing or future buildings and distinguish the incremental shadow cast by a proposed project. Existing buildings may already cast shadows on a sun-sensitive resource; therefore, under such circumstances, a project may not result in incremental shadows upon that resource.

Future No-Action Condition

In the Future No-Action Condition the proposed rezoning would not occur, and the current zoning designations would continue to control development within the affected area. To evaluate the extent and duration of the new shadow that would be added to a sunlight-sensitive resource as a result of the proposed actions, shadows that would exist under the Future No-Action Condition were defined. The RWCDS assumes that Projected Development Site 1 would be redeveloped with six, three-story townhouse buildings that would rise to a height of approximately 33 feet above grade. Projected Development Sites 2 through 4 are assumed to remain unchanged from existing conditions. As such, existing shadow conditions would remain the same under the Future No-Action Condition for these three sites.

Future With-Action Condition

Under the Future With-Action Condition, the Tier 3 screening results indicate that shadows from the 95-foot-tall buildings on the four projected development sites would reach Vincent Daniels Square on the December 21 and March 21/September 21 analysis dates. The shadow coverage from existing intervening and surrounding structures (including the elevated subway line), and from the future no-action buildings on Projected Development Site 1, serve as the future baseline condition that is used as a benchmark to determine the additional (incremental) shadow cast by the proposed actions.



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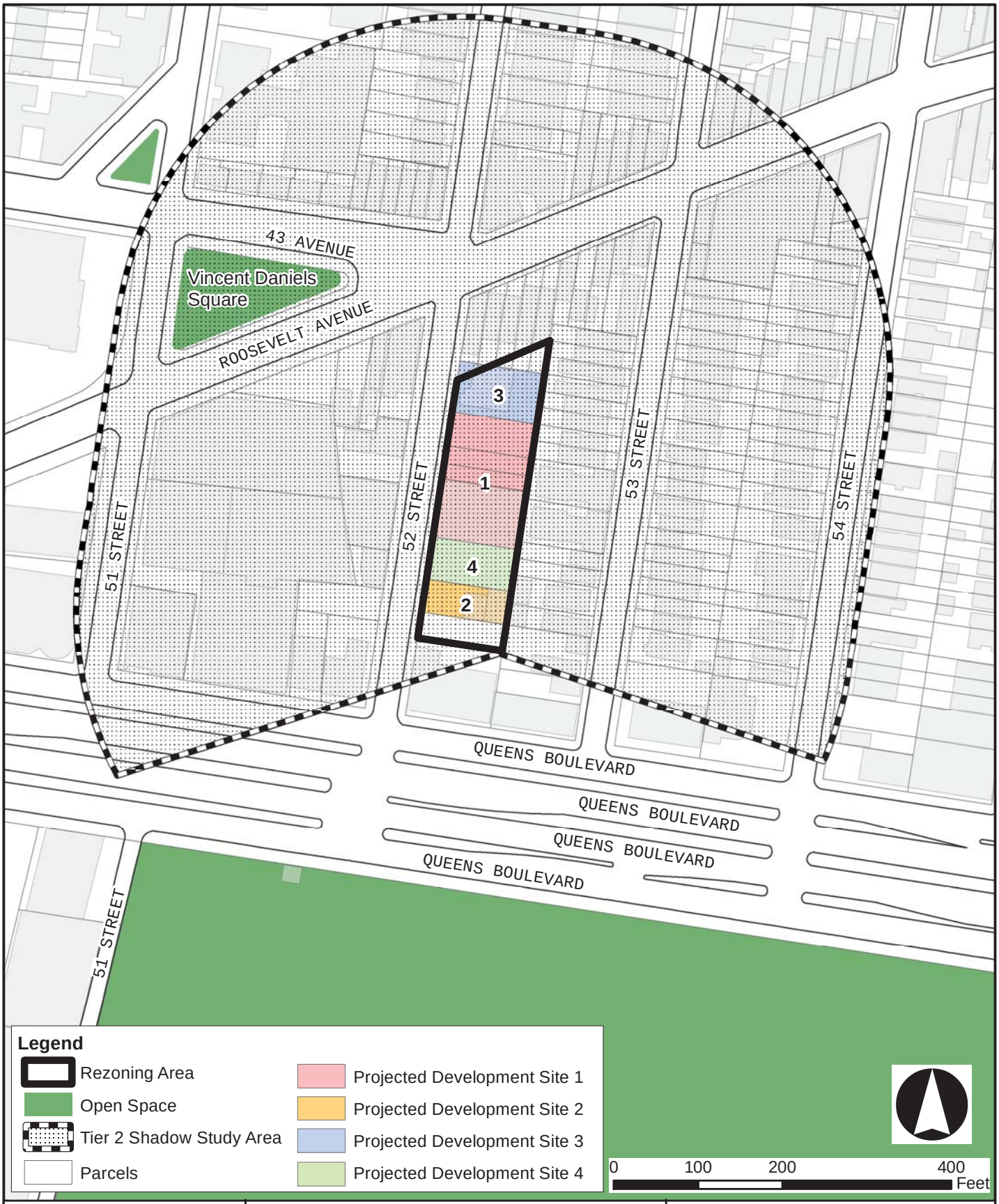
Tier 1 Shadow Screening

Figure 2.3-1A



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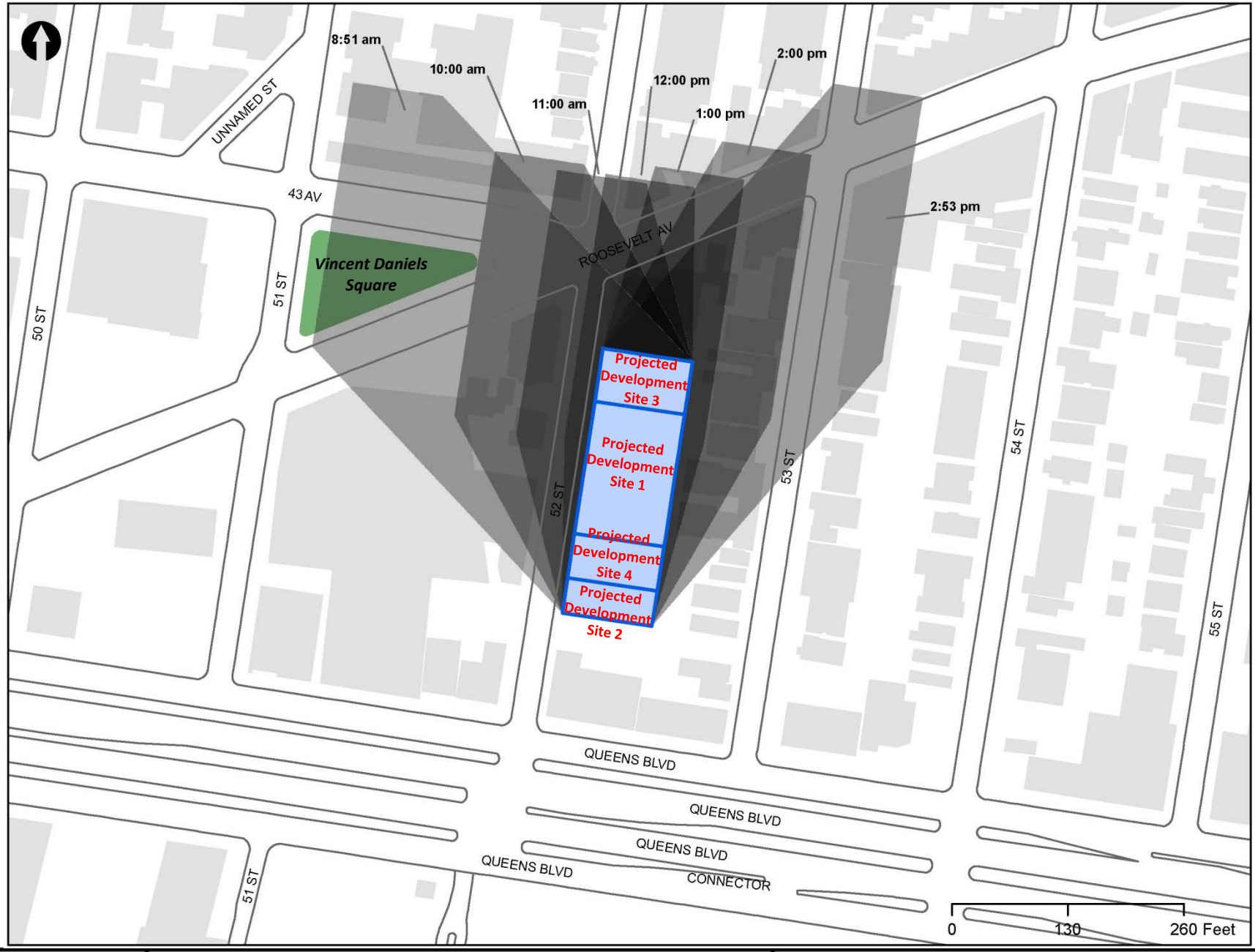
Tier 2 Shadow Screening

Figure 2.3-1B



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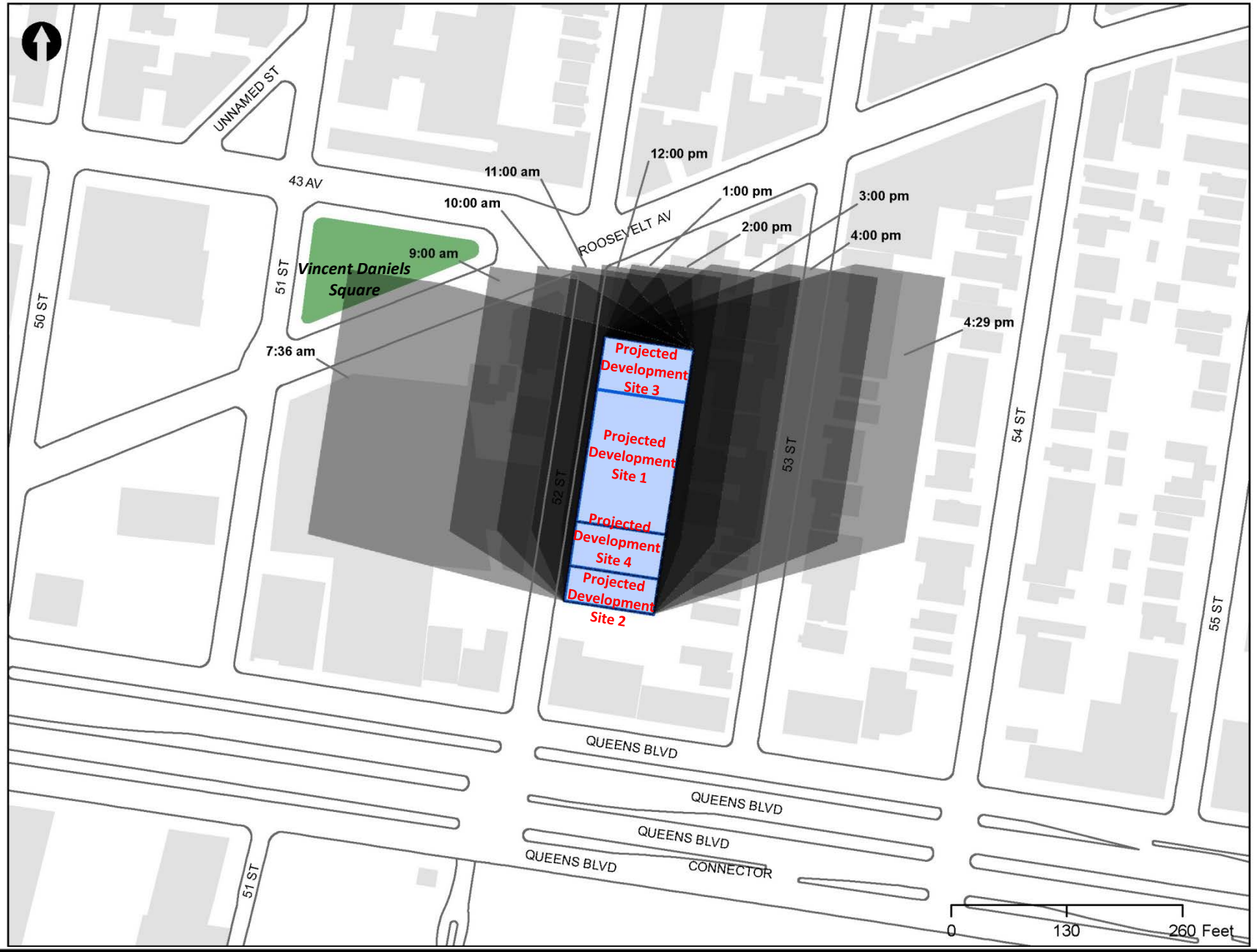
Tier 3 Shadow Screening
December 21
Figure 2.3-2A



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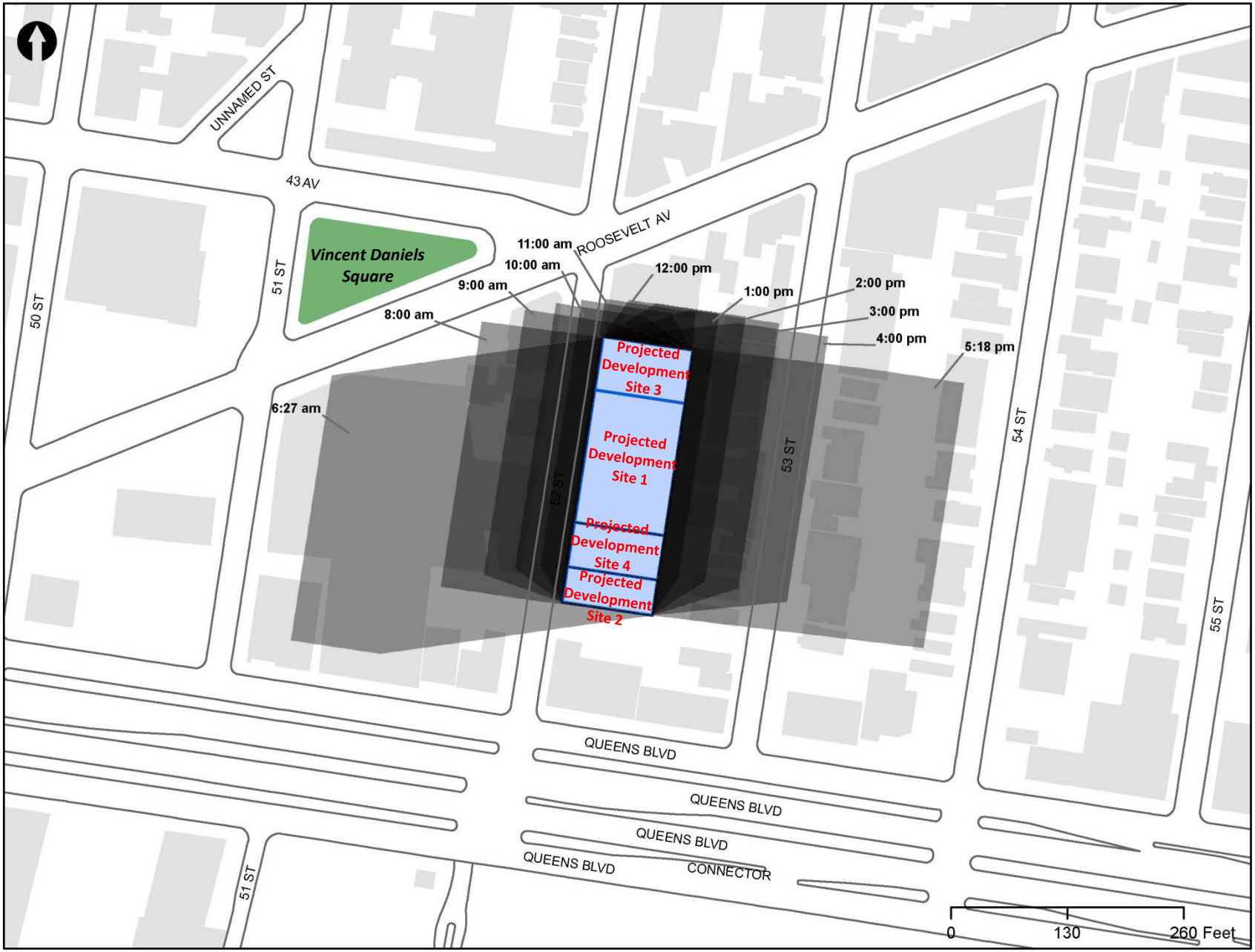
Tier 3 Shadow Screening
March 21/ September 21

Figure 2.3-2B



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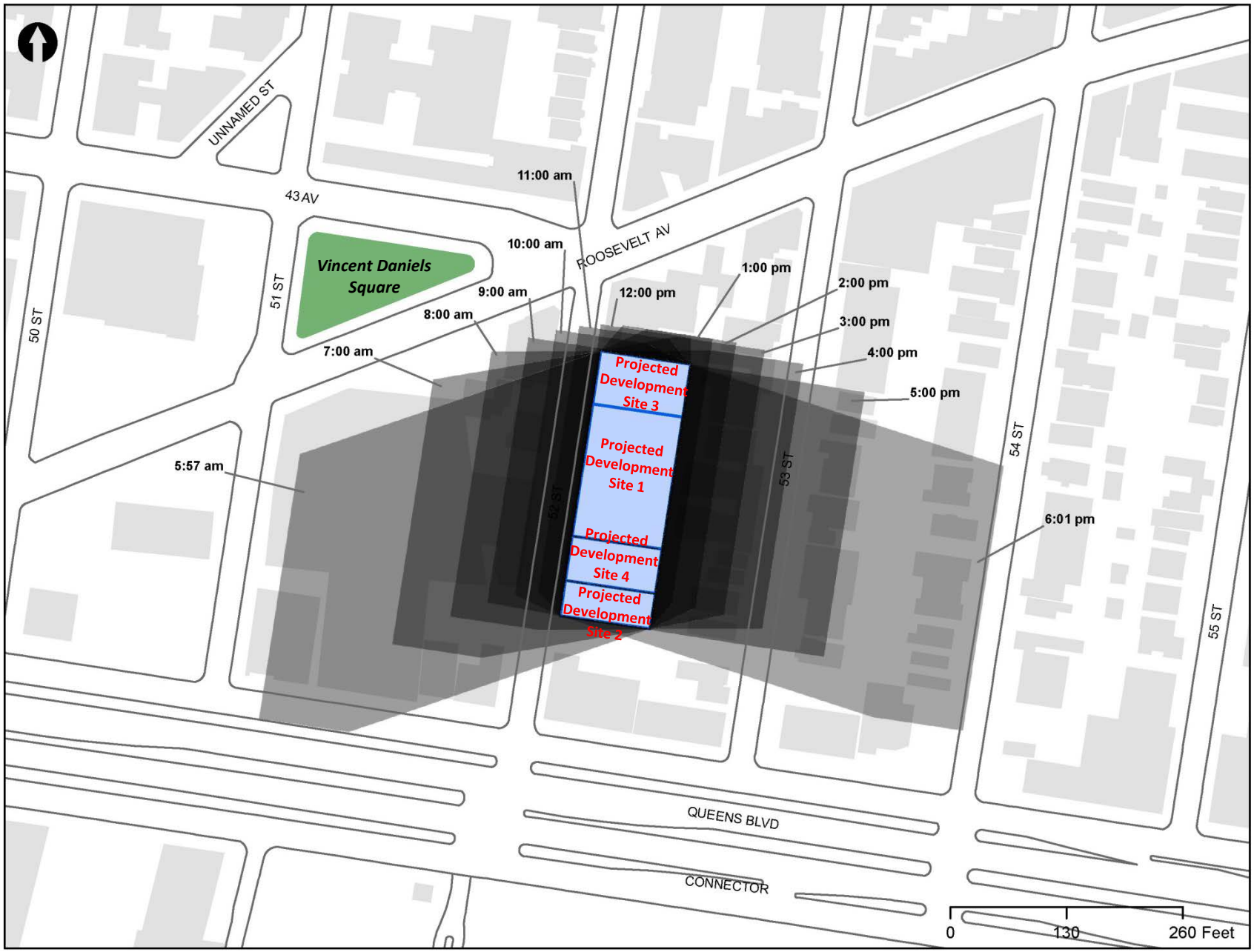
Tier 3 Shadow Screening
May 6/ August 6

Figure 2.3-2C



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Tier 3 Shadow Screening
June 21

Figure 2.3-2D

The results of the detailed shadow analysis are noted in **Table 2.3-1** and illustrated in **Figures 2.3-3A through 2.3-3C**, showing net incremental shadows durations and enter and exit times. The table details the times when net new incremental shadows enter and exit the sunlight-sensitive resource, as well as the duration of net new incremental shadows during each analysis date. In the detailed shadow figures, the existing building footprints and their shadows are shown in light gray and dark gray, respectively; while worst-case shadows that would be cast by the projected development sites are shown in pink, and the incremental shadows from the projected development sites are shown in pink with black diamond hatching (when encroaching on sunlight-sensitive shadow resources).

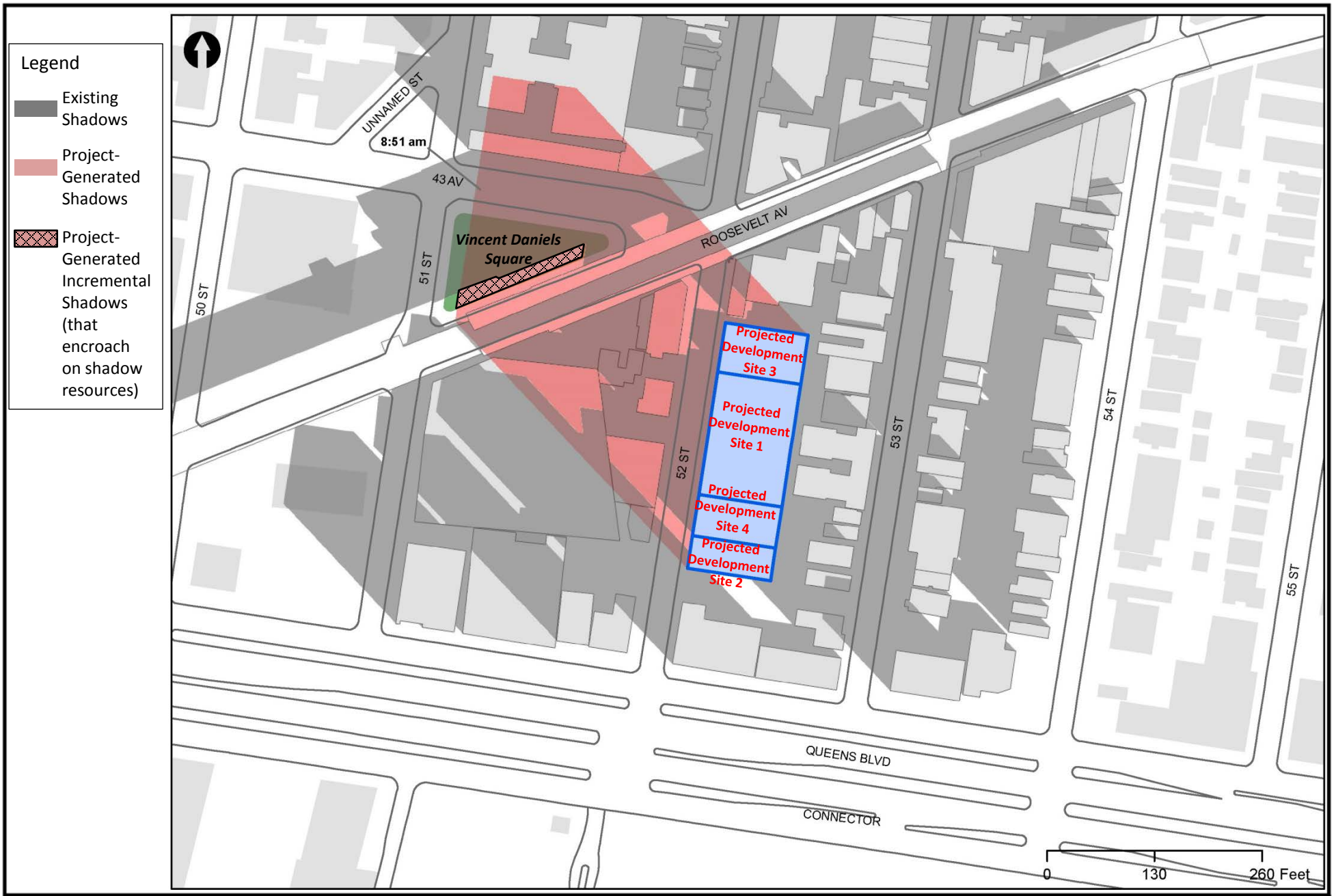
Table 2.3-1 Detailed Shadow Analysis Results

Analysis Date **Time Frame Window**	**December 21** **8:51 a.m. - 2:53 p.m.**	**March 21/ September 21** **7:36 a.m. - 4:29 p.m.**	**May 6 / August 6** **6:27 a.m. - 5:18 p.m.**	**June 21** **5:57 a.m. - 6:01 p.m.**
Vincent Daniels Square				
Shadow Enter – Exit Times	8:51 a.m. - 10:00 a.m.	N/A	N/A	N/A
Incremental Shadow Duration	1 hour, 9 minutes	N/A	N/A	N/A

On the December 21 study date (**Figures 2.3-3A** and **2.3-3B**), incremental shadows from the proposed actions would enter the sunlight-sensitive resource at the start of the analysis period (8:51 a.m.) and exit the resource at 10:00, lasting for approximately one hour and nine minutes. On the March 21/ September 21 analysis date (**Figures 2.3-3C**), Vincent Daniels Square would be covered by shadows from existing and proposed intervening and surrounding structures. Thus the resource would not be affected by project-generated shadows during the March 21/ September 21 analysis period. Per the Tier 3 screening results, project-generated shadows would not reach the resource on the May 6/ August 6 or June 21 analysis dates (**Figures 2.3-2C** and **2.3-2D**).

The goal of the detailed shadows analysis is to determine whether the effects of incremental shadows on a sunlight-sensitive resource are significant under CEQR. A shadow impact occurs when the incremental shadow from a proposed action falls on a sunlight-sensitive resource or feature and reduces its direct sunlight exposure. Determining whether this impact is significant or not, under CEQR, depends on the extent and duration of the incremental shadow and the specific context in which the impact occurs.

For open spaces and natural resources, the uses and features of a resource is an indicator of its sensitivity to shadows. Shadows occurring during the cold-weather months of interest generally do not affect the growing season of outdoor vegetation; however, effects on other uses and activities should be assessed. This sensitivity is assessed for warm-weather-dependent features (such as wading pools and sand boxes) or vegetation that could be affected by a loss of sunlight during the growing season, and for features (such as benches) that could be affected by a loss of winter sunlight. Vegetation requiring direct sunlight includes 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. Where the incremental shadows from a proposed action fall on sunlight-sensitive features or uses, the analysis assesses the loss of sunlight relative to sunlight that would be available without the proposed action.



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Detailed Shadow Analysis: December 21, 8:51 a.m.

Figure 2.3-3A



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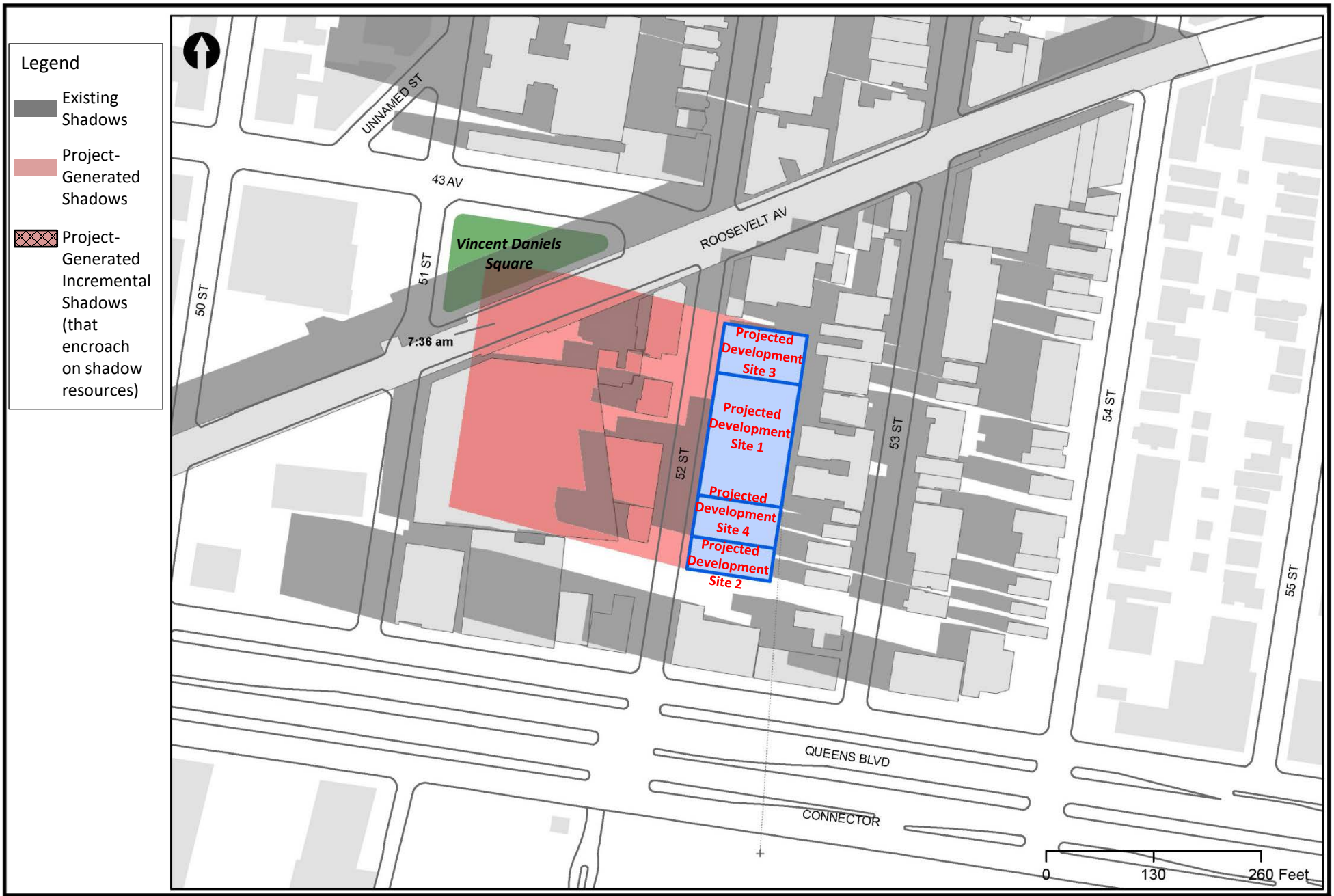
Detailed Shadow Analysis:
December 21, 10:00 a.m.

Figure 2.3-3B



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Detailed Shadow Analysis: March 21/ September 21, 7:36 a.m.

Figure 2.3-3C

As stated in the *CEQR Technical Manual*, in order to determine impact significance, 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 has the potential to occur when an incremental shadow of ten minutes or longer falls on a sunlight sensitive resource and, for open space utilization, a substantial reduction in the usability of open space as a result of increased shadow. 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, could result in a significant shadow impact.

Vincent Daniels Square is an approximately 0.25 community park that includes benches and a limited landscaped area largely comprised of lawns, shrubs and trees. It is entirely comprised of passive open space, and as such, is sunlight sensitive but not a sunlight-dependent resource. The use and enjoyment of the park is not dependent on sunlight.

As discussed above and exhibited in **Figures 2.3-A** through **2.3-C**, shadows generated by the proposed actions would reach the sunlight-sensitive open space on the December 21 date for approximately 69 minutes. On this analysis date, incremental shadows from the proposed actions would "sweep" across the open space for the first 69 minutes of the analysis period, affecting up to approximately 20 percent of the resource. As a cold weather month — when open space users rely most heavily on available sunlight for warmth — the usability of the open space is the key issue, not the growing season. Incremental shadows from the proposed actions could detract from the use of the open space during this time. However, as the resource does not contain any sunlight-dependent uses, it would not be adversely affected by the temporary, partial loss of sunlight.

2.3.3 Conclusion

In the Future With-Action Condition, although the Vincent Daniels Square would be subject to incremental shadows from the proposed actions, it would continue to receive substantial direct sunlight necessary for the survival of tree canopy and vegetation. Given the sweeping nature of shadows, the total affected area and the maximum shadow duration would be limited. The incremental, project-induced shadows would not completely eliminate all of the direct sunlight that the park receives, and would not have a substantial effect on the survival, enjoyment or use of this resource. Therefore, the proposed actions are not expected to result in a significant, adverse shadow impact.

2.4 HISTORIC AND CULTURAL RESOURCES

2.4.1 Introduction

An assessment of historic and cultural resources is usually necessary for projects that are located in close proximity to historic or landmark structures or districts, or for projects that require in-ground disturbance, unless such disturbance occurs in an area that has been formerly excavated.

The term "historic resources" defines districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, architectural and archaeological importance. In assessing both historic and cultural resources, the findings of the appropriate city, state, and federal agencies are consulted. Historic resources include: the New York City Landmarks Preservation Commission (LPC)-designated landmarks, interior landmarks, scenic landmarks, and historic districts; locations being considered for landmark status by the LPC; properties/districts listed on, or formally determined eligible for, inclusion on the State and/or National Register (S/NR) of Historic Places; locations recommended by the New York State Board for Listings on the State and/or National Register of Historic Places and National Historic Landmarks.

2.4.2 Methodology

In accordance with *CEQR Technical Manual* guidelines, a historic and cultural resources assessment was undertaken to determine the proposed actions' potential to have a direct or indirect impact on architectural and archaeological resources. The following subsections outline the steps that were followed to complete the distinct architectural and archaeological assessments.

Architectural Resources
Impacts on architectural resources are considered on those sites that would be affected by the proposed actions (direct effects), in addition to the surrounding area (indirect effects). For the proposed actions, the historic resources study area is delineated by a 400-foot radius around the proposed rezoning area. (The 400-foot study area is illustrated in **Figure 1.2-1**, Project Site Location.) An inventory of known historic resources was undertaken for the study area. If any listed historic resources are identified in the study area, further analysis would be undertaken to assess the proposed actions' potential effects on such resources.

Archaeological Resources
Unlike the architectural evaluation of a study area that extends beyond the footprint of a project site, the analysis of potential impacts to archaeological resources is controlled by the actual footprint of the limits of soil disturbance. Archeological resources are physical remains, usually subsurface, of the prehistoric and historic periods such as burials, foundations, artifacts, wells and privies. In accordance with *CEQR Technical Manual* guidance, an archaeological evaluation is warranted for the proposed actions as they have the potential to result in an in-ground disturbance to areas not previously excavated. The assessment begins with providing the LPC with relevant information and maps of the affected area, so that they can complete a review of the project and determine the need for further study.

2.4.3 Existing Conditions

Architectural Resources
The rezoning area does not contain any LPC-designated landmarks or any S/NR-listed resources, nor is the site part of any LPC-designated or S/NR-listed historic district. The LPC was contacted for their review of the project's potential to impact nearby historic and cultural resources, and a response was received on February 23, 2017, indicating that the rezoning area parcels have no architectural significance (see **Appendix B**).

To determine whether the projected development has the potential to affect nearby off-site historic architectural resources, the study area was screened for known historic resources. No historic or architectural resources were identified within the 400-foot study area. The closest designated LPC resource is the Sunnyside Gardens Historic District (LP-2258), located approximately 1,200 feet west of the rezoning area. Sunnyside Gardens, the creation of architects Clarence Stein and Henry Wright and the City Housing Corporation, was constructed between 1924 and 1928. It consists of a series of twelve "courts" (composed of rows of townhouses and small apartment buildings) built on 16 blocks, and a total of more than 600 buildings. This large complex is one of the most significant planned residential communities in New York City and has achieved national and international recognition for its low-rise, low density housing arranged around landscaped open courtyards. This district was granted landmark status on June 26, 2007. The closest S/NR-listed resource is also the Sunnyside Gardens Historic District (90NR01583).

Archaeological Resources
The rezoning area properties have all been developed with buildings and/or ancillary structures, and as such have been subject to prior disturbance. In addition, the New York State Cultural Resource Information System (CRIS) indicates that the rezoning area does not fall within an archaeologically-sensitive area. Based on an historic photoreconnaissance of the rezoning area, the rezoning area does not appear to be archeologically significant.

As noted above, the LPC was contacted for their review of the rezoning area. In the response letter dated February 23, 2017, the LPC indicated that the rezoning area properties have no archaeological significance.

2.4.4 Future No-Action Condition

In the future without the proposed actions, the proposed rezoning would not occur. It is assumed that the existing warehouse on Projected Development Site 1 would be demolished and replaced with an as-of-right residential townhouse development. It is expected that the uses on Projected Development Sites 2, 3 and 4, as well as those uses found in the remainder of the rezoning area, would remain the same as existing conditions.

The redevelopment of Projected Development Site 1 would not cause a significant adverse effect on architectural resources, as none have been identified in the study area. Similarly, because LPC has determined that the rezoning area parcels have no archaeological significance, the Future No-Action townhouse development would not result in a significant adverse impact on archaeological resources.

2.4.5 Future With-Action Condition

Under the Future With-Action Condition, it is assumed that the projected development sites would be redeveloped with a nine-story, mixed-use buildings that include ground-floor retail or community facilty space, with residential units on floors two through nine.

Architectural Resources
Per the discussion of existing conditions, historic resources were not identified in the rezoning area or in the 400-foot architectural resources study area. Accordingly, the proposed actions would not result in significant adverse impacts to architectural resources.

Cultural and Archaeological Resources
As noted above, the LPC has indicated that the rezoning area properties have no archaeological significance. Accordingly, the proposed actions would not have a significant adverse impact on archaeological resources.

2.4.6 Conclusion

The LPC has determined that the rezoning area has no architectural or archaeological significance. Thus the proposed actions would not have a significant adverse impact on architectural or archaeological resources. In addition, no such resources have been identified in the 400-foot study area.

2.5 URBAN DESIGN AND VISUAL RESOURCES

According to the *CEQR Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. Elements that play an important role in the pedestrian's experience include streets, buildings, visual resources, open space, and natural features, as well as wind as it relates to channelization and downwash pressure from tall buildings. Furthermore, according to the *CEQR Technical Manual*, if a preliminary assessment determines that changes to the pedestrian environment are sufficiently significant to require greater explanation and further study, then a detailed urban design and visual resources analysis is appropriate. Detailed analyses are generally appropriate for all area-wide rezoning applications that include an increase in permitted floor area or changes in height and setback requirements, general large scale developments, or projects that would result in substantial changes to the built environment of a historic district, or components of an historic building that contribute to the resource's historic significance. Conditions that merit consideration for further analysis of visual resources include when the project partially or totally blocks a view corridor or a natural or built rare or defining visual resource. Further conditions that warrant consideration are when the project changes urban design features so that the context of a natural or built visual resource is altered, such as if a project alters the street grid so that the approach to the resource changes, or if a project changes the scale of surrounding buildings so that the context changes.

The *CEQR Technical Manual* notes an urban design assessment considers whether and how a project may change the experience of a pedestrian in the project area. The assessment focuses on the components of a proposed project that may have the potential to alter the arrangement, appearance, and functionality of the built environment. In general, an assessment of urban design is needed when the project may have effects on one or more of the elements that contribute to the pedestrian experience (e.g., streets, buildings, visual resources, open space, natural features, wind, etc.). An urban design analysis is not warranted if a proposed project would be constructed within existing zoning envelopes, and would not result in physical changes beyond the bulk and form permitted "as-of-right" with the zoning district.

As the proposed actions would enable the construction of new buildings that are not allowed "as-of-right" under the existing zoning, a preliminary analysis was conducted.

2.5.1 Preliminary Analysis

As stated in the *CEQR Technical Manual*, the study area for urban design is the area where the project may influence land use patterns and the built environment, and is generally consistent with the study area used for the land use analysis (i.e., 400 feet around the project site). Refer to **Figure 2.5-1** for the 400-foot urban design study area. The purpose of the preliminary assessment is to determine whether any physical changes proposed by a project would have the potential to significantly and adversely affect elements of urban design, which would trigger the need for a detailed assessment.

Existing Conditions

Figure 2.5-2 2.5-3 provides a photograph of the existing view of the projected development sites from the north facing south, and **Figure 2.5-3** provides an existing view of the projected development sites from the north facing south. Ground-level photographs of the projected development sites are provided in **Figure 2.5-4**.

Approximately half of Projected Development Site 1 (Block 1321, Lots 12, 15, 16 and 17) is presently unimproved, while the other half is improved with a two-story, 14,000-gsf warehouse that is currently unoccupied. Projected Development Site 2 consists of Block 1321, Lot 7, which contains a one-story, approximately 996-gsf automobile repair shop. A three-story, approximately 53,738-gsf multi-family residential building occupies Projected Development Site 3 (Block 1321, Lot 19). Projected Development Site 4 consists of Block 1321, Lot 10, which contains a two-story, approximately 10,000-gsf house of worship.

These existing buildings are consistent with the urban design of the neighborhood. They are low-rise buildings, approximately 15 to 40 feet in height, and built out to their respective lot lines. The building street walls face 52nd Street. Like many of the surrounding low-rise buildings in the area, these buildings do not have setbacks.

There is no form that ties the study area's-built environment together visually. The area is characterized by a mix of one- and two-family residential, multi-family residential, mixed residential and commercial, commercial and isolated industrial/ manufacturing uses, transportation/ utility uses, public facility and institutional uses, open spaces, and parking uses. Several vacant lots also exist within the study area. The commercial uses are comprised of local retail uses (delis, beauty salons, restaurants, grocery stores, etc.), larger retail establishments (with parking), and home supply store. The prevailing built form of the area is a mix of low to mid-rise residential buildings, low to mid-rise non-residential buildings and one- to two-story commercial buildings, often with small parking lots. Most lots are arranged regular (parallel) with respect to their lot placement and many of the residential and mixed-use buildings are often attached to one another, as opposed to free-standing detached buildings. These buildings generally range in height from 20 feet to 45 feet.



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Urban Design Study Area

Figure 2.5-1



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Urban Design

Existing Conditions – View 1

Figure 2.5-2



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Urban Design

Existing Conditions – View 2

Figure 2.5-3

Figure 2.5-4 Projected Development Sites: Ground-level Photographs



Photo 1: View of the vacant warehouse building currently located on Projected Development Site 1, from 52nd Street facing south/ southeast. The El Renuevo Church's warehouse building, located on Projected Development Site 4, is visible in distance.



Photo 2: View of the residential building occupying Projected Development Site 3, from 52nd Street facing northeast. The northern portion of Projected Development Site 1 (vacant land with chain link fence along the perimeter) is visible in the foreground.



Photo 3: View of the existing auto service center on Projected Development Site 2, from 52nd Street facing east. The southern portion of El Renuevo Church, located on Projected Development Site 3, is also visible.

The cohesion of the study area is disrupted by Roosevelt Avenue and Queens Boulevard, two heavily-trafficked arterials that influence the visual character and urban design exhibited by the study area. In this area, Queens Boulevard is an approximate eight-lane, two-way arterial with three raised medians that runs east-west along the southern edge of the study area. Roosevelt Avenue is a two-lane, two-way street that runs southwest to northeast, bisecting the study area into northern and southern sections. The elevated No. 7 subway line also runs along Roosevelt Avenue with stairway entrances for the 52nd Street station stop located on either side of Roosevelt Avenue, approximately 100 feet west of the intersection of 52nd Street and Roosevelt Avenue.

Most of the streets contain street trees, which are generally located at irregular intervals. Three medians run down the middle of Queens Boulevard; the outer two medians serve, in part, as protection for two single-direction bike lanes.

The study area contains two open space resources; John Vincent Daniels Jr. Square, and the Calvary Cemetery. John Vincent Daniels Jr. Square is bound by 43rd Avenue, 51st Avenue, and Roosevelt Avenue and is a 0.25-acre, triangular plaza that contains trees, plantings, brick pathways and benches. Calvary Cemetery is a Roman Catholic cemetery that spans approximately 365 acres total. The study area does not contain historic resources and is generally void of visual resources.

The street hierarchy includes several different functional classifications. Roosevelt Avenue and Queens Boulevard are classified as Principal Arterial Other Roadways, and 43rd Avenue is classified as a Minor Arterial. All other roadways in the study area are classified as local roads.

The study area contains one new development, a seven-story residential building with ground floor retail and community facility space, located at 51-25 Queens Boulevard (Block 1320, Lot 47).

Future No-Action Condition

Under the Future No-Action Condition, significant changes to the study area are not expected by the analysis year of 2022. It is anticipated that while tenants within area buildings may change, the overall use

of these buildings would remain the same, and any physical changes would comply with applicable zoning regulations. No significant changes to the area's urban character are anticipated.

Except for Projected Development Site 1, the Future No-Action Condition assumes that the uses on the projected development and in the remainder of the rezoning area would remain similar to existing conditions. In the future without the proposed actions, the existing vacant warehouse on Projected Development Site 1 would be demolished and replaced with an as-of-right residential townhouse development. Refer to **Figures 2.5-5** and **2.5-6** for views of the massing of Projected Development Site 1 under the Future No-Action Condition.

The rezoning area is in the Woodside neighborhood of Queens, which is densely developed. In the future without the rezoning, it is assumed that the Applicant would construct an as-of-right residential townhouse development on Projected Development Site 1 (Lots 12, 15, 16 and 17). Under the existing R5B zoning designation, the Applicant could build six three-story townhouses, which would be consistent with residential uses in the study area.

Although new construction was observed within 400 feet of the rezoning area, the Sunnyside-Woodside Rezoning adopted by the City in July 2011 did not include the affected area. Therefore, for conservative analysis purposes, it is assumed that conditions for the remainder of the affected area (Lots 7, 10 and p/o Lots 1, 19, 55, 57 and 58) would remain consistent with existing conditions, as described above.

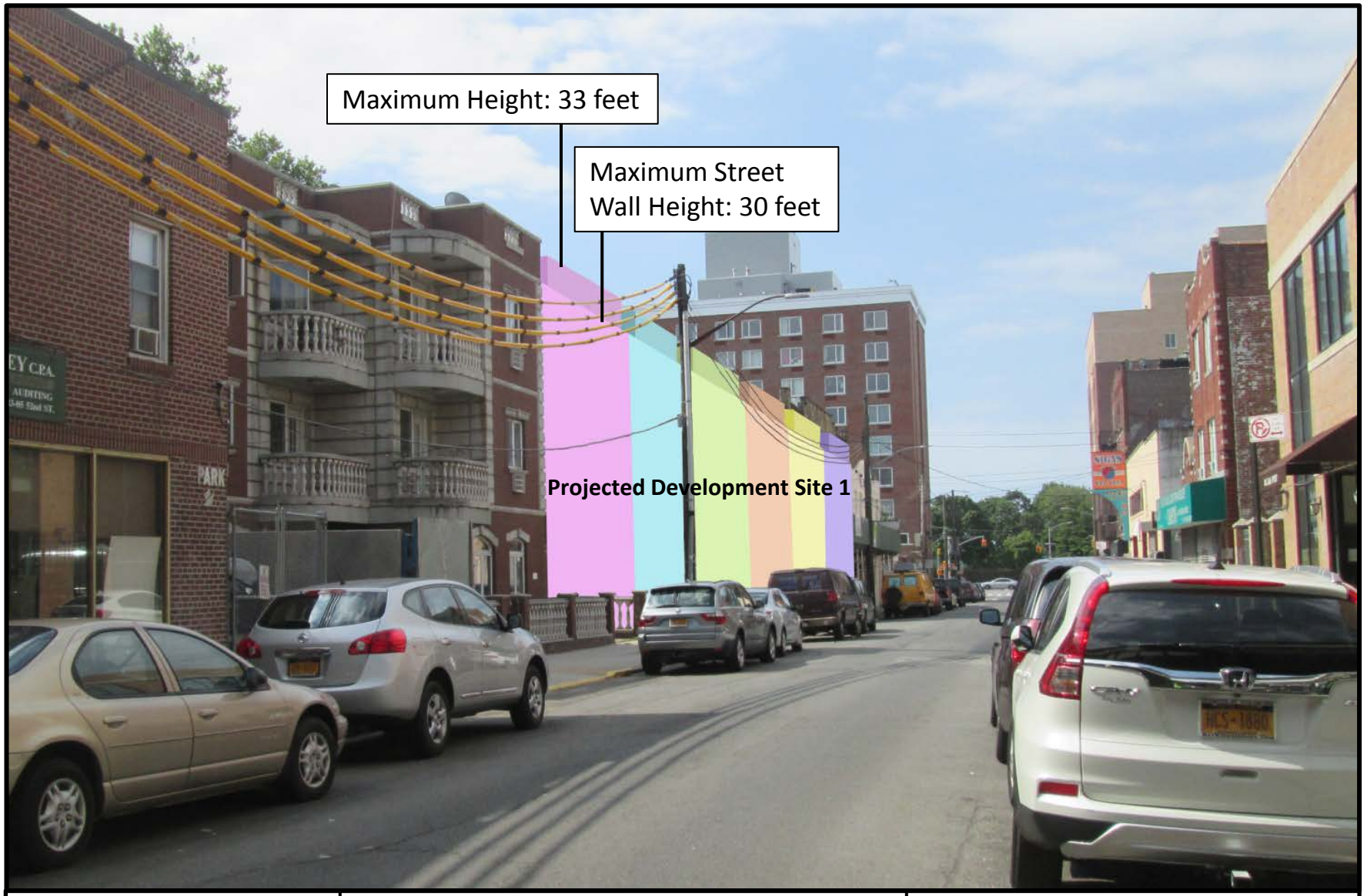
Future With-Action Condition

Under the Future With-Action Condition, the proposed actions would amend the zoning map to change the existing R5B district to an R7A/C2-3 district. Per the RWCDS, it is expected that Projected Development Site 1 would be redeveloped with a mixed-use building comprising ground-floor retail, 68 residential units, and 74 off-street parking spaces; Projected Development Site 2 would be redeveloped with a mixed-use building including ground-floor retail and 18 dwelling units; Projected Development Site 3 would be redveloped with a mixed-use building copmrising ground-floor retail and 27 residential units; and Projected Development Stie 4 would be redeveloped with a mixed-use building containing ground-floor community facilty space and 23 residential units.

Figures 2.5-7 and **2.5-8** provide views of the potential massing of the projected development sites under the Future With-Action Condition. These massing figures generally use the same vantage point as their Future No-Action counterparts, allowing for a direct comparison between the No-Action and With-Action Conditions.

The Future With-Action Condition would result in buildings that would be up to 95 feet tall (above grade) and contain nine floors. As such, the proposed actions would bring a density to the study area that currently only exists immediately south of the rezoning area along Queens Boulevard, where seven- to nine-story buildings are found (at the northwest and northeast corner of 52nd Street and Queens Boulevard). However, the proposed actions would not negatively affect urban design in the area. There are no historic resources or otherwise architecturally-significant buildings in the area and the proposed buildings would not significantly affect any views of the area. The use of the new density would fit in well with the corner developments and other existing medium-density residential uses in the area.

Because the build out of the projected development sites would occur within the existing lot boundaries, the development in the Future With-Action Scenario would not alter or disrupt the existing street grid or change the arrangement and orientation of streets in the area. Additionally, the proposed actions would not permanently alter the existing sidewalks that bound the projected development sites to the west. Changes to the existing sidewalk layout within the immediate vicinity of the projected development sites are not anticipated. Overall, the development in the Future With-Action would not alter with the existing streets, street grid, streetscape, and sidewalks.



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Urban Design
No-Action – View 1

Figure 2.5-5



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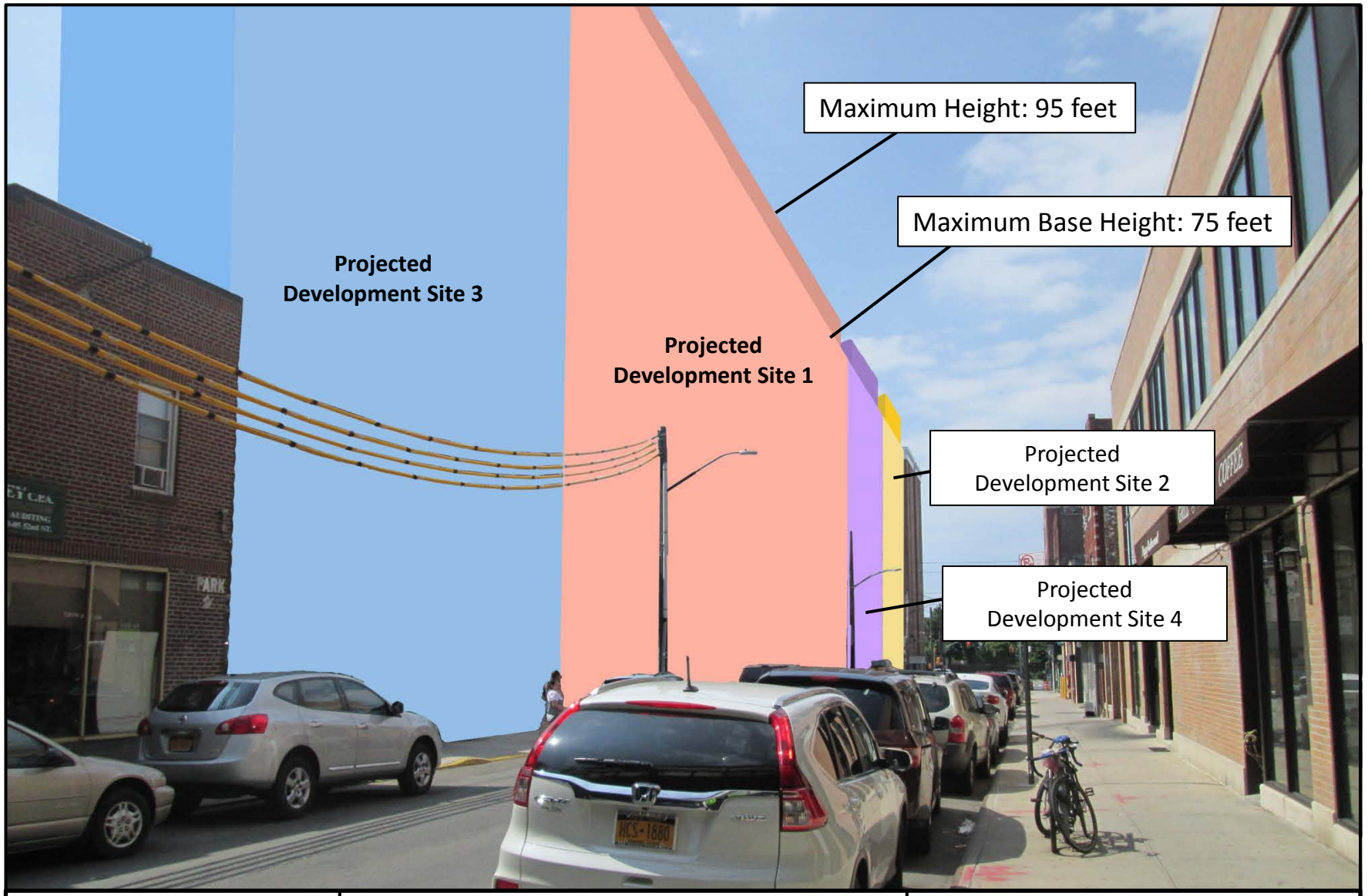
Urban Design
No-Action – View 2

Figure 2.5-6



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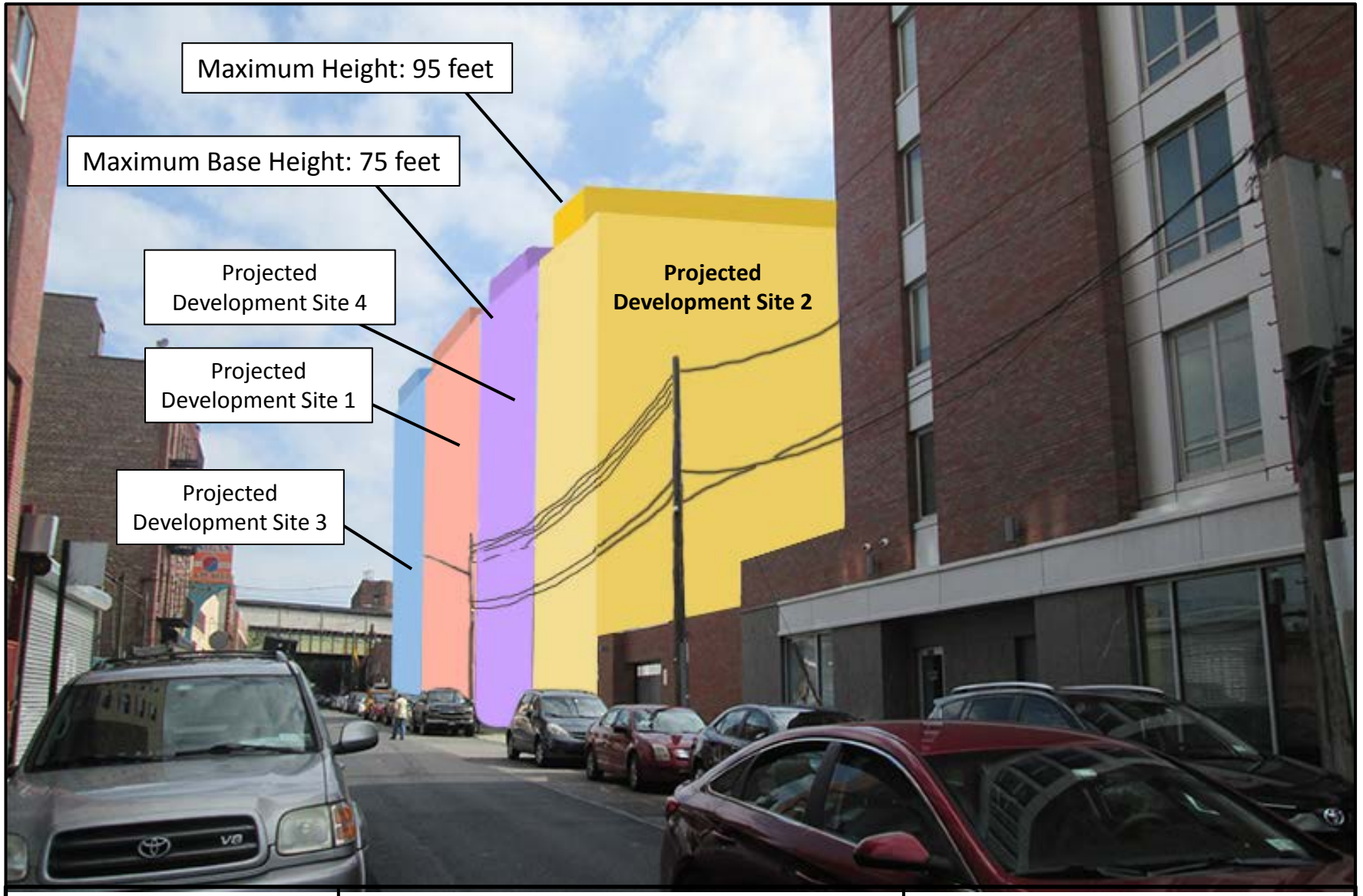
Urban Design
With-Action – View 1
Figure 2.5-7



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Urban Design
With-Action – View 2
Figure 2.5-8

The development under the Future With-Action Condition would result in three buildings that are larger in scale and height than many buildings in the surrounding study area, which are typically two to six stories and 20 to 45 feet in height. As previously mentioned, the With-Action Condition could result in a development of up to nine stories and 95 feet in height. Although the development under the With-Action Condition would be larger and taller than the existing low- to mid-rise buildings in the study area, the buildings would be uniformly massed towards 52nd Street. Furthermore, the additional density in the With-Action Condition allows for the opportunity to produce more affordable housing, which would not be provided in the No-Action Condition.[10]

The projected development sites under the With-Action Condition would include commercial uses on the ground floors. In comparison to the existing warehouse, auto shop facility, and residential uses, these uses would further activate currently-underused sites at the street level and improve the visual quality of the streetscape. As such, the proposed actions would enhance the commercial corridor and view corridor along 52nd Street by activating uses to the streetscape and promoting pedestrian activity.

While the proposed development would change views of the projected development sites as presently witnessed by pedestrians on 52nd Street, Queens Boulevard, Roosevelt Avenue and other roadways, significant adverse impacts to urban design and visual resources would not occur. The proposed actions would not result in any conditions that would merit further detailed assessment of urban design and visual resources. While only one other building of a similar or taller height is located within the study area (the approximately 111-foot, nine-story, mixed-use building on Block 1321, Lot 1), additional seven- to eight-story, 72-to-76-foot mid-rise buildings are found in the surrounding study area. The proposed actions would also not block any view corridors or views to/from any natural areas with rare or defining features, as the footprint of proposed development would be contained to the boundary of each site. Therefore, the proposed actions are not expected to result in any significant adverse urban design or visual resource related impacts.

2.6 HAZARDOUS MATERIALS

A hazardous material is any substance that poses a threat to human health or the environment. Substances that can be of concern include, but are not limited to, heavy metals, volatile and semi-volatile organic compounds (VOCs and SVOCs), methane, polychlorinated biphenyls (PCBs), and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic). According to the *CEQR Technical Manual*, the potential for significant impacts from hazardous materials can occur when: a) hazardous materials exist on a site; and b) action would increase pathways to their exposure; or c) an action would introduce new activities or processes using hazardous materials.

In September 2017, GAC Environmental, Inc. conducted a Phase I Environmental Site Assessment (ESA) at Projected Development Site 1, where all parcels are controlled by the Applicant. The purpose of the Phase I ESA is to investigate and identify Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs), or Historical Recognized Environmental Conditions (HRECs) associated with the Subject Property and/or surrounding property, as defined in the ASTM Standard Practice E 1527-13. This assessment was prepared to identify and evaluate items of potential environmental concern that may be associated with the subject properties, including a limited asbestos survey. A copy of the Phase I ESA is provided in **Appendix C**. The Phase I ESA results are summarized below.

2.6.1 Summary of Phase I ESA

The Phase I ESA was performed at the four subject properties comprising Projected Development Site 1, located at 43-21 52nd Street, 43-15A 52nd Street, 43-15 52nd Street and 43-13 52nd Street (Block 1321, Lots 12, 15, 16 and 17, respectively).

[10] The Applicant proposes to construct an eight-story (plus cellar) 61-unit residential building on Projected Development Site 1, which will include approximately 15 to 18 affordable units under the MIH program (the exact number depends on the MIH option that will be selected).

The Phase I ESA revealed the following environmental areas of concern:

- Suspect asbestos-containing material (ACM) was found in the form of floor tiles and roofing materials at 43-21 52nd Street (Block 1321, Lot 12). If plans are made to renovate or demolish the building all suspect materials must be tested. If the materials test positive, they must then be removed and handled as ACM in accordance with applicable city, state and federal asbestos regulations.
- Two underground storage tanks (USTs) were on the 43-21 52nd Street property when the site was a garage from approximately 1932 to 1962. It is recommended that a Phase II ESA be performed to determine if any soil has been contaminated where the tanks were buried. Soil borings should be made at various depths, and the collected soil analyzed for VOC and SVOCs. There may be additional USTs still present. Ground Penetrating Radar (GPR) should be used to determine whether there are still tanks present at the property.
- There are two pits that are sealed with metal plates in the 43-21 52nd Street building. It is recommended that a Phase II ESA be performed to determine if any soil has been contaminated at these pit locations. Soil borings should be made at various depths, and the collected soil analyzed for VOCs and VOCs.
- There is an old aboveground storage tank (AST) in the cellar of the building located at 43-21 52nd Street. There is no evidence of spills currently or historically from the tank. If plans are made to remove the tank, the tank must be tested, cleaned, and properly removed by an environmental contractor in accordance with applicable city, state and federal regulations of tank removal.
- The building located at 43-21 52nd Street contains fluorescent lights, a common source of PCBs. If the building is to be demolished, the light fixtures should be removed in accordance with applicable city, state and federal regulations.

Due to the aforementioned areas of recognized environmental concerns (RECs), a Phase II environmental site assessment (ESA) was undertaken. The results of the Phase II ESA are discussed at greater length below.

2.6.2 Summary of Phase II Environmental Site Assessment

A Phase II ESA was undertaken at the Project Site in 2019 (See **Appendix D**). The proposed Phase II ESA included the installation of six (6) soil borings, and the analysis of soil and soil vapor samples. Groundwater could not be reached and therefore no wells were installed at the property or water analyzed. The Phase II report concluded the following:

- No obvious evidence of contamination (i.e. odors, staining) was noted in the soil samples collected from this area.
- No VOCs, STARS SVOCs or RCRA 8 Metals were detected above applicable NYSDEC criteria (Unrestricted Use, Protection of Groundwater or CP-51) in the soil samples collected in the area.
- Soil Vapor samples were found to be below the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006, including all online updates).
- Groundwater was not encountered.
- Based on these results, there was no evidence of a petroleum release in the area

Based on the findings of the Phase II ESA report, there are no further recommendations for the Project Site.

2.6.3 Remedial Action Plan

A Remedial Action Plan (RAP) was prepared subsequent to the approval of the Phase II ESA. The RAP proposed the several remedial actions, the implantation of which will achieve the goals established by the Phase II ESA.

Construction Measures

Petroleum Tank Removal

No petroleum storage tanks are known or suspected at the Site. If petroleum storage tanks are unexpectedly encountered, the tanks and any appurtenances will be cleaned, removed and disposed of in accordance with accepted industry standards and applicable federal, state, and local regulatory agency requirements.

Tank and soil removal from the vicinity of any discovered underground storage tanks will be conducted in accordance with the NYSDEC Division of Spills Management Spill Prevention Operations Technology Series (SPOTS) Memo No. 14 “Site Assessments at Bulk Storage Facilities”, NYSDEC, Bureau of Spill Response, Spills Technology and Remediation Series (STARS) Memo No. 1, "Petroleum-Contaminated Soil Guidance Policy," August 1992, and NYSDEC CP-51/Soil Cleanup Guidance, October 2010. Laboratory testing of samples obtained from the excavation areas will include the CP-51 contaminant list for VOCs and SVOCs.

Any tanks encountered at the Site will be registered with NYSDEC and the New York City Fire Department, if necessary. Tank removal activities and any associated petroleum-contaminated soil removal must be documented in a Tank/Spill Closure Report, which will be submitted to NYSDEC. In addition, the removal of any gasoline underground storage tanks must be reported to the New York City Fire Department. Typical tank removal procedures are summarized in the RAP found in **Appendix D.**

Soil Disposal

Soil disposal will be in accordance with federal, state and local requirements, including those for hazardous waste, industrial waste, petroleum contaminated soil, construction and demolition debris, etc., as applicable. Sampling will be required to characterize soil for disposal in accordance with receiving facility requirements.

If sludges, soil or sediment known to be contaminated or showing evidence of potential contamination, such as discoloration, staining, or odors are encountered during excavation activities, procedures will be implemented, procedures are summarized in the RAP found in **Appendix D.**

When applicable, hazardous waste manifest forms and/or non-hazardous waste records will be completed as required by the appropriate regulatory agencies for verifying the material and quantity of each load in units of volume and weight.

Stockpiling Procedures

Any contaminated material intended for off-site disposal may be stockpiled temporarily or loaded directly onto trucks for off-site disposal, if pre-approved by the receiving facility. No petroleum-contaminated soil encountered that is excavated from the Site will be re-used on-site for grading or other purposes. Soil for disposal with known contamination or exhibiting evidence of contamination will be stockpiled on polyethylene sheeting. If the soil is expected to remain on-site overnight or longer, the stockpile will be covered with similar polyethylene sheeting and be secured with large rocks or other appropriate weights to protect against leaching or runoff of contaminants into groundwater or stormwater. The surface surrounding the stockpile will be graded to provide for positive drainage away from the pile. Stockpiles will be managed to minimize dust generation, run-off and erosion, using water, plastic covers, silt fences, and/or hay bales, as necessary.

Soil will be segregated and stockpiled based on its known or anticipated type and/or level of contamination (based on analytical data, PID readings, odor, staining, etc.). Stockpiles will be separated by a sufficient distance to ensure that mixing of dissimilar or potentially dissimilar materials does not occur. The location and classification of stockpiles will be tracked on site drawings and updated, if necessary, at the end of each workday according to the following categories:

1. Soil intended for reuse on-site (if any);
2. Hazardous waste;
3. Non-petroleum contaminated non-hazardous soil for off-site disposal;
4. Petroleum-contaminated soil for off-site disposal; and
5. Soil pending analysis.

Copies of site drawings will be kept in the field log book. Stockpiles intended for off-site disposal may be mixed with other compatible stockpiles on-site (compatibility will be determined by the requirements of the receiving disposal facility), but hazardous wastes will not be mixed with non-hazardous wastes.

Alternatives to Stockpiling

Alternative procedures to stockpiling could include, but are not limited to, agreement(s) from the intended disposal or treatment facilities to accept boring data and/or analytical data previously obtained so that materials may be directly loaded into trucks for shipment to the disposal facility.

Waste Management and Transportation

The proposed project will require excavation for construction of the new building's cellar and foundations.

- Any material showing evidence of contamination (such as odors, staining and/or elevated PID readings) will be properly disposed of off-site in accordance with applicable regulatory requirements and facility requirements.
- Material including C&D material showing no evidence of contamination may be properly disposed of or recycled off-site, or alternatively may be reused on-site provided it is below the new building's foundation.

Transportation of all material leaving the Site for off-site disposal will be in accordance with federal, state and local requirements (including 6 NYCRR Part 364 and U.S. DOT regulations) covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc.

The schedule for truck arrival will be coordinated to meet the approved project schedule. The schedule will be compatible with the availability of equipment and personnel for material handling operations at the job site. Trucks will be protected against contamination by properly covering and lining truck beds with compatible material (such as polyethylene) or by decontaminating them prior to any use other than hauling contaminated materials.

All vehicles leaving the Site will be inspected to ensure that soil adhering to the wheels or under carriage is removed prior to the vehicle leaving the Site. Any situations involving material spilled in transit or mud and dust tracked off-site will be remedied. The truck access routes will be evaluated for road conditions, overhead clearance, and weight restrictions.

Contaminated materials from other projects will not be combined with material from the construction area. The transporter will not deliver waste to any facility other than the facility(s) listed on the shipping manifest.

Dust Control

To prevent the potential migration of dust that may contain above-background levels of contaminants, the following measures will be implemented during all earth-disturbing operations:

- Water will be available (and used) for sprinkling/wetting to suppress dust in dry weather or as necessary
- All haul trucks will have tarp covers.
- Stabilized construction entrances (e.g., gravel pads) and wash stations will be placed at access
  points to prevent tracking out of or dispersion of dust.

All work that involves soil disturbance or otherwise generates dust will be performed utilizing methods to minimize dust generation to the extent practicable. Particulate air monitoring requirements will be conducted as discussed below.

Air Monitoring

If evidence of soil or groundwater contamination (e.g., odors, sheen or staining) is discovered during redevelopment activities, an air monitoring program will be implemented during the disturbance of that contamination to avoid or minimize exposure of the field personnel and the public to potential Environmental hazards. Results of this air monitoring will be used to determine appropriate response actions. A Dust Trak® dust monitor or equivalent would be used to measure real-time concentrations of total particulates 10 micrometers or less (PM-10) for all types of contamination and a photoionization detector (PID) would be used to perform air monitoring for VOCs if soil showing evidence of petroleum contamination (such as odors or staining) is encountered. The PID would be calibrated with isobutylene in accordance with the manufacturer's recommendations.

Measurements for particulate and volatile organic compounds would be taken prior to commencement of the work and during the work in areas where contaminated soil would be disturbed. The action levels below are based on 15-minute averages of the monitoring data. The measurements would be made as close to the workers as practicable and at their breathing height. The Site Safety Officer (SSO) will set up the equipment and confirm that it is working properly. His/her qualified designee may oversee the air measurements during the day. The initial measurement for the day will be performed before the start of work and will establish background levels. The final measurement for the day will be performed after the end of work. The action levels and required responses are listed in Table 1 which can be found in Section 3.5 of the RAP in **Appendix D.**

Groundwater Management Plan

If dewatering is necessary during the proposed construction, it will be conducted in accordance with a NYCDEP Bureau of Wastewater Treatment (BWT) Wastewater Quality Control Permit. Groundwater testing, and possibly pre-treatment (dependent upon the testing results), will be necessary to comply with NYCDEP requirements.

Project Design Measures

Site Cap and Importation of Fill

The proposed project is expected to cap the entire Site with new building foundations. If the proposed project changes to include at or below grade landscaped areas, for all areas, which will be landscaped or covered with grass (not capped), a minimum of two (2) feet of DEP approved clean fill/top soil must be imported from an approved facility/source and graded across all landscaped/grass covered areas of the sites not capped with concrete/asphalt. The clean fill/top soil must be segregated at the source/facility, have qualified environmental personnel collect representative samples at a frequency of one (1) sample for every 250 cubic yards, analyze the samples for Target Compound List VOCs by EPA Method 8260,

SVOCs by EPA Method 8270, pesticides by EPA Method 8081, PCBs by EPA Method 8082, and TAL metals by a New York State Department of Health Environmental Laboratory Approval Program certified laboratory, compared to NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs.

Upon completion of the investigation activities, the applicant should submit a detailed clean soil report to DEP for review and approval prior to importation and placement on-site. The report should include, at a minimum, an executive summary, narrative of the field activities, laboratory data, and comparison of soil analytical results (i.e., NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs). Soil disturbance should not occur without DEP's written approval of the RAP and CHASP.

Pertinent clean soil/fill investigation activities will be documented and submitted to NYCDEP (e.g., in the Remedial Closure Report and/or a "clean soil report") to ensure proper importation and on-site placement. In addition to the criteria above, reuse procedures in Section 3.3 of this RAP shall also be followed.

Vapor Barrier

As a conservative measure, to reduce the potential for vapor intrusion, a vapor barrier will be incorporated into the new foundation. Vapor control will be accomplished by installation of a minimum 20-mil reinforced membrane (e.g., Raven Vaporblock® VBP20 or a NYCDEP- approved equivalent) applied to the underside of new foundation slabs and the outside of the perimeter sub-grade walls. See Appendix A for (tentative) vapor barrier specifications. Any penetrations will be sealed in accordance with the manufacturer's specifications.

Quality Assurance and Quality Control

All necessary analyses will be performed by a laboratory that has received approval from the New York State Department of Health's Environmental Laboratory Approval Program (ELAP) for the methods that require analysis.

Sample Collection

Samples will be collected in accordance with the following procedures:

- Record sample observations (evidence of contamination, PID readings, soil classification) in field log book.
- Collect an aliquot of soil or groundwater using a dedicated and disposable plastic sample spoon or sample bailer and place in laboratory-supplied sample jars. One grab sample will be collected for volatile organic compound analysis, if applicable. One composite sample will be collected for all other analyses.
- Seal and label the sample jars as described below and place in a chilled cooler.

Decontamination Procedures

To avoid contamination and cross-contamination of samples, only dedicated or disposable sampling equipment may be used to collect these samples. All non-disposable equipment involved in field sampling must be decontaminated before being brought to the sampling location and must be properly decontaminated after use.

Sample Identification

All samples will be consistently identified in all field documentation, chain-of-custody documents and laboratory reports using an alpha-numeric or alpha-alpha code. For stockpiled soil, the alpha prefix will be "SP" and the numbers following the alpha prefix will correspond to excavated stockpiles, beginning with "1, 2, 3…etc." For example, the first sample collected from the first stockpile will be labeled "SP-1-1" and the first sample collected from the second stockpile will be labeled "SP-2-1."

For groundwater samples, the alpha prefix will be “GW” and the number following the prefix will correspond to the sample number. For example, the first groundwater sample collected for sample analysis will be labeled “GW-1” and the second sample will be “GW-2.”

Sample Labeling and Shipping

All sample containers will be labeled with the following information:

- Site identification
- Sample identification
- Date and time of collection
- Analysis(es) to be performed
- Sampler’s initials

Once the samples are collected and labeled, they will be placed in chilled coolers and stored in a cool area away from direct sunlight to await shipment to the laboratory. Soil samples will be shipped to the laboratory at a frequency that will not result in an exceedance of applicable holding times for sample methods. At the start and end of each workday, field personnel will add ice to the coolers as needed.

The samples will be prepared for shipment by placing each sample jar in a sealable plastic bag, then wrapping each bag in bubble wrap to prevent breakage, adding freezer packs and/or fresh ice in sealable plastic bags and the chain-of-custody form. Samples will be shipped overnight (e.g., Federal Express) or transported by a laboratory courier. All coolers shipped to the laboratory will be sealed with mailing tape and a chain-of-custody (COC) seal to ensure that the coolers remain sealed during delivery.

Sample Custody

Field personnel will be responsible for maintaining the sample coolers in a secured location until they are picked up and/or sent to the laboratory. The record of possession of samples from the time they are obtained in the field to the time they are delivered to the laboratory or shipped off-site will be documented on COC forms. The COC forms will contain the following information: project name; names of sampling personnel; sample number; date and time of collection and matrix; and signatures of individuals involved in sample transfer, and the dates and times of transfers. Laboratory personnel will note the condition of the custody seal and sample containers at sample check-in.

Documentation

A sample log book will be maintained. The following information, as a minimum will be recorded to the log.

- Sample identification number
- Sample location
- Field Observations
- Sample Type
- Analyses
- Date/Time of collection
- Collector's name
- Sample procedures and equipment utilized
- Date sent to laboratory/name of laboratory
- Copies of Site drawings indicating stockpile numbers and locations

Closure Report and Documentation
Copies of any pertinent New York State Department of Environmental Conservation (NYSDEC) correspondence, reports, tank closure reports, No Further Action letters, etc. will be submitted to NYCDEP for filing purposes.

Upon completion of all NYCDEP-approved remedial requirements, as outlined in this RAP, a certified Remedial Closure Report will be submitted to NYCDEP. This report will demonstrate that all remedial activities have been properly implemented, including site capping and installation of the vapor barrier. At a minimum, the report will include all transportation manifests, soil disposal/recycling certificates, proof of importing and grading certified clean fill/top soil for any landscaped areas as well as all preapproved soil analytical testing results for any imported or re-graded/re-placed fill/top soil. Photographs of the vapor barrier installed as part of the proposed project will be included in the closure report. Once the P.E.-certified Remedial Closure Report is received and approved by the NYCDEP, a Notice of Satisfaction letter would be forwarded to the NYC Department of Buildings (DOB).

2.6.4 Site- Specific Construction Health and Safety Plan

A Site-Specific Construction Health and Safety Plan (CHASP) was prepared subsequent to the approval of the Phase II ESA. The New York City Department of Environmental Protection (DEP) signed off on the CHASP and once the project starts, the CHASP will be addressed accordingly. Please see Appendix D for the full CHASP.

2.6.5 Conclusion

With the Phase I ESA and Phase II ESA's completed, as well as the Dep sign -off of the Remedial Action Plan and the Construction Health and Safety Plan, and those respective reports in place (See **Appendix E**), significant adverse impacts with regards to hazardous Materials are not expected on Projected Development Site 1.

To ensure that there would be no significant adverse hazardous materials impacts associated with the proposed project on Projected Development Site 2 and Projected Development Site 3 , an E designation (E-497) for hazardous materials and noise will be placed on the project sites.

The E-designation requirements related to hazardous materials would apply to:

Block 1321, Lot 7 (Projected Development Site 2):
Block 1321, Lot 19 (Projected Development Site 3):

Hazardous Materials

To ensure that there would be no significant adverse noise impacts associated with the proposed project, an E designation (E-497) will be placed on the Projected Development Sites 2 and 3 as follows:

- An (E) Designation for hazardous materials would be placed on the Projected Development Sites 2 & 3 to ensure requirements pertaining hazardous materials are addressed during future redevelopment, which would impose pre- and post -construction requirements overseen by the New York City Office of Environmental Remediation (OER).

- A Remedial Investigation (RI would be conducted for the proposed development site that included the collection of soil, groundwater, and soil vapor samples with laboratory analysis for a full suite of analytical parameters Prior to such testing, an RI Work Plan and Health and Safety Plan (HASP) for the investigation would be submitted to OER for review and approval. Based on the results of the RI, a Remedial Action Work Plan (RAWP) and associated Construction Health and Safety Plan (CHASP) would be prepared for implementation during the subsurface disturbance associated with the Proposed Project. The RAWP and CHASP would address requirements for items such as: petroleum tank removal, dust control, and contingency measures should unforeseen petroleum tanks or soil contamination is

encountered. The RAWP would also include any necessary requirements for vapor controls should the RI reveal the potential for soil vapor intrusion. The RAWP and CHASP would be subject to OER approval and, following construction, occupancy permits could only be issued once OER received documentation that the RAWP and CHASP were properly implemented.

- Applicable regulatory requirements would be followed at the development site and the projected and potential development sites with oversight from OER, e.g., properly disposing of any excess soil; reporting to New York State Department of Environmental Conservation (NYSDEC) any signs of a petroleum spill (removing and registering encountered tanks); and following applicable DEP requirements should dewatering be required. Demolition would be conducted in compliance with applicable regulatory requirements, e.g., for ACM, LBP, etc.

- The (E) Designation program is administered by OER. Approval of a hazardous materials remedy by OER is required prior to the granting of building permits by the Department of Buildings. The text of the (E) Designation for hazardous materials is as follows:

  - Task 1:

    The applicant submits to OER, for review and approval, a Phase 1 ESA for the Project Site along with a soil, soil gas and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER.

  - Task 2:

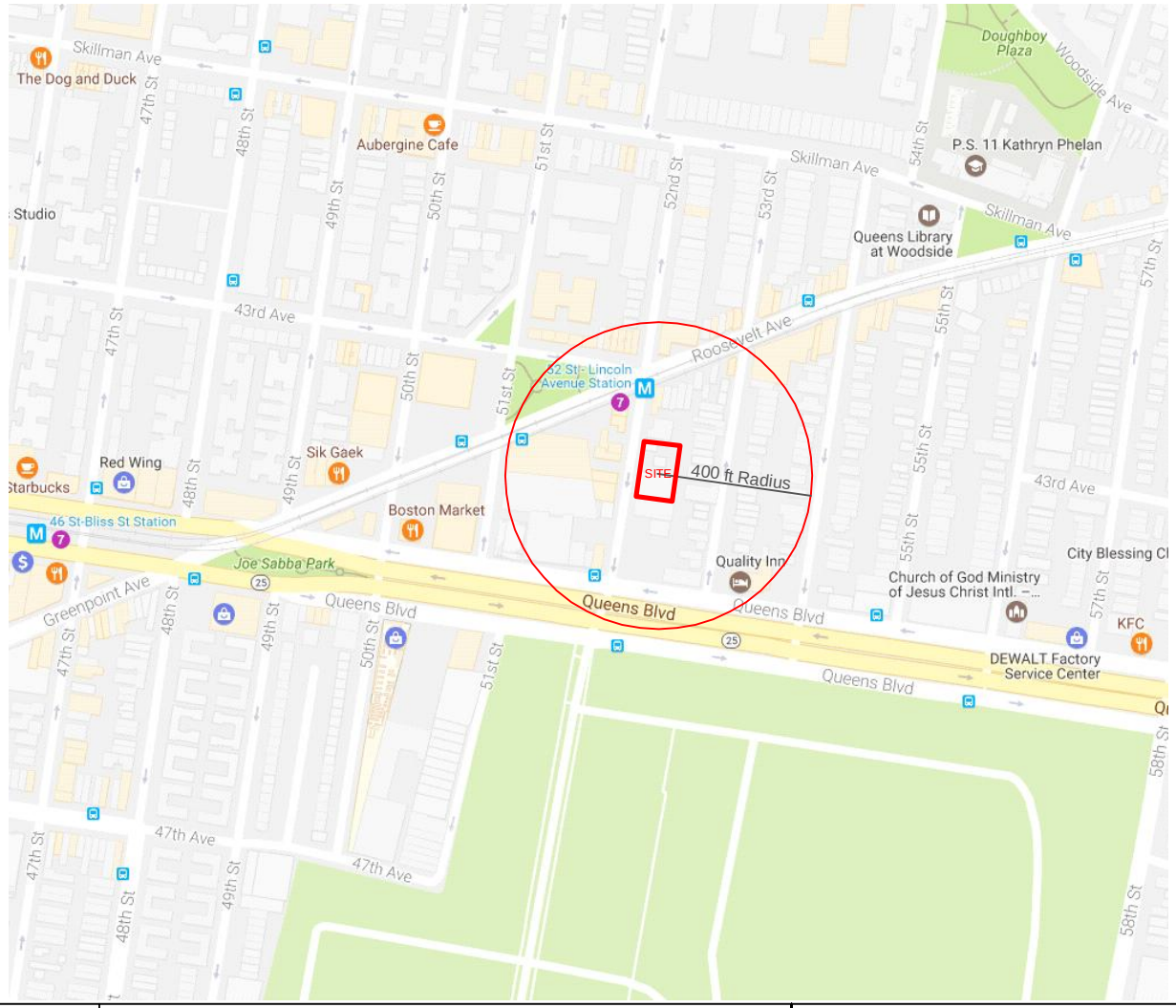
    A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction-related health and safety plan would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and papproval prior to implementation. All demolition or rehabilitation would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials. In addition to the requirements for lead-based paint and asbestos, requirements (including those of NYSDEC) should petroleum tanks and/or spills be identified and for off-site disposal of soil/fill would need to be followed.

2.7 TRANSPORTATION

The projected development sites are located on the eastern side of 52nd Street between Roosevelt Avenue and Queens Boulevard. **Figure 2.7-1** illustrates the transportation study area, which is delineated by a 400-foot radius of the rezoning area. Within the study area, Roosevelt Avenue and Queens Boulevard are classified as "Principal Arterial Other" roadways by the Federal Highway Administration, while 43rd Avenue is classified as a "Minor Arterial". All other roadways in the study area are classified as local roads. The rezoning area is well-served by public transit and is located within 200 feet of the elevated No. 7 subway line's 52nd Street – Roosevelt Avenue Station, which is located at the intersection of Roosevelt Avenue, 43rd Avenue, and 52nd Street. There are also a number of MTA bus stops located within the study area.

The Q32 bus runs between Jackson Heights, Queens and Penn Station, Manhattan and makes three stops within the study area on Roosevelt Avenue. Two stops are Queens-bound; one, the Roosevelt Avenue/51st Street stop, is located at the southeast corner of Roosevelt Avenue and 51st Street, and the other, the Roosevelt Avenue/53rd stop, is located on the southeast corner of Roosevelt Avenue and 53rd Street. The one Manhattan-bound Q32 stop within the study area is the Roosevelt Avenue/ 54th Street stop, which is located on the north side of Roosevelt Avenue at the mid-block point between 54th Street and 53rd Street.

The Q60 bus runs between South Jamaica, Queens and East Midtown, Manhattan and makes two stops, one Queens-bound and one Manhattan-bound, within the study area on Queens Boulevard. The Manhattan-bound stop is located on the northwest corner of Queens Boulevard and 52nd Street. The Queens-bound stop is located on the southeast corner of Queens Boulevard and 52nd Street. In addition, the Q104 line runs along 48th Street, and is routed along streets that are within a reasonable walking distance (approximately 0.25 mile or less) from the rezoning area.



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Transportation Study Area

Figure 2.7-1

2.7.1 Overview of CEQR Transportation Screening Analysis

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

- 50 peak hour vehicle trips;
- 200 peak hour subway/rail or bus transit riders; or
- 200 peak hour pedestrian trips.

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

2.7.2 Traffic Screening

The CEQR preliminary screening thresholds suggest that any project which generates 50 or more peak hour incremental vehicle trips through a single intersection in any given peak hour is likely to warrant a detailed traffic operations analysis. Conversely, projects that are anticipated to generate fewer than 50 peak hour incremental vehicle trips through a single intersection generally do not warrant detailed traffic assessments, and potential traffic impacts are not expected.

Estimated Trip Generation Characteristics

In order to determine the number of trips that would be generated by the proposed actions, trip generation estimates were prepared for each of the proposed land uses, namely residential and local retail uses. As discussed above in Section 1.6.6, the proposed actions would result in the following amount of incremental development relative to the No-Action scenario: an increase of approximately 96,924 gsf of residential space/ 107 dwelling units, an increase of approximately 25,000 gsf of local retail space, and a decrease of approximately 5,000 gsf of community facility space. The trip generation estimates were prepared using the following sources:

- *CEQR Technical Manual* (March 2014)
- ACS 2015 journey-to-work census data for tracts 169, 183, 235, 251, 253.01 and 253.02
- East New York Rezoning Transportation Planning Factors and Travel Demand Forecast Memorandum

Tables 2.7-1 and **2.7-2** show the estimated person-trips and vehicle-trips, respectively, for the proposed actions during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, as well as the associated transportation planning assumptions. As shown in **Table 2.7-2,** the proposed actions are estimated to generate vehicle trips as follows:

- Weekday AM peak hour: 23 vehicle trips (6 inbound and 18 outbound)
- Weekday midday peak hour: 46 vehicle trips (23 inbound and 23 outbound)
- Weekday PM peak hour: 44 vehicle trips (26 inbound and 18 outbound)
- Saturday midday peak hour: 36 vehicle trips (18 inbound and 18 outbound)

Table 2.7-1 Estimated Person-Trip Generation Characteristics

Land Use	Size	Weekday Daily Person-Trip Rate	Saturday Daily Person-Trip Rate	Temporal Distribution (%)				Estimated Person-Trips			
				Weekday AM	Weekday MD	Weekday PM	Saturday MD	Weekday AM	Weekday MD	Weekday PM	Saturday MD
Residential	107 units	8.075 per dwelling unit	9.6 per dwelling unit	10.0%	5.0%	11.0%	8.0%	86	43	95	82
Local Retail	25,000 SF	205 trips per 1,000 sq. ft.	240 trips per 1,000 sq. ft.	3.0%	19.0%	10.0%	10.0%	154	974	513	600
Auto Repair Shop	-996 SF	19.42 trips per 1,000 sq. ft.	19.42 trips per 1,000 sq. ft.	13.2%	11.0%	14.2%	10.7%	-3	-2	-3	-2
Community Facility (Church)	-5,000 SF	19.18 trips per 1,000 sq. ft.	21.83 trips per 1,000 sq. ft.	7.9%	4.0%	7.2%	15.8%	-8	-4	-7	-17
							TOTAL PERSON-TRIPS =	230	1,011	598	663

Residential trip rates and temporal distributions based on Residential (3 or more floors) from *CEQR Technical Manual* (Table 16-2).
Local Retail trip rates and temporal distributions based on Local Retail from *CEQR Technical Manual* (Table 16-2).
Auto Repair Shop trip rates and temporal distributions based on *East New York Rezoning Transportation Planning Factors and Travel Demand Forecast Memorandum*, Table 3.
Community Facility (Church) trip rates and temporal distribution from *East New York Rezoning Transportation Planning Factors and Travel Demand Forecast Memorandum, Table 3*

Table 2.7-2 Estimated Vehicle-Trip Generation Characteristics

Land Use	Size	Estimated Mode Split (AM, PM)							Estimated Mode Split (MD, SAT)							Estimated Vehicle-Trips											
																Weekday AM			Weekday MD			Weekday PM			Saturday MD		
		Auto	Taxi	Sub-way	Rail-road	Bus	Walk	Total	Auto	Taxi	Sub-way	Rail-road	Bus	Walk	Total	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Residential	107	16.7%	2.4%	67.8%	2.5%	4.6%	6.0%	100.0%	16.7%	2.4%	67.8%	2.5%	4.6%	6.0%	100.0%	17	3	14	9	4	4	18	12	5	15	8	8
Residential	0	16.7%	2.4%	67.8%	2.5%	4.6%	6.0%	100.0%	16.7%	2.4%	67.8%	2.5%	4.6%	6.0%	100.0%	0	0	0	0	0	0	0	0	0	0	0	0
Local Retail	25,000	11.0%	0.0%	4.0%	0.0%	3.0%	82.0%	100.0%	8.0%	0.0%	7.0%	0.0%	4.0%	81.0%	100.0%	12	6	6	53	26	26	38	19	19	30	15	15
Linked-Trip / Pass-by Trip																*-3*	*-1*	*-1*	*-13*	*-6*	*-6*	*-9*	*-5*	*-5*	*-8*	*-4*	*-4*
Net New Trips =																8	4	4	39	19	19	28	14	14	23	11	11
Auto Repair Shop	-996	85.0%	5.0%	1.0%	0.0%	1.0%	8.0%	100.0%	85.0%	5.0%	1.0%	0.0%	1.0%	8.0%	100.0%	-2	-1	-1	-2	-1	-1	-2	-1	-1	-2	-1	-1
Community Facility (Church)	-5,000	5.0%	1.0%	3.0%	0.0%	6.0%	85.0%	100.0%	5.0%	1.0%	3.0%	0.0%	6.0%	85.0%	100.0%	0	0	0	0	0	0	0	0	0	-1	-1	0
TOTAL =																23	6	18	46	23	23	44	26	18	36	18	18

Residential mode split and auto occupancy (1.12) based on census JTW data for tracts 169, 183, 235, 251, 253.01, 253.02. Taxi occupancy = 1.30 based on East New York FEIS.

Residential In/Out directional distributions (AM: 15/85, MD: 50/50, PM: 70/30, SAT: 50/50) based on East New York FEIS.

Local Retail mode split, auto occupancy (1.50) based on information provided by NYCDCP. Taxi occupancy (2.0) based on East New York FEIS, as requested by NYCDCP.

Local Retail In/Out directional distributions (AM: 50/50, MD: 50/50, PM: 50/50, SAT: 50/50) based on East New York FEIS.

Linked-Trip / Pass-by Trip Reduction credit of 25% as per *CEQR Technical Manual*.

Auto Repair Shop mode split, auto and taxi occupancy (1.30) based on *East New York Rezoning Transportation Planning Factors and Travel Demand Forecast Memorandum, Table 3*.

Auto Repair Shop In/Out directional distributions (AM: 65/35, MD: 50/50, PM: 50/50, SAT: 50/50) based on *East New York Rezoning Transportation Planning Factors and Travel Demand Forecast Memorandum, Table 3.*

Auto Repair Shop truck trip generation (0.89 per '000 gsf for Weekday and Sat.) and temporal distribution based on *East New York Rezoning Transportation Planning Factors and Travel Demand Forecast Memorandum,*

Community Facility (Church) trip rates, temporal distribution, directional distribution, auto and taxi occupancy and truck trip rates from *East New York Rezoning Transportation Planning Factors and Travel Demand Forecast Memorandum, Table 3*

Based on the vehicle trip generation estimates shown in **Table 2.7-2**, no peak hour exceeds the Level 1 screening threshold of 50 vehicle trips in the *CEQR Technical Manual* and there would not be more than 50 vehicle trips generated at any one intersection. Therefore, as the proposed actions are not projected to result in any significant adverse traffic impacts, a detailed assessment of the potential or traffic-related impacts is not warranted.

2.7.3 Parking Screening

The *CEQR Technical Manual* states that if the threshold for traffic is not surpassed, it is likely that a parking assessment is also not needed. Based on our traffic assessment, significant parking impacts are not anticipated. Thus a detailed parking study is not warranted, and the proposed actions would not result in a significant adverse parking impact.

2.7.4 Transit Screening

As noted above in Section 2.7.1, the rezoning area is well-served by public transit. In accordance with *CEQR Technical Manual* guidance, the preliminary transit screening threshold is 200 transit trips for either subway or public bus riders in a given peak hour. Projects that are expected to generate transit trips below this screening threshold generally do not warrant a detailed transit analysis.

Table 2.7-3 summarizes the resulting numbers of new subway trips expected to be generated by the proposed actions during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours. As shown in **Table 2.7-3,** the proposed actions would generate fewer than 200 new subway trips during the weekday AM peak hour (65 trips), weekday midday peak hour (97 trips), weekday PM peak hour (85 trips), and Saturday midday peak hour (98 trips). Therefore, the proposed actions are not projected to result in significant adverse subway impacts, and a detailed assessment of the potential for subway-related impacts is not warranted.

Table 2.7-4 summarizes the resulting numbers of new public bus trips expected to be generated by the proposed actions during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours. As shown in **Table 2.7-4,** the proposed actions would generate fewer than 200 new bus trips during the weekday AM peak hour (9 trips), weekday midday peak hour (41 trips), weekday PM peak hour (20 trips) and Saturday midday peak hour (28 trips). Therefore, the proposed actions are not expected to result in any significant adverse bus impacts, and do not require a detailed assessment of the potential for bus-related impacts.

Table 2.7-3 Estimated Subway-Trip Generation Characteristics

Land Use	Total Estimated Subway and Railroad Trip Generation											
	Weekday AM			Weekday MD			Weekday PM			Saturday MD		
	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Residential	59	9	50	29	4	25	64	10	55	56	28	28
Local Retail	6	3	3	68	34	34	21	10	10	42	21	21
Linked-Trip / Pass-by Trip Reduction (25%)=	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net New Trips =	6	3	3	68	34	34	21	10	10	42	21	21
Auto Repair Shop	0	0	0	0	0	0	0	0	0	0	0	0
Community Facility (Church)	0	0	0	0	0	0	0	0	0	-1	0	0
TOTAL =	**65**	**12**	**53**	**97**	**38**	**59**	**85**	**20**	**65**	**98**	**49**	**49**

Table 2.7-4 Estimated Bus-Trip Generation Characteristics

Land Use	Total Estimated Bus Trip Generation											
	Weekday AM			Weekday MD			Weekday PM			Saturday MD		
	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Residential	4	1	3	2	1	1	4	3	1	4	2	2
Local Retail	5	2	2	39	19	19	15	8	8	24	12	12
Linked-Trip / Pass-by Trip Reduction (25%)=	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Net New Trips =	5	2	2	39	19	19	15	8	8	24	12	12
Auto Repair Shop	0	0	0	0	0	0	0	0	0	0	0	0
Community Facility (Church)	0	0	0	0	0	0	0	0	0	-1	-1	0
TOTAL =	**9**	**3**	**6**	**41**	**20**	**20**	**20**	**11**	**9**	**28**	**14**	**14**

2.7.5 Pedestrians

Pedestrian Trip Generation

In accordance with *CEQR Technical Manual* guidance, a detailed pedestrian analysis is necessary for projects that are likely to generate 200 or more incremental pedestrian trips during any peak hour at any one pedestrian element (i.e., a crosswalk, street corner, or sidewalk). As shown in **Table 2.7-5**, the proposed actions are projected to generate more than 200 combined new pedestrian trips (i.e., the combined total of subway, bus, and walk trips) during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours (204 trips, 732 trips, 425 trips, and 495 trips, respectively).

Table 2.7-5 Estimated Pedestrian-Trip Generation Characteristics

Land Use	Total Estimated Transit and Pedestian Trip Generation											
	Weekday AM			Weekday MD			Weekday PM			Saturday MD		
	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
Residential	68	10	58	34	17	17	75	52	22	64	32	32
Local Retail	137	68	68	896	448	448	456	228	228	552	276	276
Linked-Trip / Pass-by Trip Reduction (25%)=	*0*	*0*	*0*	*-197*	*-99*	*-99*	*-105*	*-53*	*-53*	*-122*	*-61*	*-61*
Net New Trips =	137	68	68	699	349	349	351	176	176	431	215	215
Auto Repair Shop	0	0	0	0	0	0	0	0	0	0	0	0
Community Facility (Church)	-7	-4	-3	-4	-2	-2	-6	-3	-3	-16	-12	-5
TOTAL =	**204**	**78**	**126**	**732**	**366**	**366**	**425**	**228**	**198**	**495**	**247**	**247**

Because the proposed actions are projected to generate a significantly higher number of trips during the weekday midday peak hour than during the Saturday midday peak hour—and because conflicting traffic volumes are also higher during the weekday midday peak hour than during the Saturday midday peak hour—the weekday midday peak hour is assumed to represent a reasonable worst-case scenario for midday hours and the Saturday midday peak hour was eliminated from further detailed analysis. Therefore, detailed pedestrian analyses focus on operations during the weekday AM, midday, and PM peak hours under Existing Conditions, Future No-Action Conditions, and Future With-Action Conditions.

Pedestrian Trip Distribution and Trip Assignments

The following assumptions were made for the trip distribution patterns for pedestrians traveling to and from the projected development sites:

- *Subway trips* – All subway riders were assumed to walk to and from the 52nd Street station (on the No. 7 subway line), located one-half block north of the rezoning area.

- *Bus trips* – The rezoning area is served by the Q32 line, which is routed along Roosevelt Avenue; the Q60 line, which is routed along Queens Boulevard; and Q104 line, which is routed along 48th Street. Bus trips were assigned to and from the site based on the geographic location of each bus route relative to the rezoning area and the bus route within the borough, as follows:
    - 55 percent to/from the Q60
    - 35 percent to/from the Q32
    - 10 percent to/from the Q104

- *Walk trips* – Walk trips were assumed to be distributed, as following, based on the location of the rezoning area:
    - 20 percent to/from the north
    - 20 percent to/from the south
    - 30 percent to/from the east
    - 30 percent to/from the west

Based on the trip generation estimates shown in **Table 2.7-5** and the trip distribution estimates, by mode, identified above, pedestrians were assigned through the study intersections for the weekday midday peak hour, which is the time period with the highest number of site-generated pedestrian trips. **Figures 2.7-2** through **2.7-4** show the resulting assignments of the incremental site-generated pedestrian volumes (i.e., combined subway, bus, and walk trips) projected during the weekday AM, midday and PM peak hours, at intersections in the vicinity of the projected development sites.

Pedestrian Analysis Intersections

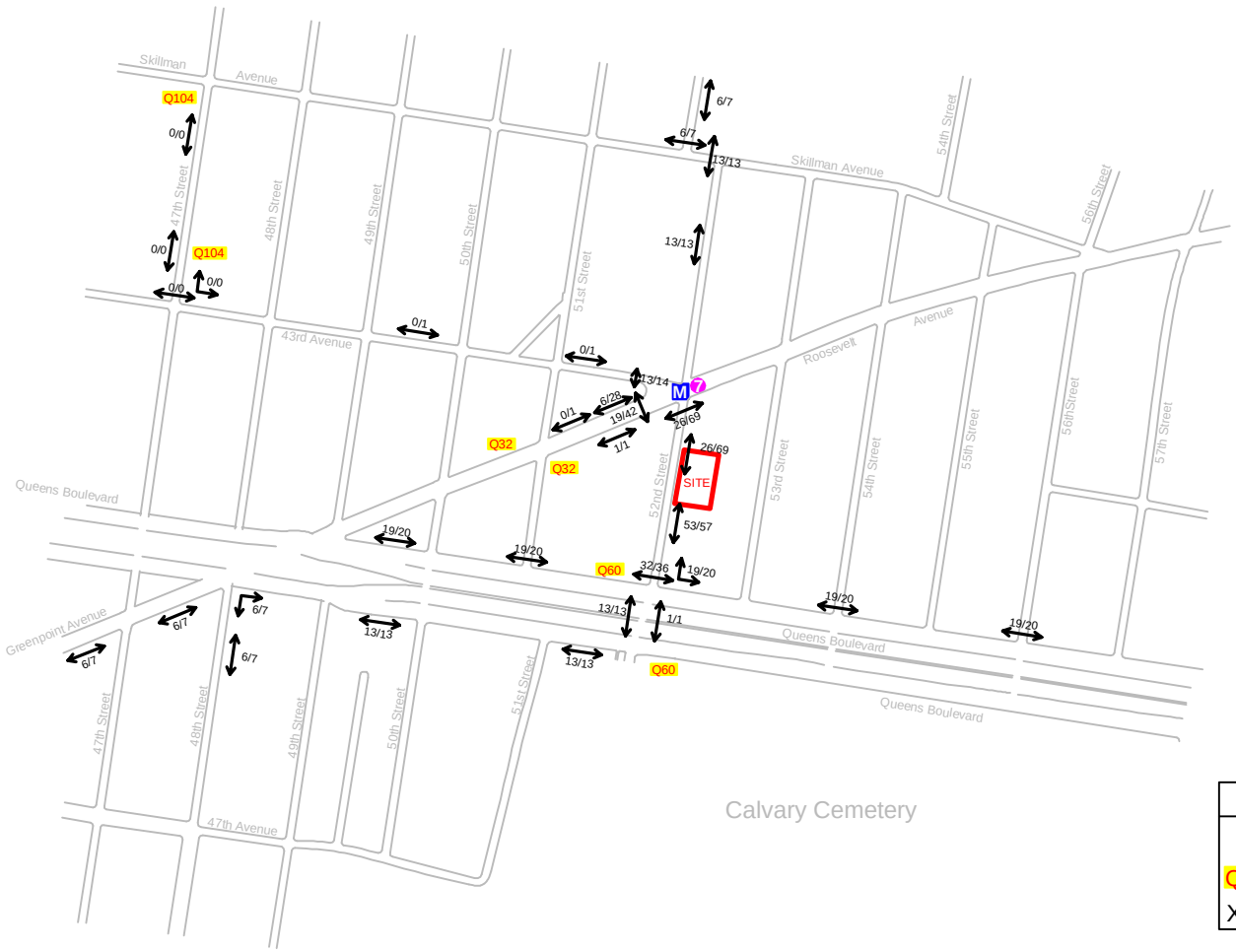
The following intersections were identified as the key pedestrian study locations based on their proximity to the projected development sites, and the likelihood that they will experience increased concentrations of more than 200 pedestrian trips on any one pedestrian element as a result of the proposed actions:

- **Queens Boulevard/52nd Street**
    - North crosswalk
    - North-south sidewalk at northeast corner

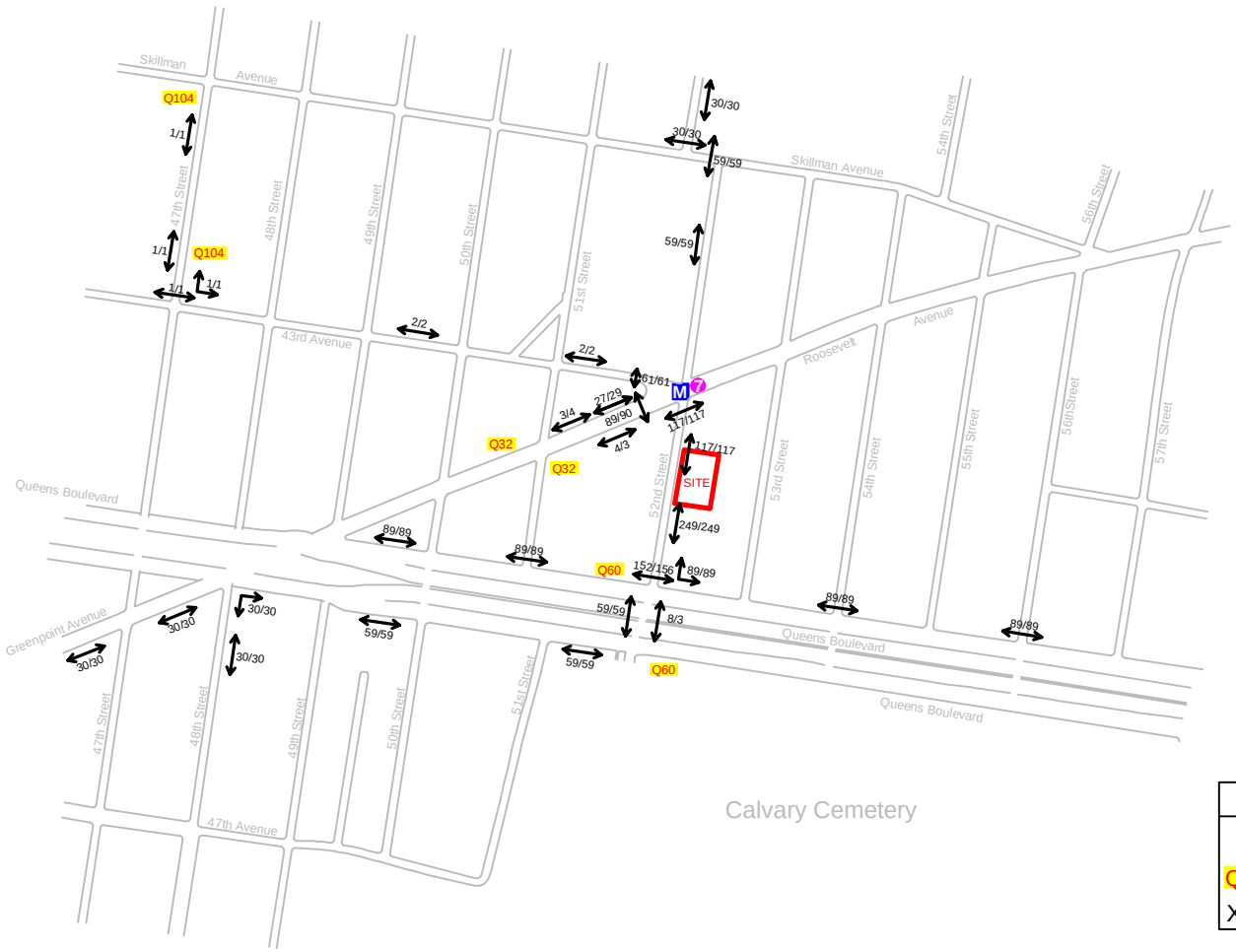
- **Roosevelt Avenue/43rd Avenue/52nd Street**
    - West crosswalk across Roosevelt Avenue[11]
    - South crosswalk across 52nd Street
    - North-south sidewalk at southeast corner

The incremental pedestrian volumes generated on other pedestrian elements beyond these two intersections during the weekday AM, midday, and PM peak hours are likely to be dispersed to low levels, well below the 200-trip threshold for detailed pedestrian analysis. The pedestrian analysis intersections are shown in **Figure 2.7-5**.

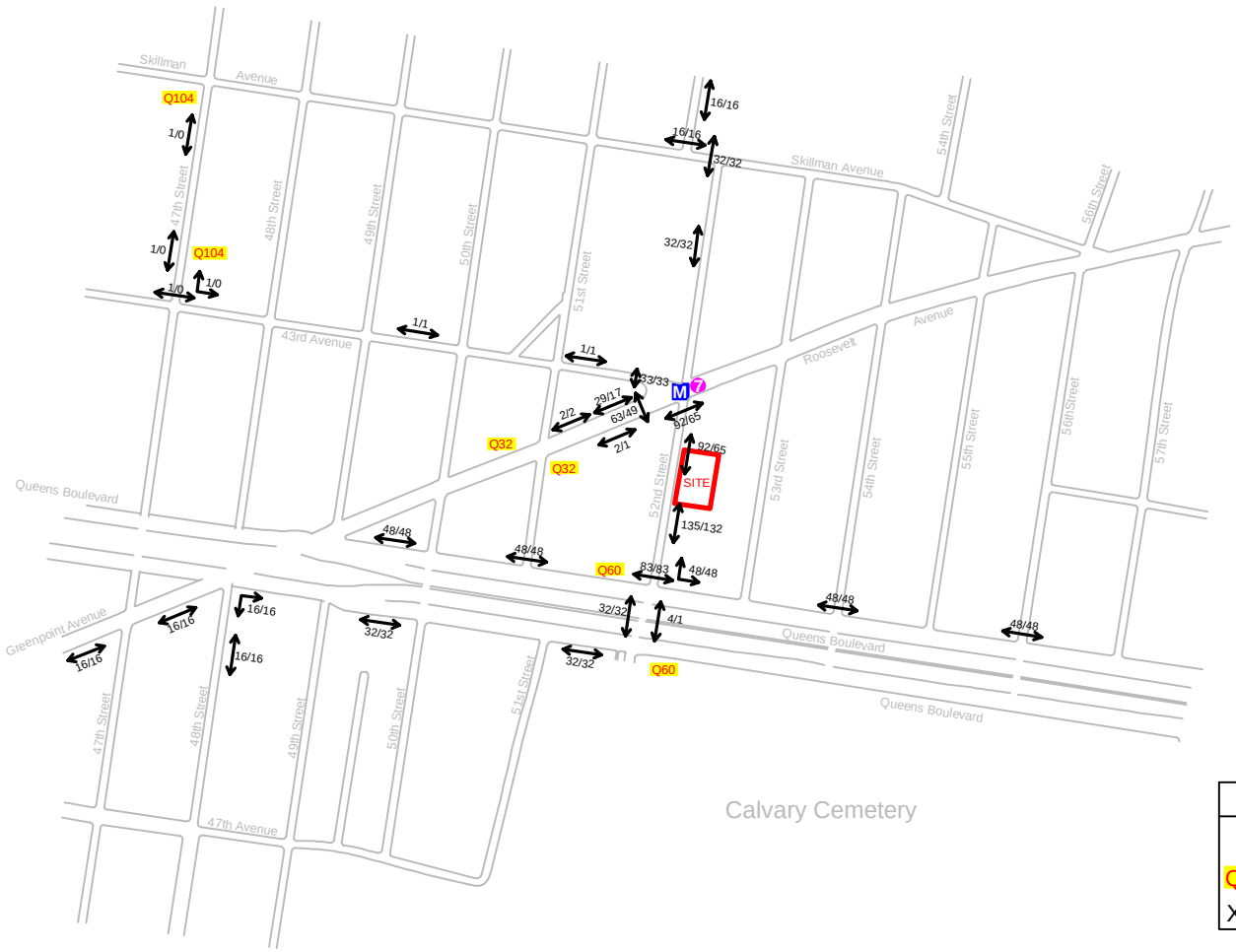
[11] A field visit during the course of this study indicated that pedestrians are prohibited from crossing the east crosswalk identified for analysis in the Transportation Planning Assumptions memo; in fact, there is no striped crosswalk on the east leg of Roosevelt Avenue. Pedestrian trips were rerouted, and as a result, the west crosswalk across Roosevelt Avenue and the south crosswalk across 52nd Street where more than 200 pedestrian trips were projected, were analyzed instead.



AECOM	Environmental Assessment Statement 52nd Street Rezoning Queens, New York	Project Site-Generated Pedestrian Volumes Assignments Weekday AM Peak Hour Figure 2.7-2



AECOM	Environmental Assessment Statement 52nd Street Rezoning Queens, New York	Project Site-Generated Pedestrian Volumes Assignments Weekday Midday Peak Hour Figure 2.7-3



AECOM	Environmental Assessment Statement 52nd Street Rezoning Queens, New York	Project Site-Generated Pedestrian Volumes Assignments Weekday PM Peak Hour Figure 2.7-4



AECOM

Environmental Assessment Statement
52nd Street Rezoning
Queens, NY

Pedestrian Analysis Intersections

Figure 2.7-5

Pedestrian Analysis Methodology

The analysis of pedestrian flow involves quantifying the comfort level of pedestrians walking along the sidewalks, waiting to cross the street at intersection corners, and crossing intersection crosswalks. The LOS is calculated using the physical and operational parameters at the intersection including the pedestrian flow rates, the lengths and widths (i.e., area) of the crosswalks, the effective widths of the sidewalks, the area of each street corner, conflicting vehicular traffic volumes that turn through the crosswalk, and the signal timing at the intersection. Crosswalk, street corner, and sidewalk operations were analyzed using the methodologies described in the *CEQR Technical Manual* and conducted using NYCDOT's pedestrian analysis Excel spreadsheet.

The crosswalk and street corner LOS methodologies are based on pedestrian density, as expressed in units of "square feet of space per pedestrian" (square feet/ped), during the peak 15-minute period of the peak hour. The LOS ranges for crosswalks and street corners are as shown below in **Table 2.7-6**.

Table 2.7-6 LOS Criteria for Crosswalks and Street Corners

LOS	Square Feet of Space per Pedestrian (feet^2/ped)
A	> 60
B	> 40 to 60
C	> 24 to 40
D	> 15 to 24
E	> 8 to 15
F	≤ 8

Source: Adapted from March 2014 *CEQR Technical Manual*, Table 16-10, page 16-48.

The LOS methodology for sidewalks is also based on pedestrian density, as expressed in units of "square feet of space per pedestrian" (feet^2/ped), during the peak 15-minute period of the peak hour. The LOS ranges for sidewalks under platoon flow conditions are as shown below in **Table 2.7-7.**

Table 2.7-7 LOS Criteria for Sidewalks under Platoon Flow Conditions

LOS	Square Feet of Space per Pedestrian (feet^2/ped)
A	> 530
B	> 90 to 530
C	> 40 to 90
D	> 23 to 40
E	> 11 to 23
F	≤ 11

Source: Adapted from March 2014 *CEQR Technical Manual*, Table 16-9, page 16-47.

The results of the pedestrian crosswalk and sidewalk LOS analysis under Existing Conditions (Year 2017) are shown in **Tables 2.7-8** and **2.7-9,** respectively**.** As shown in the tables, all crosswalks and sidewalks operate at LOS "A" under Existing Conditions.

Table 2.7-8 Existing Conditions Pedestrian Crosswalk Analyses

Intersection	Peak Hour	Crosswalk	Crosswalk Length (Feet - approx.)	Crosswalk Width (Feet - approx.)	Pedestrian Operations	
					feet^2/ped	LOS
52nd Street / Queens Boulevard	Weekday AM	North	29.4	12.3	1419.8	A
	Weekday MD	North	29.4	12.3	1575.8	A
	Weekday PM	North	29.4	12.3	995.6	A
52nd Street / Roosevelt Ave / 43rd Street	Weekday AM	South	31.0	11.0	497.0	A
		West	35.6	15.0	2131.3	A
	Weekday MD	South	31.0	11.0	577.0	A
		West	35.6	15.0	1702.5	A
	Weekday PM	South	31.0	11.0	467.6	A
		West	35.6	15.0	1793.0	A

Table 2.7-9 Existing Conditions Pedestrian Sidewalk Analyses

Intersection	Peak Hour	Sidewalk	Direction	Pedestrian Platoon Operations	
				feet^2/ped	LOS
52nd Street / Queens Boulevard	Weekday AM	NE	N-S	3825.0	A
	Weekday MD	NE	N-S	3187.5	A
	Weekday PM	NE	N-S	1673.4	A
52nd Street / Roosevelt Ave / 43rd Street	Weekday AM	SE	N-S	2026.0	A
	Weekday MD	SE	N-S	1107.2	A
	Weekday PM	SE	N-S	1702.1	A

Future No-Action Condition

Pedestrian activity in the study area was projected for the Future No-Action Condition and the Future With-Action Condition (Year 2022). To establish Future No-Action pedestrian volumes, the existing baseline traffic volumes were first increased by applying a compounded background growth rate of 2.53 percent in accordance with the growth recommendations for "Other Queens" in the *CEQR Technical Manual*.[12]

The Queens Office of the New York City Department of City Planning (NYCDCP), the New York City Department of Transportation (NYCDOT) and the local community board were contacted for information on other No-Action projects. As no other No-Action projects were identified, the Future No-Action pedestrian volumes comprise the existing volumes plus the background growth.

The crosswalk and sidewalk LOS analyses at the study intersections were then repeated using the projected Future No-Action Condition pedestrian volumes. The results of the pedestrian crosswalk and sidewalk LOS analysis are shown in **Tables 2.7-10** and **2-7-11,** respectively. As shown in the tables, all crosswalks and sidewalks operate at LOS "A" under the Future No-Action Condition.

[12] A compounded growth rate of 2.53 percent was calculated based on 0.50 percent annual growth from 2017 to 2022 in accordance with *CEQR Technical Manual* guidelines.

Table 2.7-10 Future No-Action Condition Pedestrian Crosswalk Analyses

Intersection	Peak Hour	Crosswalk	Crosswalk Length (Feet - approx.)	Crosswalk Width (Feet - approx.)	Pedestrian Operations	
					feet^2/ped	LOS
52nd Street / Queens Boulevard	Weekday AM	North	29.4	12.3	1330.1	A
	Weekday MD	North	29.4	12.3	1505.3	A
	Weekday PM	North	29.4	12.3	943.8	A
52nd Street / Roosevelt Ave / 43rd Street	Weekday AM	South	31.0	11.0	473.0	A
		West	35.6	15.0	2026.3	A
	Weekday MD	South	31.0	11.0	548.6	A
		West	35.6	15.0	1632.6	A
	Weekday PM	South	31.0	11.0	445.3	A
		West	35.6	15.0	1722.7	A

Table 2.7-11 Future No-Action Condition Pedestrian Sidewalk Analyses

Intersection	Peak Hour	Sidewalk	Direction	Pedestrian Platoon Operations	
				feet^2/ped	LOS
52nd Street / Queens Boulevard	Weekday AM	NE	N-S	3375.0	A
	Weekday MD	NE	N-S	3019.7	A
	Weekday PM	NE	N-S	1575.0	A
52nd Street / Roosevelt Ave / 43rd Street	Weekday AM	SE	N-S	1812.8	A
	Weekday MD	SE	N-S	1045.7	A
	Weekday PM	SE	N-S	1702.1	A

Future With-Action Condition

The projected incremental pedestrian volumes associated with the proposed actions were added to the Future No-Action pedestrian volumes to arrive at the Future With-Action pedestrian volumes.

The crosswalk and sidewalk LOS analyses at the study intersections were then repeated using the projected Future With-Action Condition pedestrian volumes. The results of the pedestrian crosswalk and sidewalk LOS analysis under the future With-Action condition are shown in **Tables 2.7-13** and **2.7-13,** respectively**.** As shown, all crosswalks at the study intersections are projected to continue operating at LOS "A", and all sidewalks are projected to operate at LOS "B" under the Future With-Action Condition.

Table 2.7-12 Future With-Action Conditions Pedestrian Crosswalk Analyses

Intersection	Peak Hour	Crosswalk	Crosswalk Length (Feet - approx.)	Crosswalk Width (Feet - approx.)	Pedestrian Operations	
					feet^2/ped	LOS
52nd Street / Queens Boulevard	Weekday AM	North	29.4	12.3	551.6	A
	Weekday MD	North	29.4	12.3	191.5	A
	Weekday PM	North	29.4	12.3	299.1	A
52nd Street / Roosevelt Ave / 43rd Street	Weekday AM	South	31.0	11.0	286.3	A
		West	35.6	15.0	792.6	A
	Weekday MD	South	31.0	11.0	209.0	A
		West	35.6	15.0	349.8	A
	Weekday PM	South	31.0	11.0	227.6	A
		West	35.6	15.0	539.1	A

Table 2.7-13 Future With-Action Conditions Pedestrian Sidewalk Analyses

Intersection	Peak Hour	Sidewalk	Direction	Pedestrian Platoon Operations	
				feet^2/ped	LOS
52nd Street / Queens Boulevard	Weekday AM	NE	N-S	451.7	B
	Weekday MD	NE	N-S	110.7	B
	Weekday PM	NE	N-S	177.8	B
52nd Street / Roosevelt Ave / 43rd Street	Weekday AM	SE	N-S	302.0	B
	Weekday MD	SE	N-S	139.3	B
	Weekday PM	SE	N-S	288.1	B

Pedestrian Impact Criteria

The assessment of projected pedestrian impacts is based in part on whether the pedestrian element being analyzed is part of a Central Business District (CBD) and, for sidewalks, whether the pedestrian flow is platooned or not. This area of Queens is not considered a CBD location. To ensure a conservative analysis, platoon flow conditions were assumed because the proposed actions can be expected to generate highly-platooned pedestrian flows during periods.

For crosswalks and corners in non-CBD locations: According to the guidelines established in the *CEQR Technical Manual*, average pedestrian space under the Future With-Action Condition deteriorating to LOS "C" or better should generally not be considered a significant impact. If the pedestrian space under the Future With-Action Condition deteriorates to LOS "D" or worse (i.e., less than 24.0 square feet/ped), then the determination of whether the impact is considered significant is based on a sliding scale that varies with the Future No-Action pedestrian space.

For sidewalks with platoon flow in non-CBD locations: As per *CEQR Technical Manual* guidelines, average pedestrian space under the Future With-Action Condition deteriorating to LOS "C" or better should generally not be considered a significant impact. If the pedestrian space under the Future With-Action Condition deteriorates to LOS "D" or worse (i.e., less than 40.0 square feet/ped), then the determination of whether the impact is considered significant is based on a sliding scale that varies with the Future No-Action pedestrian space.

As shown in **Tables 2.7-14** and **2.7-15**, under the Future With-Action Condition, all of the pedestrian elements are projected to operate at LOS "B" or better (as defined in the paragraphs above for crosswalks and sidewalks). Therefore, no significant pedestrian impacts are projected to occur as a result of the proposed actions.

Table 2.7-14 Comparison of Future No-Action and Future With-Action Pedestrian Crosswalk Analyses

Intersection	Peak Hour	Crosswalk	Crosswalk Length (Feet - approx.)	Crosswalk Width (Feet - approx.)	2022 No-Action		2022 With-Action		Impact?
					feet^2/ped	LOS	feet^2/ped	LOS	
52nd Street / Queens Boulevard	Weekday AM	North	29.4	12.3	1330.1	A	551.6	A	No
	Weekday MD	North	29.4	12.3	1505.3	A	191.5	A	No
	Weekday PM	North	29.4	12.3	943.8	A	299.1	A	No
52nd Street / Roosevelt Ave / 43rd Street	Weekday AM	South	31.0	11.0	473.0	A	286.3	A	No
		West	35.6	15.0	2026.3	A	792.6	A	No
	Weekday MD	South	31.0	11.0	548.6	A	209.0	A	No
		West	35.6	15.0	1632.6	A	349.8	A	No
	Weekday PM	South	31.0	11.0	445.3	A	227.6	A	No
		West	35.6	15.0	1722.7	A	539.1	A	No

Table 2.7-15 Comparison of Future No-Action and Future With-Action Conditions Pedestrian Sidewalk Analyses

Intersection	Peak Hour	Sidewalk	Direction	2022 No-Action		2022 With-Action		Impact?
				feet^2/ped	LOS	feet^2/ped	LOS	
52nd Street / Queens Boulevard	Weekday AM	NE	N-S	3375.0	A	451.7	B	No
	Weekday MD	NE	N-S	3019.7	A	110.7	B	No
	Weekday PM	NE	N-S	1575.0	A	177.8	B	No
52nd Street / Roosevelt Ave / 43rd Street	Weekday AM	SE	N-S	1812.8	A	302.0	B	No
	Weekday MD	SE	N-S	1045.7	A	139.3	B	No
	Weekday PM	SE	N-S	1702.1	A	288.1	B	No

2.7.6 Transportation Safety Assessment

The *CEQR Technical Manual* defines a "high crash location" as any location with 48 or more total reportable and non-reportable crashes, or five or more pedestrian/ bicyclist injury crashes, in any consecutive 12 months of the most recent three-year period for which data are available. Crash data compiled by the NYCDOT for the most recent available three-year period (i.e., 2014 to 2016) were reviewed to identify the crash history at each of the study intersections. **Table 2.7-16** summarizes the total number of crashes at each of the study intersections by year, as well as the total number of pedestrian and bicycle crashes by year.

As shown in the table, the total number of crashes for the three-year period between 2014 to 2016 (inclusive) at each intersection is below the *CEQR* thresholds (i.e., 48 total crashes in any 12 months, or five pedestrian/bicyclist injury crashes, over the most recent three years). Accordingly, the two intersections are not considered high crash locations.

Table 2.7-16 Summary of NYCDOT Crash Data: 2014 to 2016

Intersection	Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/ Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
Queens Boulevard/52nd Street	0	0	0	0	0	0	0	0	0	4	1	1
52nd Street/43rd Avenue/Roosevelt Avenue	0	1	0	0	0	0	0	1	0	1	3	4
Total =	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**5**	**4**	**5**

Source: New York City Department of Transportation (2014-2016).

2.8 AIR QUALITY

2.8.1 Introduction

When assessing the potential for air quality significant impacts, the *CEQR Technical Manual* seeks to determine a proposed action's effect on ambient air quality, or the quality of the surrounding air. Ambient air can be affected by motor vehicles, referred to as "mobile sources," or by fixed facilities, referred to as "stationary sources." This can occur during operation and/or construction of a project being proposed. The pollutants of most concern are carbon monoxide, lead, nitrogen dioxide, ozone, relatively coarse inhalable particulates (PM_{10}), fine particulate matter ($PM_{2.5}$), and sulfur dioxide.

2.8.2 Methodology

The *CEQR Technical Manual* generally recommends an assessment of the potential impact of mobile sources on air quality when an action increases traffic or causes a redistribution of traffic flows, creates any other mobile sources of pollutants (such as diesel train usage), or adds new uses near mobile sources (e.g., roadways, parking lots, garages). The *CEQR Technical Manual* generally recommends assessments when new stationary sources of pollutants are created, when a new use might be affected by existing stationary sources, or when stationary sources are added near existing sources and the combined dispersion of emissions would impact surrounding areas.

2.8.3 Future No-Action Condition

In the future without the proposed actions, it is assumed that the existing warehouse on Projected Development Site 1 would be demolished and replaced with an as-of-right residential townhouse development. The uses on Projected Development Sites 2, 3 and 4 and in the remainder of the rezoning area would remain similar to existing conditions. Projected Development Site 2 would remain developed with the existing 996-gsf, one-story automobile service station; the three-story, 8,076-gsf multi-family residential building would continue to occupy Projected Development Site 3; and Projected Development Site 4 would remain developed with the existing 10,000-gsf, two-story house of worship.

The six, three-story residential buildings on Projected Development Site 1 would be constructed as-of-right and in accordance with all applicable New York City Department of Building (NYCDOB) and New York City Department of Environmental Protection (NYCDEP) rules and regulations, including those regarding the placement of boiler stacks. As such, significant adverse air quality effects are not expected under the Future No-Action Condition.

2.8.4 Future With-Action Condition

In the Future With-Action Condition, the proposed actions would amend the zoning map to change the existing R5B district to an R7A/C2-3 district. The RWCDS assumes that Projected Development Site 1 would be redeveloped with a mixed-use building comprising ground-floor retail and 68 residential units;

Projected Development Site 2 would be redeveloped with a mixed-use building including ground-floor retail and 18 dwelling units; Projected Development Site 3 would be redveloped with a mixed-use building copmrising ground-floor retail and 27 residential units; and Projected Development Site 4 would be redeveloped with a mixed-use building containing ground-foor community facility space and 23 residential units.

Mobile Sources

According to the *CEQR Technical Manual*, projects, 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 (such as diesel trains, helicopters, etc.); or add new uses near mobile sources (roadways, garages, parking lots, etc.). Projects requiring further assessment include:

- Projects that would result in placement of operable windows, balconies, air intakes or intake vents generally within 200 feet of an atypical source of vehicular pollutants.
- Projects that would result in the creation of a fully or partially covered roadway, would exacerbate traffic conditions on such a roadway, or would add new uses near such a roadway.
- Projects that would generate peak hour auto traffic or divert existing peak hour traffic of 170 or more auto trips in this area of the City.
- Projects that would generate peak hour heavy-duty diesel vehicle traffic or its equivalent in vehicular emissions resulting from 12 or more heavy-duty diesel vehicles (HDDVs) for paved roads with average daily traffic of fewer than 5,000 vehicles, 19 or more HDDVs for collector roads, 23 or more HDDVs for principal and minor arterials, or 23 or more HDDVs for expressways and limited-access roads.
- Projects that would result in new sensitive uses (e.g., schools or hospitals) adjacent to large existing parking facilities or parking garage exhaust vents.
- Projects that would result in parking facilities or applications requesting the grant of a special permit or authorization for parking facilities; or projects that would result in a sizable number of other mobile sources of pollution (e.g., a heliport or a new railroad terminal).
- Projects that would substantially increase the vehicle miles traveled in a large area.

The proposed actions would not result in any of the above thresholds being crossed and therefore do not require further mobile source assessment. The proposed actions would generate peak hour vehicular traffic. However, according to the vehicle trip generation presented in Section 2.7, Transportation (see **Table 2.7-2)**, the proposed actions are estimated to generate well below 50 vehicular trips per peak hour. Thus the proposed actions do not require further analysis with respect to CO. Similarly, based on trip generation, the proposed actions would generate fewer than 12 peak-hour HDDV/ HDDV equivalent trips during operations. As such, the proposed actions do not warrant further evaluation of $PM_{2.5}$. (Refer to Section 2.12, Construction, for the construction air quality screening assessment.)

Stationary Sources

According to the *CEQR Technical Manual*, projects may result in stationary source air quality impacts when one or more of the following occurs:

- New stationary sources of pollutants are created (e.g., emission stacks for industrial plants, hospitals, other large institutional uses).
- Certain new uses near existing (or planned future) emissions stacks are introduced that may affect the use.
- Structures near such stacks are introduced so that the structures may change the dispersion of emissions from the stacks so that surrounding uses are affected.

- Fossil fuels (fuel oil or natural gas) for heating/hot water, ventilation, and air conditioning (HVAC) systems are used.[13]
- Large emission sources are created (e.g., solid waste or medical-waste incinerators, cogeneration facilities, asphalt/concrete plants, or power-generating plants, etc.).
- New sensitive uses are located near a large emission source.
- Medical, chemical, or research labs are created in proximity to sensitive uses.
- Operation of manufacturing or processing facilities is created.
- New sensitive uses created within 400 feet of manufacturing or processing facilities.
- New uses created within 400 feet of a stack associated with commercial, institutional, or residential developments (and the height of the new structures would be similar to or greater than the height of the emission stack).
- Potentially significant odors are created.
- New uses near an odor-producing facility are created.
- "Non-point" sources that could result in fugitive dust are created.
- New uses near non-point sources are created.
- A generic or programmatic action is introduced that would change or create a stationary source or that would expose new populations to such a stationary source.

Air Toxics Screening

Field surveys and a review of MapPluto parcel-based land use GIS data were undertaken in order to identify potential manufacturing or processing facilities located in the 400-foot air toxics study area. **Figure 2.8-1** depicts the 400-foot study area and the five parcels that were flagged as containing potential air toxic sources.[14]

Searches of the NYCDEP CATS online permitting database were completed to determine whether the properties contain any active manufacturing or processing facilities. No active permits for industrials or gas stations were found, as presented below in **Table 2.8-1**. Therefore, as no industrial sites, manufacturing or processing facilities were identified within the 400-foot study area, the proposed actions do not require an air toxics assessment.

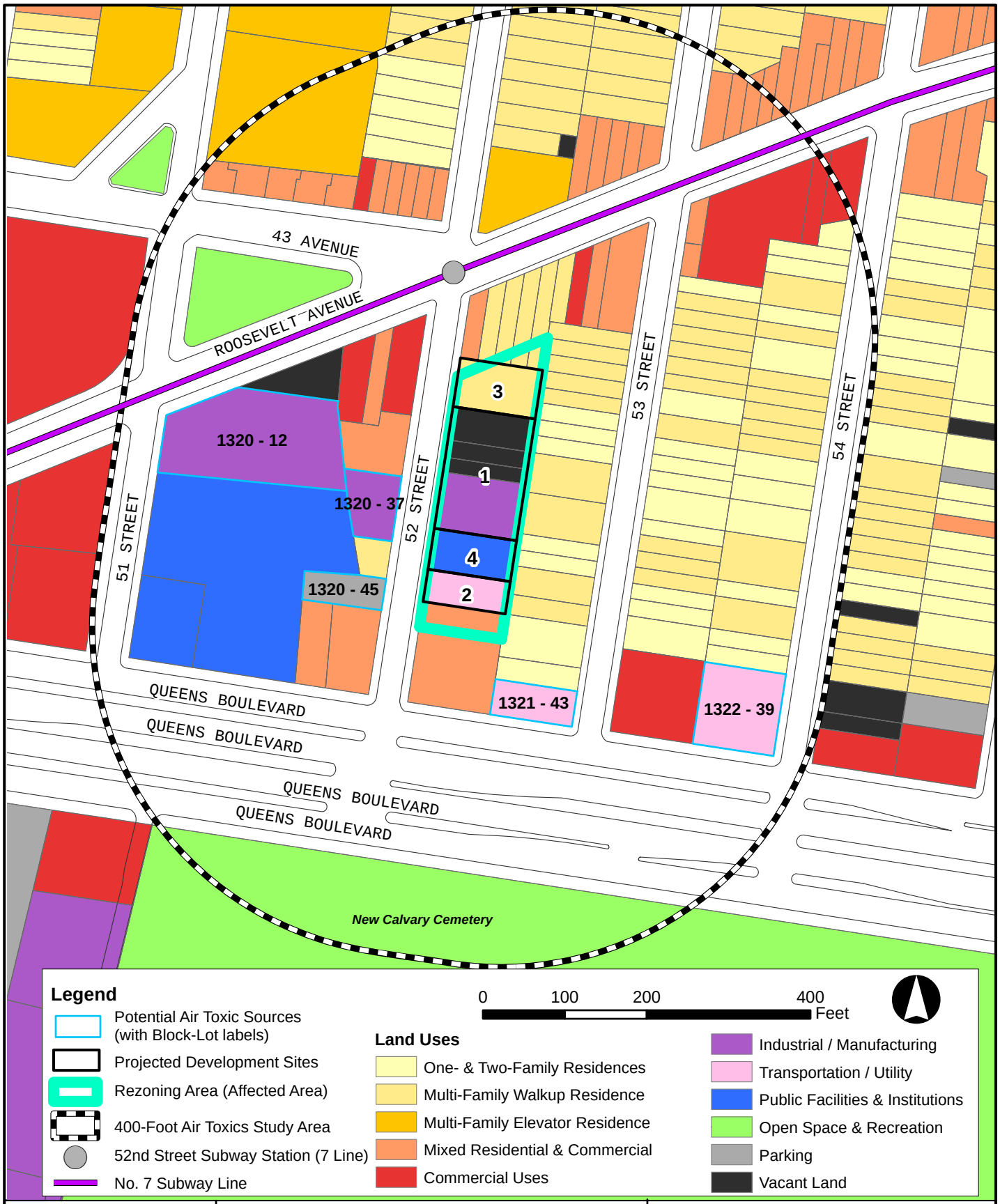
Table 2.8-1 NYCDEP CATS Database Search Results

Parcel (Block-Lot)	Address	CATS Permit Search Results
1320-12	51-02 Roosevelt Ave	No records
1320-37	43-20 52 St	No records
1320-45	52 St	No records
1321-43	52-19 Queens Blvd	No records
1322-39	53-15 Queens Blvd	No records

Source: NYCDEP CATS online permitting database

[13] Note that potential effects from building HVAC systems differ from the situations listed in the other bullets, in that they generally do not result in significant adverse impacts. The potential effects of building HVAC systems are typically addressed via (E) designations or restrictive declarations, which limit the type of fuel that can be used by an HVAC system, and/or restrict the location of air emission ventilation stacks.

[14] Note that Projected Development Site 2 was not flagged as a potential source of air toxics because it is assumed that the property would be redeveloped with a mixed-use building in the Future With-Action Condition.



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Air Toxics Screening Study Area

Figure 2.8-1

Major Large Emission Sources Screening

The 1,000-foot study area for the major large emission sources screening is exhibited in **Figure 2.8-2**. A desktop review of a variety of data sources was completed in order to determine whether any major large emission sources are located within 1,000 feet of the rezoning area. Lists of all New York State Department of Environmental Conservation [NYSDEC] Title V Facility Permits and NYSDEC State Facility Air permits, including facility addresses, were obtained from New York State Open Data (https://data.ny.gov/). The facility addresses were then geocoded in GIS too see if any permitted facilities are within the 1,000-foot study area. In addition, Google Earth imagery and MapPluto land use data were reviewed. No major large emission sources were identified within 1,000 feet of the project site. Accordingly, the proposed actions do not require further evaluation with respect to major large stationary sources.

Detailed Stationary Source Analysis

The stationary source analysis assesses the potential impacts of the projected development sites included in the RWCDS, as summarized below in **Table 2.8-2**. It is assumed that the HVAC systems at each projected development site would utilize fossil fuels. The projected development sites are in close proximity (see **Figure 2.8-3**) and are assumed to be redeveloped with 95-feet-tall mixed residential/ commercial buildings in the Future With-Action Condition.[15]

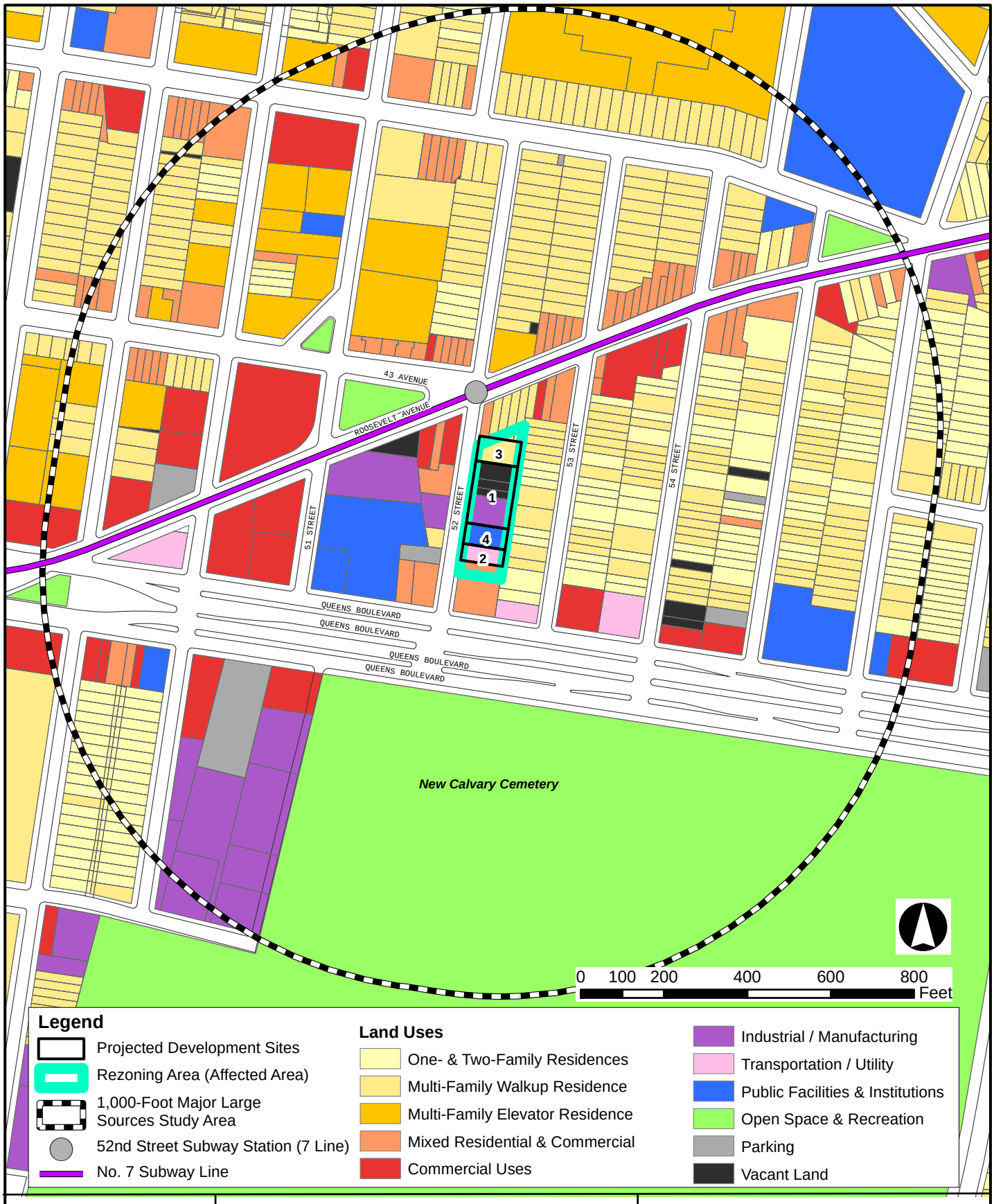
Therefore, detailed stationary source air quality analyses are required to evaluate the following potential impacts:

- from the HVAC system of Projected Development Site 1 on existing residential uses (of similar height)[16] and Projected Development Sites 2 through 4;
- from the HVAC system of Projected Development Site 2 on existing on existing residential uses (of similar height) and Projected Development Sites 1, 3 and 4;
- from the HVAC system of Projected Development Site 3 on existing residential uses (of similar height) and Projected Development Sites 1, 2 and 4;
- from the HVAC system of Projected Development Site 4 on existing residential uses (of similar height) and Projected Development Sites 1 through 3; and
- from the cumulative HVAC systems of Projected Development Sites 1 through 4 on existing residential uses (of similar height).

Table 2.8-2 Reasonable Worst-Case Development Scenario

Site No.	Block	Lot	Lot Area	Existing Zoning	Proposed Zoning	ZQA/MIH: Allowable 5.6 FAR	ZQA/MIH: Allowable Height (ft)
Projected Site 1	1321	12	7,000	R5B	R7A/C2-3	82,500	95
	1321	15	2,000	R5B	R7A/C2-3		
	1321	16	2,000	R5B	R7A/C2-3		
	1321	17	4,000	R5B	R7A/C2-3		
Projected Site 2	1321	7	4,000	R5B	R7A/C2-3	22,000	95
Projected Site 3	1321	19	6,000	R5B	R7A/C2-3	33,000	95
Projected Site 4	1321	19	5,000	R5B	R7A/C2-3	27,500	95

[15] Note that HVAC screening graphs (nomographs) for the projected development sites are provided in **Appendix D**.
[16] Note that the detailed stationary source analyses considered the three residential buildings and one transient hotel building of similar height, all of which are located to the south on Queens Boulevard (Block 1320 Lots 47 and 51; Block 1321, Lot 1; Block 1322, Lot 1).



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Major Large Sources Screening Study Area

Figure 2.8-2



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Proximity of Projected Development Sites

Figure 2.8-3

Methodologies and Assumptions
A refined dispersion modeling analysis approach was implemented using USEPA's AERMOD model in association with most recent five years of metrological data to predict applicable pollutant concentrations from the proposed HVAC systems within the rezoning area. AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatments of the boundary layer theory, understanding of turbulence and dispersion, and includes handling of terrain interactions.

The AERMOD model calculates pollutant concentrations from one or more points (e.g., exhaust stacks from the building on project sites) based on hourly meteorological data and has the capability to calculate pollutant concentrations at locations where the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by nearby structures. The analyses of potential impacts from exhaust stacks were performed assuming stack tip downwash, urban dispersion and surface roughness length, and elimination of calms. AERMOD can be run with and without building downwash (the downwash option accounts for the effects on plume dispersion created by the structure the stack is located on, and other nearby structures).

For the refined analysis, the exhaust stacks for HVAC systems were assumed to be located at the edge of the development massing closest to the receptor, unless the source and receptor were immediately adjacent to each other. In these cases, the stack was assumed to be located at an initial distance of ten feet from the building edge.

The refined dispersion modeling analysis was performed for $PM_{2.5}$, PM_{10}, NO_2 and SO_2 with emission rates for No. 2 fuel oil first; and if No. 2 fuel oil failed, the analysis was performed again using emission rates for natural gas. If a source could not meet the NAAQS or the *CEQR Technical Manual*-established $PM_{2.5}$ *de minimis* threshold, then the stack was set back in five-foot increments until the source was able to meet the respective criteria. Restricting the fuel type to natural gas or specifying a minimum stack set back distance are the mitigation measures considered in the analysis, as necessary.

The meteorological data set used with AERMOD consists of the latest available five consecutive years (2012 - 2016) of meteorological data: surface data collected at LaGuardia Airport and concurrent upper air data collected at Brookhaven, Suffolk County, New York. The meteorological data set includes wind speeds, wind directions, ambient temperatures and mixing height data for every hour of a year over five years.

An estimate of the emissions from the HVAC systems was made based on the proposed development size, type of fuel used and type of construction. The emissions estimate used the following fuel consumptions rates applicable to residential developments: 60.3 ft^3/ft^2-year and 0.43 gal/ft^2-year for natural gas and fuel oil, respectively. Short-term fuel consumption rates were based on peak hourly fuel consumption estimates for each HVAC system relevant to individual projected development site.

Additionally, it may not be reasonable to assume the stack(s) to be at the edge of the building roof. The New York City Building Code regulates the placement of chimneys and vents and of buildings relative to nearby chimneys and vents; thus, when the exact locations of the proposed stack(s) are not available, the implication of the Building Code should be considered in determining the reasonable worst-case location(s) for modeling.

HVAC emission factors for each fuel type were obtained from the EPA's *Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources*.

The AERMOD model was used to predict impacts of SO_2, NO_2, PM_{10}, and $PM_{2.5}$ emissions over the averaging time corresponding to the National Ambient Air Quality Standards (NAQQS) (**Table 2.8-3**). In addition to the NAAQS, the *de minimis* thresholds for $PM_{2.5}$ applicable to the New York City development projects (**Table 2.8-3**) were also used to determine potential $PM_{2.5}$ impact significance as below:

- Predicted 24-hour maximum $PM_{2.5}$ concentration increase of more than half the difference between the 24-hour background concentration and the 24-hour standard; or
- Predicted annual average $PM_{2.5}$ concentration increase greater than 0.3 µg/m^3 at any receptor location.

Based on the NAAQS and $PM_{2.5}$ *de minimis* thresholds, the Not-to-Exceed criteria, as shown in **Table 2.8-3**, were further established by subtracting background concentrations collected at Queens College 2 Station from the NAAQS for relevant pollutants. When exceedances of the Not-to-Exceed criteria were predicted, a further analysis or mitigation measures would be warranted to ensure the project compliance of both NAAQS and $PM_{2.5}$ *de minimis* thresholds.

Table 2.8-3 Impact Significance Thresholds

Pollutant	Averaging Time	NAAQS	Background Concentration	unit	*De Minimis*	Not-to-Exceed Criteria (ug/m3)
NO_2	1 year	**53**	17.5	ppb		100.0*
	1 hour	**100**	60.2	ppb		188.0*
SO_2	1 hour	**75**	9.5	ppb		171.5
PM_{10}	24 hours	**150**	44	ug/m3		106.0
$PM_{2.5}$	1 year	**15**	--	ug/m3	**0.3**	0.3
	24 hours	**35**	19.8	ug/m3	**7.6**	7.6

* Including background concentration.
Source: New York State Department of Environmental Conservation Ambient Air Monitoring Networks Region 2 Queens College 2 (http://www.dec.ny.gov/docs/air_pdf/2016airqualrpt.pdf)

AERMOD Modeling Results Under No. 2 Fuel Oil Option
Impacts concentrations were first predicted using AERMOD assuming that all HVAC systems are powered by the No. 2 fuel oil. If any exceedances of Not-to-Exceed criteria were predicted under the No. 2 fuel oil option, then further modeling analysis under the natural gas option would be warranted.

HVAC Impact from Projected Development Site 1

Table 2.8-4 presents the AERMOD-predicted impacts from Projected Development Site 1 on existing proximate uses and Projected Development Sites 2 through 4. An exceedance of the 1-hour NO_2 Not-to-Exceed criteria was predicted; therefore, the HVAC system of Projected Development Site 1 would result in a potential significant adverse air quality impact with the use of No. 2 fuel oil.

Table 2.8-4 Projected Development Site 1 Impact Concentrations

Pollutants	Averaging Time	Not-to-Exceed Criteria (ug/m^3)	Modeling Result (ug/m^3)
NOx	1 year	100.0	76.8
	1 hour	188.0	**206.4**
SO_2	1 hour	171.5	1.7
PM_{10}	24 hours	106.0	6.10
$PM_{2.5}$	1 year	0.3	0.18
	24 hours	7.6	6.10

HVAC Impact from Projected Development Site 2

Table 2.8-5 presents the AERMOD-predicted impacts from Projected Development Site 2 on existing uses and Projected Development Sites 1, 3 and 4. No exceedances of the Not-to-Exceed criteria were predicted; therefore, the HVAC system of Projected Development Site 2 would not result in significant adverse air quality impacts.

Table 2.8-5 Projected Development Site 2 Impact Concentrations

Pollutants	Averaging Time	Not-to-Exceed Criteria (ug/m^3)	Modeling Result (ug/m^3)
NOx	1 year	100.0	76.3
	1 hour	188.0	146.7
SO_2	1 hour	171.5	0.6
PM_{10}	24 hours	106	2.96
$PM_{2.5}$	1 year	0.3	0.10
	24 hours	7.6	2.96

HVAC Impact from Projected Development Site 3

Table 2.8-6 presents the AERMOD-predicted impacts from Projected Development Site 3 on existing proximate uses and Projected Development Sites 1, 2 and 4. No exceedances of the Not-to-Exceed criteria were predicted; therefore, the HVAC system of Projected Development Site 3 would not result in significant adverse air quality impacts.

Table 2.8-6 Projected Development Site 3 Impact Concentrations

Pollutants	Averaging Time	Not-to-Exceed Criteria (ug/m^3)	Modeling Result (ug/m^3)
NOx	1 year	100.0	76.2
	1 hour	188.0	134.1
SO_2	1 hour	171.5	0.6
PM_{10}	24 hours	106	2.03
$PM_{2.5}$	1 year	0.3	0.09
	24 hours	7.6	2.03

HVAC Impact from Projected Development Site 4

Table 2.8-7 presents the AERMOD-predicted impacts from Projected Development Site 4 on existing proximate uses and Projected Development Sites 1 through 3. Exceedances of the Not-to-Exceed criteria for the 1-hour average NO_2 and both the 24-hour and annual average $PM_{2.5}$ were predicted; therefore the HVAC system of Projected Development Site 4 would result in a potential significant adverse air quality impact with the use of No. 2 fuel oil.

Table 2.8-7 Projected Development Site 4 Impact Concentrations

Pollutants	Averaging Time	Not-to-Exceed Criteria (ug/m^3)	Modeling Result (ug/m^3)
NOx	1 year	100.0	78.3
	1 hour	188.0	**220.0**
SO_2	1 hour	171.5	2.4
PM_{10}	24 hours	106	10.86
$PM_{2.5}$	1 year	0.3	**0.47**
	24 hours	7.6	**10.86**

HVAC Cumulative Impact from All Projected Development Sites on Existing Sites

Table 2.8-8 presents the AERMOD-predicted cumulative impacts from Projected Development Sites 1, 2, 3 and 4 on existing uses surrounding the rezoning area. No exceedances of the Not-to-Exceed criteria were predicted from the operation of combined HVAC systems of the four projected development sites; thus, the proposed actions would not result in significant cumulative adverse air quality impacts.

Table 2.8-8 Cumulative Impact Concentrations from Combined Projected Development Sites

Pollutants	Averaging Time	Not-to-Exceed Criteria (ug/m^3)	Modeling Result (ug/m^3)
NOx	1 year	100.0	76.5
	1 hour	188.0	138.7
SO_2	1 hour	171.5	0.6
PM_{10}	24 hours	106	3.38
$PM_{2.5}$	1 year	0.3	0.15
	24 hours	7.6	3.38

Mitigation Measures
Since exceedances were predicted from HVAC systems on Projected Development Sites 1 and 4, HVAC stacks were first set back at five-foot intervals to mitigate potential significant adverse air quality impacts. However, because the stack set back approach failed, the natural gas option was further considered to mitigate potential significant impacts.

Mitigated HVAC Impact from Projected Development Site 1

Table 2.8-9 presents the AERMOD-predicted impacts from Projected Development Site 1 on existing proximate uses and Projected Development Sites 2 through 4 using natural gas as the HVAC fuel option. No exceedances of the Not-to-Exceed criteria were predicted. Therefore, under this fuel option, the HVAC system of Project Development Site 1 would not result in significant adverse air quality impacts.

Table 2.8-9 Projected Development Site 1 Impact Concentrations, With Mitigation

Pollutants	Averaging Time	Not-to-Exceed Criteria (ug/m^3)	Modeling Result (ug/m^3)
NOx	1 year	100.0	76.5
	1 hour	188.0	177.76
SO_2	1 hour	171.5	0.8
PM_{10}	24 hours	106.0	2.12
$PM_{2.5}$	1 year	0.3	0.07
	24 hours	7.6	2.12

Mitigated HVAC Impact from Projected Development Site 4

Table 2.8-10 presents the AERMOD-predicted impacts from Projected Site 4 on existing proximate uses and Projected Sites 1 through 3 under the natural gas HVAC fuel option. No exceedances of the Not-to-Exceed criteria were predicted. Therefore, under this fuel option, the HVAC system of Project Development Site 4 would not result in significant adverse air quality impacts.

Table 2.8-10 Projected Development Site 4 Impact Concentrations, With Mitigation

Pollutants	Averaging Time	Not-to-Exceed Criteria (ug/m^3)	Modeling Result (ug/m^3)
NOx	1 year	100.0	77.4
	1 hour	188.0	167.6
SO_2	1 hour	171.5	0.9
PM_{10}	24 hours	106	2.59
$PM_{2.5}$	1 year	0.3	0.14
	24 hours	7.6	2.59

HVAC Cumulative Impact from All Projected Development Sites on Existing Sites, with Mitigation

Table 2.8-11 presents the AERMOD-predicted cumulative impacts from Projected Development Sites 1, 2, 3 and 4 on existing uses surrounding the rezoning area. No exceedances of the Not-to-Exceed criteria were predicted from the operation of combined HVAC systems of the four projected development sites; thus, the proposed actions would not result in significant cumulative adverse air quality impacts.

Table 2.8-11 Cumulative Impact Concentrations from Combined Projected Development Sites, With Mitigation

Pollutants	Averaging Time	Not-to-Exceed Criteria (ug/m^3)	Modeling Result (ug/m^3)
NOx	1 year	100.0	76.3
	1 hour	188.0	131.1
SO_2	1 hour	171.5	0.4
PM_{10}	24 hours	106	1.97
$PM_{2.5}$	1 year	0.3	0.09
	24 hours	7.6	1.97

Detailed Stationary Source Analysis Conclusion
As discussed above, the modeling results and comparisons to the applicable Not-to-Exceed criteria indicate that no significant adverse air quality impacts would occur if Projected Development Sites 1 and 4 were restricted to the use of natural gas to power their HVAC systems.

Thus, based on the results of the analyses, (E) designations would be required for Projected Development Site 1 (Block 1321, Lots 12, 15, 16 and 17) and Projected Development Site 4 (Block 1321, Lot 10). E-497 has been assigned to this project. The language of the (E) designations would be as follows:

Block 1321, Lots 12, 15, 16, and 17 (Projected Development Site 1) & **Block 1321, Lot 10 (Projected Development Site 4**

> Any new residential development must exclusively use natural gas as the type of fuel for HVAC and hot water systems to avoid potential significant adverse air quality impacts

2.8.5 Conclusion

Mobile Sources

As discussed above, the proposed actions do not exceed any of the thresholds that trigger the need for a detailed mobile source air quality assessment. Accordingly, the proposed actions would not result in significant adverse air quality impacts with respect to mobile sources.

Stationary Sources

As presented above, the findings of the detailed stationary source air quality analysis indicate that with the incorporation of (E) designations on Block 1321, Lots 10, 12, 15, 16, and 17 that restrict the fuel type to natural gas, the proposed actions would have no significant adverse project-on-project or project-on-existing uses air quality impacts. In addition, according to the modelling results, the proposed actions would have no significant adverse cumulative air quality impacts on existing residential uses. Accordingly, the proposed actions do not require further evaluation with respect to stationary sources.

2.9 NOISE

2.9.1 Introduction

Noise is defined as any unwanted sound, and sound is defined as any air pressure variation that the human ear can detect. Human beings can detect a large range of sound pressures ranging from 20 to 20 million micropascals, but only these air-pressure variations occurring within a set of frequencies are experienced

as sound. Air pressure changes that occur between 20 and 20,000 times a second, stated as units of Hertz (Hz), are registered as sound.

In terms of hearing, humans are less sensitive to low frequencies (<250 Hz) than mid-frequencies (500-1,000 Hz). Humans are most sensitive to frequencies in the 1,000 to 5,000 Hz range. Since ambient noise contains many different frequencies all mixed together, measures of human response to noise assign more weight to frequencies in this range. This is known as the A-weighted sound level.

Noise is measured in sound pressure level (SPL), which is converted to a decibel scale. The decibel is a relative measure of the sound level pressure with respect to a standardized reference quantity. Decibels on the A-weighted scale are termed "dB(A)." The A-weighted scale is used for evaluating the effects of noise in the environment because it most closely approximates the response of the human ear. On this scale, the threshold of discomfort is 120 dB(A), and the threshold of pain is about 140 dB(A). **Table 2.9-1** shows the range of noise levels for a variety of indoor and outdoor noise levels.

Because the scale is logarithmic, a relative increase of 10 decibels represents a sound pressure level that is 10 times higher. However, humans do not perceive a 10 dB(A) increase as 10 times louder; they perceive it as twice as loud. The following are typical human perceptions of dB(A) relative to changes in noise level:

- 3 dB(A) change is the threshold of change detectable by the human ear;
- 5 dB(A) change is readily noticeable; and
- 10 dB(A) increase is perceived as a doubling of the noise level.

As a change in land use may result in a change in type and intensity of noise perceived by residents, patrons and employees of a neighborhood, the *CEQR Technical Manual* recommends an analysis of the two principal types of noise sources: mobile sources and stationary sources. Both types of noise sources are examined in the following sections.

2.9.2 Future No-Action Condition

The No-Action Condition assumes that the uses within the rezoning area and study area would generally remain consistent with existing conditions, except for Projected Development Site 1. Absent the proposed actions, this site is expected to be redeveloped with an as-of-right residential development comprised of six three-story townhouse buildings and a total of 18-market rate units. The residential townhouse buildings on Projected Development Site 1 would be constructed as-of-right and in accordance with all applicable NYCDOB and NYCDEP rules and regulations. As such, significant adverse noise impacts effects are not expected under the Future No-Action Condition.

2.9.3 Future With-Action Condition

Mobile Sources

Mobile noise sources are those which move in relation to receptors. The mobile source screening analysis addresses potential noise impacts associated with vehicular traffic generated by the proposed actions.

According to the *CEQR Technical Manual*, if a project would result in the doubling of (or a 100 percent increase above) existing passenger car equivalent (PCE) values, a detailed mobile source analysis is generally performed. As discussed above in Section 2.7, Transportation, the proposed actions are not expected to generate more than 50 peak-hour vehicle trips through any local intersection. Therefore, the proposed actions do not require a detailed mobile source noise study and would not result in a significant, adverse impact with respect to mobile sources of noise.

As discussed in the *CEQR Technical Manual*, if a project is in an area with high ambient noise levels, which typically include those near heavily-traveled thoroughfares or elevated rail lines, further noise analysis may be warranted to determine applicable attenuation measures. The projected development sites are located proximate

to an elevated subway line; Queens Boulevard, a heavily-trafficked thoroughfare and New York City Department of Transportation (NYCDOT)-designated through truck route; and Roosevelt Avenue, a NYCDOT-designated local truck route. While the proposed actions would not generate enough traffic volumes to warrant a mobile source analysis, the existing ambient noise levels in the immediate vicinity of the projected development sites were measured to allow for an assessment of the potential for traffic noise to have an adverse effect on future residents and occupants of the Projected Development Sites.

Table 2.9-1 Sound Pressure Level & Loudness of Typical Noises in Indoor & Outdoor Environments

Noise Level dB(A)	Subjective Impression	Typical Sources		Relative Loudness (Human Response)
		Outdoor	Indoor	
120-130	Uncomfortably Loud	Air raid siren at 50 feet (threshold of pain)	Oxygen torch	32 times as loud
110-120	Uncomfortably Loud	Turbo-fan aircraft at take-off power at 200 feet	Riveting machine Rock band	16 times as loud
100-110	Uncomfortably Loud	Jackhammer at 3 feet		8 times as loud
90-100	Very Loud	Gas lawn mower at 3 feet Subway train at 30 feet Train whistle at crossing Wood chipper shredding trees Chain saw cutting trees at 10 feet	Newspaper press	4 times as loud
80-90	Very Loud	Passing freight train at 30 feet Steamroller at 30 feet Leaf blower at 5 feet Power lawn mower at 5 feet	Food blender Milling machine Garbage disposal Crowd noise at sports event	2 times as loud
70-80	Moderately Loud	NJ Turnpike at 50 feet Truck idling at 30 feet Traffic in downtown urban area	Loud stereo Vacuum cleaner Food blender	Reference loudness (70 dB(A))
60-70	Moderately Loud	Residential air conditioner at 100 feet Gas lawn mower at 100 feet Waves breaking on beach at 65 feet	Cash register Dishwasher Theater lobby Normal speech at 3 feet	2 times as loud
50-60	Quiet	Large transformers at 100 feet Traffic in suburban area	Living room with TV on Classroom Business office Dehumidifier Normal speech at 10 feet	1/4 as loud
40-50	Quiet	Bird calls Trees rustling Crickets Water flowing in brook	Folding clothes Using computer	1/8 as loud
30-40	Very quiet		Walking on carpet Clock ticking in adjacent room	1/16 as loud
20-30	Very quiet		Bedroom at night	1/32 as loud
10-20	Extremely quiet		Broadcast and recording studio	
0-10	Threshold of Hearing			

Sources: *Noise Assessment Guidelines Technical Background*, by Theodore J. Schultz, Bolt Beranek and Newman, Inc., prepared for the US Department of Housing and Urban Development, Office of Research and Technology, Washington, D.C., undated; Sandstone Environmental Associates, Inc.; *Highway Noise Fundamentals*, prepared by the Federal Highway Administration, US Department of Transportation, September 1980; *Handbook of Environmental Acoustics*, by James P. Cowan, Van Nostrand Reinhold, 1994.

The *CEQR Technical Manual* provides noise exposure guidelines in terms of L_{eq} and L_{10} for the maximum amount of allowable noise under existing regulations. L_{eq} is the continuous equivalent sound level. The sound energy from the fluctuating sound pressure levels (SPLs) is averaged over time to create a single number to describe the mean energy or intensity level. High noise levels during a measurement period will have greater effect on the L_{eq} than low noise levels. The L_{eq} has an advantage over other descriptors because L_{eq} values from different noise sources can be added and subtracted to determine cumulative noise levels. In comparison, L_{10} is the SPL exceeded 10 percent of the time. Similar descriptors include the L_{50}, L_{01}, and L_{90} values.

Noise measurements were conducted on Thursday June 15, 2017 at three locations within the rezoning area. The measurements were conducted during typical weekday peak traffic periods: 7:30 to 9:00 AM, 12:00 to 1:30 PM, and 4:30 to 6:00 PM. The weather conditions were normal with calm winds, which are considered suitable for ambient noise measurements. A Type 2 Larson Davis LxT sound meter with wind shield was used to conduct the noise monitoring. The meter was placed on a tripod at a height of approximately five feet above the ground, away from any other surfaces and was calibrated prior to and following each monitoring session. During the noise monitoring periods, traffic volumes and vehicle classifications along the adjacent roads were recorded at each measurement site.

The noise measurement sites (see **Figure 2.9-1**) were selected jointly with NYCDCP, and are generally situated on the sidewalk in front of the projected development sites at the following locations:

Location 1: Northern edge of 43-09 52nd Street (Block 1321, Lot 19/ Projected Development Site 3)

Location 2: Southern edge of 43-27 52nd Street (Block 1321, Lot 7/ Projected Development Site 2)

Location 3: Approximately 90 feet north of the center line of No. 7 subway train tracks on 51st Street (representative of Projected Development Site 1)

Location 1 was selected to represent Projected Developments Site 3; Location 2 was selected to represent Projected Development Sites 2 and 4, and Location 3 was selected to represent Projected Development Site 1. Measurement Location 1 is proximate to the elevated No. 7 line and the 52nd Street subway station, which includes an elevated barrier wall between 51st and 53rd Streets that provides certain train noise attenuation to the receptors in the rezoning area. Measurement Location 3 is also close to the elevated subway line, however in this area there is no barrier wall that serves to shield train noise. Given that the barrier wall would not provide attenuation for the upper floors of the proposed 95-foot-tall buildings, Location 1 noise levels are used for the lower floors of Projected Development Sites 1 and 3, while Location 2 noise levels are used for the upper floors.

Tables 2.9-2 through **2.9-4** present the ambient noise levels in terms of various noise metrics measured at three locations during three daytime periods. L_{10} is the metric used by the NYCDEP in establishing the exterior noise exposure guidelines.

Based on field observations during noise monitoring, train noise from the elevated No. 7 line is the major contributor to the noise levels within the rezoning area. At the 52nd Street subway station, there is a barrier wall between 51st and 53rd Streets that provides certain train noise attenuation to the receptors in the rezoning area. However, because the analysis considers nine-story, 95-foot-tall buildings, the station barrier wall would not have any substantive noise attenuation effects at the higher floors (i.e., fourth floor and above) of the projected development site buildings, given the direct line-of-sight to the train tracks. Therefore, the noise levels measured at Location 3 are conservatively used as the perceived levels for the residences located on the eastern-, western-, and northern-facing façades of the higher floors of Projected Sites 1 and 3 (which are close to the subway station). Thus, for Projected Sites 1 and 3, the levels measured at Location 1 would be applicable to each floor at or below the third floor, while the levels measured at Location 3 would be applicable to floors four through nine.



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Noise Measurement Locations

Figure 2.9-1

Table 2.9-2 Location 1 Measured Noise Levels (dB(A))

Noise Metric	Time Period		
	8:05-9:07 AM	12:04-1:06 PM	5:09-5:29 PM
L_{eq}	73.1	66.9	71.5
L_{10}	75.7	70.6	76.0

Table 2.9-3 Location 2 Measured Noise Levels (dB(A))

Noise Metric	Time Period		
	7:41-8:02 PM	1:09-1:30 PM	5:32-5:52 PM
L_{eq}	66.2	67.2	64.6
L_{10}	68.5	72.0*	65.9

*Not representative, as explained below

Table 2.9-4 Location 3 Measured Noise Levels (dB(A))

Noise Metric	Time Period		
	8:38-9:40 AM	12:03-1:05 PM	4:23-5:25 PM
L_{eq}	73.3	70.5	74.1
L_{10}	77.7	73.3	78.8

At Location 2 during the midday peak hour measurement, the primary contributor to the ambient noise level was observed to be the constant noise generated by metal cutting and drilling activities inside a newly-built residential building across 52nd Street. Therefore, the measured mid-day noise level shown above in **Table 2.9-3** does not represent a normal mid-day ambient condition. Instead, the levels measured during the morning and afternoon peak hours are considered representative for Projected Development Site 2.

In 1983, the NYCDEP adopted the *City Environmental Protection Order-City Environmental Quality Review* (CEPO-CEQR) noise standards at the exterior façade to achieve interior noise levels of 45 dB(A) or below. *CEPO-CEQR Noise Standards* classify noise exposure into four categories: "generally acceptable," "marginally acceptable," "marginally unacceptable" and "clearly unacceptable." As noted in the *CEQR Technical Manual* and depicted in **Table 2.9-5**, these standards are the basis for classifying noise exposure into the following categories based on the L_{10} noise measurements at projected development sites.

In accordance with *CEQR Technical Manual* guidance, the existing noise levels measured are in the "marginally unacceptable" category at Locations 1 and 3, and the "marginally acceptable" category at Location 2. For the noise levels exceeding the marginally acceptable levels measured at Locations 1 and 3 (which are representative of Projected Development Sites 1 and 3), the building designs for Projected Development Sites 1 and 3 should provide a composite wall-window attenuation that would be sufficient to reduce these levels to an acceptable interior noise level (see Table 2.9-5). Location 2, which is representative of Projected Development Sites 2 and 4, is marginally acceptable and thus would not

Table 2.9-5 Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level with Proposed Project	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[1]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^2$ dB(A)

Source: *2014 CEQR Technical Manual*

Notes:

1 The above composite window-wall attenuation values are for residential dwellings. Commercial and office spaces/meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
2 Required attenuation values increase by 1 db(A) for L10 values greater than 80dBA.

require attenuation. Below is a summary of required window-wall attenuation at applicable building façades at Projected Development Sites 1 and 3:

- For the eastern-, western-, and northern-facing façades, 33 dBA window-wall attenuation would be required for floors one through three, while 35 dBA window-wall attenuation would be required for the eastern-, western-, and northern-facing façades of floors four and above.
- For south façades, no window-wall attenuation is required because shielding from train noise would be provided by the new building structures.

It is assumed that an (E) designation for noise would be placed on Projected Development Sites 1 (Block 1321, Lot 12, 15, 16 and 17) 2 (Block 1321, Lot 7), 3 (Block 1321, Lot 19), and 4 (Block 1321, Lot 10), which specifies that the above window-wall attenuation must be provided with a closed-window condition and alternate means of ventilation. E-497 has been assigned to this project. The language of the (E) designations would be as follows:

- **Block 1321, Lots 12, 15, 16, and 17 (Projected Development Site 1)**: In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 28 dB(A) window/wall attenuation on all facades facing south (Queens Boulevard) and 33 dB(A) of attenuation on all facades facing east (53rd Street), north (Roosevelt Avenue), and west (52nd Street) for floors at or below the third floor (30 ft) and 35 dB(A) of attenuation for floors above the third floor (30 ft) to maintain an interior noise level of 45 dB(A). To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

- **Block 1321, Lot 7 (Projected Development Site 2)**: In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 28 dB(A) window/wall attenuation on all building's facades in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners.

- **Block 1321, Lot 19 (Projected Development Site 3)**: In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide a closed-window condition with a minimum of 33 dB(A) window/wall attenuation on all building's facades for floors at or below the third floor (30 ft) and 35 dB(A) of attenuation for floors above the third floor (30 ft) in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed-window condition, an alternate means of ventilation must also be

provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners.

- **Block 1321, Lot 10 (Projected Development Site 4)**: In order to ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 28 dB(A) window/wall attenuation on all building's facades in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners.

With the implementation of these (E) designations, no significant adverse impacts related to noise would occur. Therefore, the proposed actions would not result in significant adverse noise impacts, and further assessment is not warranted.

2.9.4 Stationary Sources

The *CEQR Technical Manual* states that based upon previous studies, unless existing ambient noise levels are very low and/or stationary source levels are very high (and there are no structures that provide shielding), it is unusual for stationary sources to have significant impacts at distances beyond 1,500 feet. A detailed analysis may be appropriate if the proposed project would cause a substantial stationary source (i.e., unenclosed mechanical equipment for manufacturing or building ventilation purposes, playground, etc.) to be operating within 1,500 feet of a receptor, with a direct line of sight to that receptor; or introduce a receptor in an area with high ambient noise levels resulting from stationary sources, such as unenclosed manufacturing activities or other loud uses. Machinery, mechanical equipment, heating, ventilating and air-conditioning units, loudspeakers, new loading docks, and other noise associated with building structures may also be considered in a stationary source noise analysis. Impacts may occur when an unenclosed stationary noise source is near a sensitive receptor.

No long-term, unenclosed stationary noise sources of concern were observed during field inspections. As the projected development sites are not subject to high ambient noise levels from a nearby stationary source, no stationary source noise impacts from surrounding uses are anticipated. Additionally, as the proposed actions would not introduce a new stationary noise source, significant adverse stationary source impacts are not anticipated as a result of the proposed actions.

2.10 PUBLIC HEALTH

In accordance with the *CEQR Technical Manual* guidance, a public health analysis is warranted when significant unmitigated adverse impact is found in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise. For the proposed actions, significant adverse impacts were not identified for relevant technical areas including hazardous materials, noise and air quality. Therefore a public health assessment is not warranted, and the proposed actions would not result in a significant adverse public health impact.

2.11 NEIGHBORHOOD CHARACTER

As defined by the *CEQR Technical Manual*, neighborhood character is considered to be an amalgam of the various elements that give a neighborhood its distinct personality. The elements, when applicable, typically include land use, urban design and visual resources, historic resources, socioeconomic conditions, open space, traffic, and/or noise. In general, all of these elements do not affect neighborhood character; a neighborhood usually draws its distinctive character from a few defining features.

If a project has the potential to result in any significant adverse impacts on any of the above technical areas, a preliminary assessment of neighborhood character may be appropriate. A significant impact identified in one of these technical areas is not automatically equivalent to a significant impact on neighborhood character; rather, it serves as an indication that neighborhood character should be examined.

In addition, depending on the project, a combination of moderate changes in several of these technical areas may potentially have a significant effect on neighborhood character. As stated in the *CEQR Technical Manual*, a "moderate" effect is generally defined as an effect considered reasonably close to the significant adverse impact threshold for a particular technical analysis area. When considered together, there are elements that may have the potential to significantly affect neighborhood character. Moderate effects on several elements may affect defining features of a neighborhood and, in turn, a pedestrian's overall experience. If it is determined that two or more categories may have potential "moderate effects" on the environment, CEQR states that an assessment should be conducted to determine if the proposed project result in a combination of moderate effects to several elements that cumulatively may affect neighborhood character. If a project would result in only slight effects in several analysis categories, then further analysis is generally not needed.

2.11.1 Future No-Action Condition

The No-Action Condition assumes that the uses within the rezoning area and study area would generally remain consistent with existing conditions, with the exception of Projected Development Site 1. In the future without the proposed actions, this site is expected to be redeveloped with an as-of-right residential development consisting of six three-story townhouse buildings with a total of 18-market rate units. The residential townhouse development on Projected Development Site 1 will be constructed as-of-right and will not have an adverse effect on neighborhood character.

2.11.2 Future With-Action Condition

Preliminary Assessment

As the proposed actions have the potential to result in significant adverse impacts with respect to transportation and noise, a preliminary assessment is warranted. In accordance with the *CEQR Technical Manual*, the assessment should answer the following questions: (1) What are the defining features of the neighborhood; and (2) Does the project have the potential to affect these defining features, either through the potential for a significant adverse impact or a combination of moderate effects in relevant technical areas?

The defining characteristics and key contributors to Woodside's neighborhood character are land use, noise and transportation. In general, the study area has a relatively high ambient noise level due to the noise emitted by the operation of the elevated subway line and by vehicles on the heavily-trafficked Queens Boulevard. These transportation uses are key contributors to the character of the study area, which is also defined by a mix of land uses. Thus the preliminary assessment focuses on these three technical areas.

Land Use

The rezoning area is located along the eastern portion of 52nd Street. It extends about 100 feet to the east from 52nd Street and spans approximately 350 feet along the middle of the block. Land use in the rezoning area consists of residential, mixed residential/ commercial, institutional, industrial/ manufacturing, transportation and utility and vacant uses.

The study area contains a mix of residential, commercial, public facility/ institutional, industrial/ manufacturing and transportation land uses. The residential use types in the study area primarily include one- and two-family residences, two- to three-story multi-family walk-up residences, and mixed residential/ commercial buildings. The one- and two-family residences and the multi-family walk-up residences are generally found along 53rd Street. Mixed commercial and residential uses are located throughout the study area as well, with higher concentrations on Roosevelt Avenue and Queens Boulevard. A number of vacant lots can also be found throughout the study area. The neighborhood is also characterized by transportation uses, including the elevated No. 7 subway line and Queens Boulevard. The No. 7 line runs overhead along Roosevelt Avenue, with a station stop located in the study area at the intersection of Roosevelt Avenue, 43rd Avenue, and 52nd Street. Queens Boulevard is a heavily-trafficked, eight-lane, two-way divided highway.

In the northern portion of the study area, the north sides of 43rd Street and Roosevelt Avenue are generally characterized by low-rise mixed residential/ commercial buildings. The south side of Roosevelt Avenue is characterized by a mixture of residential, commercial, mixed residential/ commercial and industrial uses. John Vincent Daniels Jr. Square, a small triangular plaza, is located in the northwest corner of the study area. The majority of the eastern portion of the study area (54th Street and 53rd Street) is occupied by residential uses. The western portion of the study area is comprised of wide variety of uses with no particular coherence. The southern portion of the study area is dominated by Queens Boulevard. Directly south of Queens Boulevard is the New Calvary Cemetery, a large open space.

With respect to community facility or institutional uses, El Renuevo Christian Church is located within the rezoning area on Projected Development Site 3. Korean Presbyterian Church of Southern New York is located in the southwest corner of the study area on the corner of 51st Street and Queens Boulevard. There are approximately four vacant lots located in the study area. One (Block 1320, Lot 26) is currently used as parking for J & Sons Supply Inc., located on the adjacent lot (Block 1320, Lot 12). The other three are the vacant lots on 52nd street that are part of Projected Development Site 1.

Transportation

Roosevelt Avenue and Queens Boulevard are classified as "Principal Arterial Other" roadways. 43rd Avenue is classified as a "Minor Arterial," while all other roadways in the study area are classified as local roads. The 52nd Street – Roosevelt Avenue Station on the MTA's No. 7 subway line is located directly above the intersection of Roosevelt Avenue, 43rd Avenue, and 52nd Street. There are also a number of MTA bus stops located within the study area, as discussed below.

The Q32 bus runs between Jackson Heights, Queens and Penn Station, Manhattan and makes three stops within the study area on Roosevelt Avenue. Two stops are Queens-bound; one, the Roosevelt Avenue/51st Street stop, is located at the southeast corner of Roosevelt Avenue and 51st Street, and the other, the Roosevelt Avenue/53rd stop, is located on the southeast corner of Roosevelt Avenue and 53rd Street. The one Manhattan-bound Q32 stop within the study area is the Roosevelt Avenue/ 54th Street stop, which is located on the north side of Roosevelt Avenue at the mid-block point between 54th Street and 53rd Street.

The Q60 bus runs between South Jamaica, Queens and East Midtown, Manhattan and makes two stops, one Queens-bound and one Manhattan-bound, within the study area on Queens Boulevard. The Manhattan-bound stop is located on the northwest corner of Queens Boulevard and 52nd Street. The Queens-bound stop is located on the southeast corner of Queens Boulevard and 52nd Street.

Noise

Noise measurements were conducted in June, 2017 at three locations within the rezoning area. The noise measurement sites were selected jointly with NYCDCP, and are generally situated on the sidewalk in front of the four projected development sites. Based on field observation during noise monitoring, noise emitted by the elevated subway line is the major contributor to the noise levels within the rezoning area. *CEPO-CEQR Noise Standards* classify noise exposure into four categories: "generally acceptable," "marginally acceptable," "marginally unacceptable" and "clearly unacceptable."

Per *CEQR Technical Manual* guidance, the existing measured noise levels were categorized according to the *CEPO-CEQR Noise Standards* which classify noise exposure into four categories: "generally acceptable," "marginally acceptable," "marginally unacceptable" and "clearly unacceptable." The noise assessment results indicate that Projected Development Sites 1 and 3 are within the "marginally unacceptable" category, while Projected Development Site 2 falls within the "marginally acceptable" category.

In accordance with *CEQR Technical Manual* methodology, the proposed actions do not require a detailed mobile source noise study as they do would not result in a 100 percent increase above existing passenger car equivalent (PCE) values. With respect to stationary sources of noise, the proposed actions would not introduce a new stationary noise source and the projected development sites are not subject to high ambient noise levels from a nearby stationary source. Accordingly, the proposed actions do not require a stationary source noise assessment.

Assessment

Development resulting from a proposed action could alter neighborhood character if it introduces new land uses, conflicts with land use policy or other public plans for the area, changes land use character, or generates significant land use impacts. The proposed actions would not introduce new land uses, nor would they conflict with relevant public policies. The scale of the proposed actions is not large enough to result in a change in land use character (the rezoning area is very limited in size). The redevelopment of the Projected Development Sites would be consistent with mixed-use development found throughout the study area, including uses to north along Roosevelt Avenue and to the south along Queens Boulevard. Recent years have seen some commercial, residential development in the general area. The proposed actions would reinforce this trend toward a more active residential mixed-use neighborhood. Thus, the proposed actions would not result in a significant adverse effect on land use.

Changes in traffic and pedestrian conditions can affect neighborhood character. For traffic to have an effect on neighborhood character, it must change substantially as a result of the actions. Based on the estimated trip generation characteristics, the proposed actions would not lead to an increase of 50 or more vehicle trips at any one intersection in the vicinity of the projected development sites. As such, the proposed actions would not result in substantial changes to traffic patterns or volumes. Regarding pedestrians, when a project would result in substantially different pedestrian activity and circulation, it has the potential to affect neighborhood character. Although the proposed actions would introduce a relatively large number of new pedestrian trips, they would not be expected to result in substantially different pedestrian circulation patterns, nor would the pedestrian activity be considered different from the current or future pedestrian conditions. Furthermore, the results of the pedestrian analysis indicate that the proposed actions would not result in significant adverse pedestrian impacts.

Regarding noise, as discussed above, the proposed actions would not generate enough vehicular trips to have a substantial effect on mobile source noise. Similarly, the proposed actions would not introduce stationary sources of noise that would contribute to an increase in ambient noise levels. Accordingly, the proposed actions would not have the potential to affect the neighborhood character with respect to noise. However, the existing measured noise levels at Projected Development Sites 1 and 3 are in the “marginally unacceptable” category. As such, in accordance with *CEQR Technical Manual* guidance, the building designs for these two sites should provide a composite wall-window attenuation that would be enough to reduce these levels to an acceptable interior noise level. The results of the noise analysis indicate that the following window-wall attenuation would be required at applicable building façades at Projected Development Sites 1 and 3:

- For east, west, and north façades, 33 and 35 dBA window-wall attenuation would be required for each floor at or below the third floor and above the third floor, respectively.
- For south façades, no window-wall attenuation is required because shielding from train noise would be provided by the new building structures.

With the implementation of these (E) designations, significant adverse noise impacts would not occur.

In addition, the proposed actions would not have a significant adverse impact with respect to open space, shadows or urban design. The study area is currently underserved by open space, and the creation of new public open space is not expected to occur by the future analysis year. Accordingly, the study area’s existing OSR would be reduced under the Future No-Action and With-Action Conditions. However, as the OSR is projected to decrease by less than one percent between the Future No-Action and With-Action Conditions, a significant adverse open space impact to open space resources would not occur.

The proposed actions would result in buildings up to 95 feet in height, and as such, have the potential to cast additional shadows on Vincent Daniels Square, a nearby public open space. According to the detailed shadow analysis findings, although this open space would be subject to incremental shadows from the proposed actions, it would continue to receive substantial direct sunlight necessary for the survival of tree canopy and vegetation. Significant adverse shadow impacts are not expected as the additional project-induced shadows would not eliminate all of the direct sunlight that the park receives and would not have a substantial effect on the survival, enjoyment or use of this resource.

Although the proposed development would change views of the projected development sites as witnessed by pedestrians on 52nd Street, Queens Boulevard, Roosevelt Avenue, the proposed actions would not have a significant adverse urban design impact. The build out of the projected development sites would occur within the existing lot boundaries; thus, the proposed actions would not alter or disrupt the existing street grid, change the arrangement and orientation of streets in the area, or block any view corridors or views to/from any natural areas with rare or defining features. The proposed development would be consistent with the seven- to nine-story mixed residential/ commercial buildings currently found south of the rezoning area along Queens Boulevard. In addition, the projected development sites would include ground floor retail uses, further activating currently-underused sites at the street level, improving the visual quality of the streetscape, enhancing both the commercial corridor along 52nd Street, and promoting pedestrian activity.

Conclusion

Land use, transportation and noise have been identified as the defining features of the study area's neighborhood character. The proposed actions would not result in significant adverse impacts with regard to these (or any) technical areas, including open space, shadows and urban design. Moderate adverse effects that would potentially impact such a defining feature, either singly or in combination also have not been identified. Therefore, the proposed actions would not result in a significant adverse impact to one of the defining features of the neighborhood, nor would they have a significant adverse impact on neighborhood character.

2.12 CONSTRUCTION

2.9.1 Introduction

Construction, although temporary, can result in disruptive and noticeable effects on a proposed action area. A determination of the significance of construction and the need for mitigation is based on the duration and magnitude of these effects. Construction is typically of greatest importance when it could affect traffic conditions, archaeological resources, the integrity of historic resources, community noise patterns and air quality conditions. All construction analyses were undertaken in accordance with the guidelines contained in the *CEQR Technical Manual*.

2.12.2 Future No-Action Condition

The No-Action Condition assumes that the uses within the rezoning area and study area generally would remain consistent with existing conditions, except for Projected Development Site 1. The existing warehouse on Projected Development Site 1 is expected to be demolished and replaced with an as-of-right residential townhouse development comprised of six, three-story buildings. A 16- to 20-month construction period is expected, which is considered short-term under CEQR. As such, a detailed construction analysis would not be required, and significant adverse impacts would not be expected under the Future No-Action Condition.

2.12.3 Future With-Action Condition

The RWCDS for the With-Action Condition assumes that Projected Development Site 1 would be redeveloped with a mixed-use building comprising ground-floor retail and 68 residential units; Projected Development Site 2 would be redeveloped with a mixed-use building including ground-floor retail and 18 dwelling units; Projected Development Site 3 would be redveloped with a mixed-use building copmrising ground-floor retail and 27 residential units; and Projected Development Site 4 would be redveloped with a mixed-use building copmrising ground-floor retail and 23 residential units All four buildings would include nine stories and would rise to a height of up to 95 feet above grade.

Please note that the construction screening assessment does not consider construction of the No Action development assumed for Projected Development Site 1 (controlled by the Applicant) under the Future No Action Condition. Thus, the construction effects associated with the proposed actions have been overestimated, resulting in rather conservative construction screening analyses.

Construction Schedule

In addition to the site controlled by the Applicant (Projected Development Site 1), there are three projected development sites in the rezoning area. Construction of Projected Development Site 1 is expected to last approximately 16 to 20 months. For a conservative analysis, the remaining projected development sites are anticipated to be developed in the three-year period following the adoption of the proposed rezoning. Sixteen-month construction periods are assumed for the remaining projected development sites. **Figure 2.12-1** exhibits the construction schedule that was developed for the construction impact assessment.

The construction schedule assumes nine-month ULURP process for the proposed rezoning, starting in the middle of October of 2019 and ending in July of 2020. It is assumed that the 20-month construction period for Projected Development Site 1 would occur immediately after the adoption of the proposed rezoning, commencing in July 2020 and ending December 2021. For a conservative analysis, it is assumed that the redevelopment of Projected Development Site 2 would follow immediately. The 16-month construction period would start in January 2022 and end in June 2023. The 16-month construction period for Projected Development Site 3 is assumed to extend from April 2022 through September 2023, while the 16-month construction period for Projected Development Site 4 is assumed to begin in October 2022 and end in February 2024. The conservative construction schedule described above assumes a fair amount of overlap in the construction of Projected Development Sites 2 through 4. Note that the demolition of any existing structures on the sites has been incorporated into the construction schedule and construction screening analyses that follow below.

Estimate of Construction Workers and Material Deliveries

Construction is labor intensive, and the number of workers varies with the general construction task and/or building size. Likewise, material deliveries and removals generate truck trips, and the number also varies depending on the task and/or the building size. Worker and truck projections were based on representative sites of similar sizes and uses from prior environmental documents and information for similar known construction projects in the city. Projected development sites were categorized based on similar size and use, and the most intense month from each stage of construction (demolition/excavation/ foundation, superstructure/exterior, and interior) for each site was identified and used as a scaling factor for projections. Each of the projected development sites was then assigned to the appropriate size category and the projections were scaled on a worker or truck per square foot basis.

The With-Action number of construction worker and truck trips were then estimated. **Table 2.21-1** presents a summary of the number of trucks and workers during an average month, for each quarter. As indicated in the table, the number of workers and trucks would peak in the third quarter of 2021 (Q3 21), with 908 combined truck and worker trips (in PCEs). Projected Development Sites 2, 3 and 4 would be under construction during Q3 21, the construction peak period.

Table 2.12-1 Average Incremental Number of Monthly Construction Workers and Trucks by Year and Quarter

	Workers				Trucks (PCES)				Total			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2019	505	505	505	505	90	191	211	249	596	697	716	754
2020	505	505	393	338	249	191	128	71	754	696	521	409
2021	423	423	480	596	158	364	427	267	581	787	908	863
2022	342	173	173	173	129	66	169	221	471	239	342	394

Effect of Construction on Traffic

The incremental average daily construction worker and truck activities was forecasted for each of the four projected development sites to identify if *CEQR Technical Manual* screening thresholds of 50 PCEs per hour would be exceeded under construction conditions. For a conservative reasonable worst-case analysis of potential construction traffic impacts, the peak levels of construction in each calendar quarter was used as the basis for estimating peak hour construction traffic volumes. Construction activities at each projected development site were assumed to take place over a four-year period from 2019 to 2022, with construction activities at each individual site ranging from 16 to 20 months. The average incremental number of daily construction workers and trucks projected for the peak construction period is shown in **Table 2.12-2**.

Table 2.12-2 Average Incremental Number of Daily Construction Workers and Trucks in Q3 2021

Workers	20
Trucks	22
Total	42

Based on the modal split assumption for construction workers used in the *Flushing Commons EIS* (2010), it is conservatively estimated that approximately 70 percent of construction workers would travel by auto to and from the development sites. The remaining 30 percent would arrive and leave by transit. An average auto occupancy of approximately 1.20 persons per auto is assumed, also based on the assumption used in the *Flushing Commons EIS*. The construction schedule assumes that all site activities would take place during the typical construction shift of 7:00 AM to 3:00 PM. Construction worker travel would largely take place during the hours

before and after the work shift, with 80 percent of all workers arriving and departing in the 60-minute period before and after each shift. Construction truck trips would occur throughout the day (with higher numbers of trips during the early morning), and trucks would assumed to be in the area for relatively short durations.

The estimated daily vehicle trips were distributed to various hours of the day based on typical work shift allocations and conventional arrival/departure patterns of construction workers and trucks. For construction workers, as noted above, the substantial majority (80 percent) of the arrival and departure trips are expected to take place during the hour before and after each shift. For construction trucks, deliveries are expected to occur throughout the time period while the construction site is active. However, to avoid traffic congestion and ensure that materials are on-site for the start of each shift, construction truck deliveries are assumed to peak during the hour before the regular day shift, overlapping with construction worker arrival traffic.

As shown in **Table 2.12-3**, based on construction trip generation estimates, it is anticipated that 50 or more additional vehicular trips (trucks and construction workers combined) would not be met or exceeded during any hour. Therefore, no detailed assessment of construction traffic impacts is needed.

Construction activities may result in short-term disruption of both traffic and pedestrian movements at the development sites. This would occur primarily due to the temporary loss of curbside lanes from the staging of equipment and the movement of materials to and from the site. Additionally, construction would result in the temporary closing of sidewalks adjacent to the site at times. These conditions would not lead to significant adverse effects on traffic and transportation conditions.

Effect of Construction on Air Quality

Although the construction period traffic would be temporary, it was conservatively treated as operational traffic in this analysis. The anticipated temporary hot spot air quality impacts associated with off-site mobile source activities during the worst-case construction period were evaluated for the proposed actions. Mobile air pollutant sources include engine exhaust emitted from proposed traffic within the roadway network around the projected development sites (i.e., construction trucks along designated truck routes and workers' commuting vehicles). Given the type of development proposed, the truck component of the project-related traffic would be minor. On-road incremental trips and equivalent heavy-duty diesel vehicle (HDDV) trips at the intersections immediately adjacent to the project site were screened using the *CEQR Technical Manual*-recommended screening thresholds:

- 170 or more incremental vehicle trips for CO; and
- 19 or more incremental equivalent HDDV trips at collect roads for $PM_{2.5.}$

The worst-case peak hour incremental traffic at the affected intersections that are immediately adjacent to the project site were estimated to include, depending on the specific peak hour:

- 10 worker commuter vehicles and 2 HDDV trips, or
- 1 worker commuter vehicle and 4 HDDV trips.

Table 2.12-3 Estimated Hourly Vehicle Trips During Construction

Peak Truck PCEs =	20	
Peak Workers =	22	
Average Auto Occupancy*=	1.2	persons/vehicle
Worker Mode-Split Auto *=	70%	
Worker Mode-Split Transit* =	30%	

Hour of Day	Temporal Distributions[1]				Car Trips (Workers)			Truck (PCE) Trips			Total Vehicle Trips (PCEs)		
	Workers IN	Workers Out	Trucks IN	Trucks OUT	In	Out	Total	In	Out	Total	In	Out	Total
12-1AM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
1-2 AM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
2-3AM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
3-4AM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
4-5AM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
5-6AM	**10%**	0%	**6%**	**6%**	1	0	1	1	1	2	2	1	4
6-7AM	**80%**	0%	**6%**	**6%**	10	0	10	1	1	2	11	1	13
7-8AM	**10%**	0%	**11%**	**11%**	1	0	1	2	2	4	3	2	6
8-9AM	0%	0%	**11%**	**11%**	0	0	0	2	2	4	2	2	4
9-10AM	0%	0%	**11%**	**11%**	0	0	0	2	2	4	2	2	4
10-11AM	0%	0%	**11%**	**11%**	0	0	0	2	2	4	2	2	4
11AM-12PM	0%	0%	**11%**	**11%**	0	0	0	2	2	4	2	2	4
12-1PM	0%	0%	**11%**	**11%**	0	0	0	2	2	4	2	2	4
1-2PM	0%	0%	**11%**	**11%**	0	0	0	2	2	4	2	2	4
2-3PM	0%	**10%**	**11%**	**11%**	0	1	1	2	2	4	2	3	6
3-4PM	0%	**80%**	0%	0%	0	10	10	0	0	0	0	10	10
4-5PM	0%	**10%**	0%	0%	0	1	1	0	0	0	0	1	1
5-6PM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
6-7PM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
7-8PM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
8-9PM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
9-10PM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
10-11PM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
11PM-12AM	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0
TOTAL =	**100%**	**100%**	**100%**	**100%**	**13**	**13**	**26**	**20**	**20**	**40**	**33**	**33**	**66**
				Check =	0	0		0	0				

Note:

1 = Assumes one construction shift between 7:00AM and 3:00PM. Assumes truck arrivals uniformly distributed throughout the day, and duration of stay on-site of less than one hour.

* Source: Flushing Commons EIS, 2010

These worst-case increments are well below the screening thresholds at each affected intersection. Therefore, a further hot spot dispersion impact analysis is not warranted for either CO or $PM_{2.5}$ and no significant adverse air quality impacts would occur during construction periods. Therefore, according to *CEQR Technical Manual* methodology, the proposed actions do not warrant a detailed assessment of construction air quality.

Possible impacts on local air quality during construction induced by the proposed actions include fugitive dust (particulate) emission from land clearing operation and demolition as well as mobile source emissions (hydrocarbons, nitrogen oxide, and carbon monoxide) generated by construction equipment and vehicles.

Fugitive dust emissions from land clearing operations can occur from excavation, hauling, dumping, spreading, grading, compaction, wind erosion, and traffic over unpaved areas. Actual quantities of emissions depend on the extent and nature of the clearing operations, the type of equipment employed, the physical characteristics of the underlying soil, the speed at which construction vehicles are operated, and the type of fugitive dust control methods employed. Much of the fugitive dust generated by construction activities would be of a short-term duration and relatively contained within a proposed site, not significantly impacting nearby buildings or residents. All appropriate fugitive dust control measures – including watering of exposed areas and dust covers for trucks – would be employed during construction of the development sites. Therefore, the fugitive source emissions generated by the proposed actions would not be significant.

Mobile source emissions may result from the operation of construction equipment, trucks delivering materials and removing debris, workers' private vehicles, or occasional disruptions in traffic near the construction site. As the number of construction-related vehicle trips generated by the proposed actions would be relatively small and the emissions from such vehicles as well as construction equipment would occur over a four-year period and be dispersed throughout the proposed rezoning area, the mobile source emissions generated by the proposed actions would not be significant. Overall, the proposed actions would not have the potential to result in significant adverse air quality impacts.

Effect of Construction on Noise

Potential traffic noise impacts from the worst-case incremental traffic as described above would be temporary and not significant. Based on the estimated trip generation and distribution, existing noise PCE values would not be increased by 100 percent as a result of construction activity associated with the proposed actions. Thus, in accordance with *CEQR Technical Manual* guidance, the proposed actions do not warrant a detailed assessment of construction noise.

Construction noise associated with the proposed actions is expected to be similar to noise generated by other mixed residential/ commercial construction projects in the city. Increased noise level caused by construction activities can be expected to be more significant during early excavation phases of construction and would be of relatively short duration. As discussed above, increases in noise levels caused by delivery trucks and other construction vehicles would not be significant.

Construction noise is regulated by the *New York City Noise Control Code* and by the Environmental Protection Agency noise emission standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7:00 AM and 6:00 PM; and that construction material be handled and transported in such a manner as not to create unnecessary noise. In addition, whenever possible, appropriate low noise emission level equipment and operational procedures can be utilized to minimize noise and its effect on adjacent uses.

Thus, while there may be short periods of time when noise is greater than the Noise Control Code, it is expected that these regulations would be adhered to such that no significant adverse noise impacts would be expected during construction of the proposed actions.

Effect of Construction on Hazardous Materials

The proposed actions would result in new development in the rezoning area. As such, a hazardous materials assessment was undertaken, as presented in Section 2.6 above. The applicant conducted a Phase I ESA and Phase II ESA and had the New York City Dept. of Environmental Protection sign-off on remedial action plan (RAP) and a Conduction Health and Safety plan (CHASP) to preclude the need for E Designations on the Proposed Development Site.

Conclusion

As discussed above, construction of the projected development sites is not expected to have any significant adverse impacts with respect to traffic, air quality, noise or hazardous materials.

APPENDICES

Appendix A – MIH Text Amendment Map

52nd Street Rezoning
Community District 2, Queens
11/28/17
Zoning Maps 9b & 9d

Matter <u>underlined</u> is new, to be added;
Matter ~~struck out~~ is to be deleted;
Matter within # # is defined in Section 12-10;
* * * indicates where unchanged text appears in the Zoning Resolution

* * *

APPENDIX F
Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Areas

* * *

Queens

* * *

Queens Community District 2

* * *



Inclusionary Housing designated area

<u>Mandatory Inclusionary Housing Area (MIHA) - *see Section 23-154(d)(3)*</u>

<u>Area **1** — [date of adoption] — MIH Program Option 1 and Option 2</u>

Portion of Community District 2, Queens

* * *

Appendix B – Correspondence with New York City Landmark's Preservation Commission

Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / LA-CEQR-Q
Project: 52ND STREET REZONING
Date received: 2/15/2017

Properties with no Architectural or Archaeological significance:

1) ADDRESS: 43-27 52nd Street, BBL: 4013210007
2) ADDRESS: 43-25 52nd Street, BBL: 4013210010
3) ADDRESS: 43-21 52n Street, BBL: 4013210012
4) ADDRESS: 43-15 52nd Street, BBL: 4013210015
5) ADDRESS: 43-15A 52nd Street, BBL: 4013210016
6) ADDRESS: 43-13 52nd Street, BBL: 4013210017
7) ADDRESS: 43-09 52nd Street, BBL: 4013210019
8) ADDRESS: 43-41 52nd Street, BBL: 4013210001



2/23/2017

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 32156_FSO_DNP_02162017.doc

Appendix C – Phase I Environmental Site Assessment

GAC ENVIRONMENTAL
155 West 72nd Street / Suite 605 / New York, New York / 10023
PHONE 212.875.9506
FAX 212.787.8138

Phase I
Environmental Site Assessment (ESA)

43-13 52nd Street
43-15 52nd Street
43-15A 52nd Street
43-21 52nd Street
Woodside, New York 11377

Prepared for
Steven Pomerantz
Woodside Equities
Prepared: September 10, 2017

Conducted by
GAC Environmental, Inc
155 West 72nd Street, Suite #605
New York, NY 10023
(212) 875-9506



Matthew Stock
President
GAC Environmental, Inc.

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EXECUTIVE SUMMARY

GAC Environmental, Inc. (GAC) performed a Phase I Environmental Site Assessment (Phase I) for the subject properties located at:

- **43-13 52nd Street**
- **43-15 52nd Street**
- **43-15A 52nd Street**
- **43-21 52nd Street**

This assessment was prepared to identify and evaluate items of potential environmental concern that may be associated with the subject property including a limited asbestos survey. This assessment has revealed the following environmental areas of concern:

Asbestos
Suspect asbestos was found in the form of floor tiles and roofing materials at 43-21 52nd Street. If plans are made to renovate or demolish the building all suspect materials must be tested. If the materials test positive, they must then be removed as an asbestos containing material in accordance with all city, state and federal asbestos regulations.

Previous Underground Storage Tanks
Two USTs were on the 43-21 52nd Street property when the site was a garage between approximately 1932-1962. It is recommended that a Phase II ESA be performed to determine if any soil has been contaminated where the tanks were buried. Soil borings should be made at various depths, and the collected soil analyzed for volatile organic compounds (VOC) and semi-volatile organic compounds (sVOCs).

There may be additional USTs still present. Ground Penetrating Radar ("GPR") should be used to determine whether there are still tanks present at the property.

Pits
There are 2 pits that are sealed with metal plates in the 42-21 52nd Street building. It is recommended that a Phase II ESA be performed to determine if any soil has been contaminated at these pit locations. Soil borings should be made at various depths, and the collected soil analyzed for volatile organic compounds (VOC) and semi-volatile organic compounds (sVOCs).

Above Ground Storage Tank
There is an old tank in the cellar of the building located at 43-21 52nd Street. There is no evidence of spills currently or historically from the tank. If plans are made to remove the tank, the tank must be tested, cleaned, and properly removed by an Environmental Contractor in accordance with all city, state and federal regulations of tank removal.

PCBs
There are fluorescent lights on the premises of the building located at 43-21 52nd Street. If the building is to be renovated and demolished the light fixtures should be removed in accordance with all city, state and federal regulations.

1.0 INTRODUCTION

GAC was retained, to perform a Phase I Environmental Site Assessment (Phase I) at 4 Properties in Woodside, New York 11377. This assessment was prepared to identify and evaluate items of potential environmental concern that may be associated with the subject properties located at:

- **43-13 52nd Street**
- **43-15 52nd Street**
- **43-15A 52nd Street**
- **43-21 52nd Street**

1.1 PROFESSIONAL QUALIFICATIONS

GAC is a full-service environmental engineering and consulting firm established in 1989. The firm specializes in assessing environmental conditions and applying cost-effective procedures and technologies to remediate those conditions in accordance with local, state, and federal regulations. This Phase I site inspection was conducted and prepared by Mr. Matthew Stock.

1.2 PURPOSE

The purpose of this Phase I Environmental Site Assessment (Phase I ESA) is to investigate and identify Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs), or Historical Recognized Environmental Conditions (HRECs) associated with the Subject Property and/or surrounding property. Recognized Environmental Conditions, as defined in the ASTM Standard Practice E 1527-13, including the following:

The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to 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 governmental agencies.

For this Phase I ESA, recognized environmental conditions (REC's), may also include the presence or likely presence of other conditions as noted in the Scope of Services.

1.3 SCOPE OF SERVICES

This ESA was conducted utilizing a standard of good commercial and customary practice that was consistent with the ASTM Practice E 1527-13. This report provides a general characterization of the subject property based on readily available information obtained from: an inspection of the property, a review of available records, interviews with facility personnel, and interviews with relevant regulatory officials. This report provides documentation of the assessment, a summary of all identified areas of environmental concern, and recommendations for further action, where warranted. The ASTM standard constitutes all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice.

- Physical characteristics of the Subject Property through a review of referenced sources for topographic, geologic, soils and hydrologic data.

- Subject Property history through a review of referenced sources such as land deeds, fire insurance maps, city directories, aerial photographs, prior reports and interviews.

- Current Subject Property conditions, including observations and interviews regarding the following: the presence or absence of hazardous substances or petroleum products; generation, treatment, storage, or disposal of hazardous, regulated, or biomedical waste; equipment that utilizes oils which potentially contain PCBs; and storage tanks (aboveground and underground).

- Usage of surrounding area properties and the likelihood for releases of hazardous substances and petroleum products (if known and/or suspected) to migrate onto the Subject Property.

- Information in referenced environmental agency databases and local environmental records, within specified minimum search distances.

- Past ownership through a review of available prior reports and local municipal file review.

- The scope-of-work also included consideration of the following potential environmental conditions that are outside the scope of ASTM Practice E 1527-13: asbestos-containing materials (ACM), lead-based paint (LBP), and mold.

1.4 METHODOLOGY

The Phase I methodology involves four basic components: the records review; a site reconnaissance; investigative interviews; and a final report. In performing this assessment, GAC obtained information from the following agencies, individuals, or businesses:

* New York City DEP and Federal EPA
* Property Representatives
* Toxics Targeting, Inc.
* Sanborn Maps
* EDR Radius Map Check with Geo Report
* Topographic Maps
* Aerial Photographs
* City Abstract Directory
* New York City, Office of City Clerk
* New York City, Department of City Planning
* New York City, Department of Finance
* New York City, Department of Buildings
* New York City, Fire Department
* New York State, Department of Health

2.0 SITE DESCRIPTION

Site description information was collected from the site reconnaissance, reference materials, and interviews. Characterization of the physical attributes of the site is a key element in assessing the potential impact that conditions of concern may have on human health or the environment.

2.1 LOCATION AND DESCRIPTION

The subject property is in Woodside, New York 11377 and consists of the following:

- 43-13 52nd Street (vacant lot)
- 43-15 52nd Street (vacant lot)
- 43-15A 52nd Street (vacant lot)
- 43-21 52nd Street (2 story empty building with partial cellar)

2.2 DESCRIPTION OF ADJACENT PROPERTIES

Nearby buildings consist of commercial buildings, residential buildings and vacant lots.

2.3 CURRENT SITE USE

The property currently consists of vacant lots and an empty building. The site coordinates are:

Latitude (North): 40.7440770 - 40˚ 44’ 38.67’’
Longitude (West): 73.9124220 - 73˚ 54’ 44.71’’
Universal Transverse Mercator: Zone 18
UTM X (Meters): 591823.1 UTM Y (Meters): 4510705.0
Elevation: 104 ft. above sea level

2.4 SITE OWNERSHIP

The site is owned by: Woodside Equities
The site contact is: Steven Pomerantz 646-208-9838

2.5 RECOGNIZED ENVIRONMENTAL CONDITIONS (REC)

The purpose of this Phase I Environmental Site Assessment (ESA) was to identify existing or potential Recognized Environmental Conditions (as defined by ASTM Standard E-1527-13) regarding the Subject Property. This ESA was also performed to permit the User to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) liability (hereinafter, the "landowner liability protections," or "LLPs"). ASTM Standard E-1527-13 constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601(35) (B).

2.6 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATION OR ACTIVITY

The property owner/user/key site personnel did not report any Environmental Liens or Activity/Use Limitations on the site. An environmental lien search was not included in the scope of work of this assessment and therefore was not performed. However, if the findings of a lien search performed by any other party does reveal the presence of an environmental related lien on the subject property, this information should be forwarded to GAC for review, and any significant findings will be added to this assessment as an addendum to this report.

2.7 SPECIALIZED KNOWLEDGE (REC, CREC, HREC)

Woodside Equities provided no specialized knowledge that is material to Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs), or Historical Recognized Environmental Conditions (HRECs). GAC was not provided with or made aware of previous environmental assessments or other documentation that is material to RECs, CRECs or HRECs relating to the Subject Property, except as presented in Section 4.3 of this report.

2.8 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

Woodside Equities provided no commonly known or reasonably ascertainable information within the local community about the Subject Property that is material to recognized environmental conditions relating to the Subject Property.

2.9 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

Woodside Equities has provided no information regarding valuation reduction for environmental issues relating to the Subject Property.

2.10 HISTORICAL USE INFORMATION (SANBORN MAPS)

GAC contacted Sanborn, Inc., the largest provider of historic fire insurance maps, requesting fire insurance maps for the site area. The following is a brief summary for each year reviewed:

43-13 52nd Street

YEAR	Description
1902	Vacant Lot
1914	Vacant Lot
1932	2 Story House
1951	2 Story House
1982	2 Story House
1989	2 Story House
2017	Vacant Lot

43-15 & 43-15A 52nd Street

YEAR	Description
1902	House
1914	House
1932	1 Story Parking Garage
1951	1 Story Parking Garage
1982	1 Story Parking Garage
1989	1 Story Parking Garage
2017	Vacant Lot

43-21 52nd Street

YEAR	Description
1902	Houses
1914	Houses
1932	2 Story Garage with Partial Cellar. This map shows 2 USTs on premises.
1951	2 Story Garage with Partial Cellar. This map shows 2 USTs on premises.
1982	2 Story Warehouse with Partial Cellar
1989	2 Story Warehouse with Partial Cellar
2017	2 Story Warehouse with Partial Cellar

Aerial Photograph Review

Aerial photographs were reviewed for the subject property. Please refer to the attachments for a copy of these photographs. The following represents an interpretation of the aerial photographs with respect to the subject properties and the immediate surrounding area:

43-13 52nd Street, 43-15/15A 52nd Street and 43-21 52nd Street

YEAR	Description
1941	The subject property is located in a developed area of Woodside, Queens, NY. It appears to be developed with structures although site-specific details are not available for the 1941 Aerial Photograph
1951	No significant changes are observed on the subject property subsequent to the 1941 Aerial Photograph
1961	No significant changes are observed on the subject property subsequent to the 1951 Aerial Photograph
1966	No significant changes are observed on the subject property subsequent to the 1961 Aerial Photograph
1976	No significant changes are observed on the subject property subsequent to the 1966 Aerial Photograph
1980	No significant changes are observed on the subject property subsequent to the 1976 Aerial Photograph
1984	No significant changes are observed on the subject property subsequent to the 1984 Aerial Photograph
1991	No significant changes are observed on the subject property subsequent to the 1991 Aerial Photograph
1994	No significant changes are observed on the subject property subsequent to the 1994 Aerial Photograph
2006	No significant changes are observed on the subject property subsequent to the 2006 Aerial Photograph
2009	No significant changes are observed on the subject property subsequent to the 2009 Aerial Photograph
2011	No significant changes are observed on the subject property subsequent to the 2011 Aerial Photograph

Historic Topographic Map Review

GAC reviewed historic USGS Topographic Maps provided by EDR. The topographic maps identify some of the surrounding structures, roadways, rail lines, elevation differentiation, and nearby waterways. Please refer to the attachments for a copy of these topographic maps. The following is a brief summary for each year reviewed:

43-13 52nd Street, 43-15/15A 52nd Street and 43-21 52nd Street

YEAR	Description
1897	Woodside, Queens, NY. West of the East River. Southeast of a lake. South of a railroad (now the LIRR).
1898	No significant changes observed subsequent to the 1897 Topographic Map.
1900	No significant changes observed subsequent to the 1898 Topographic Map.
1947	Location of the lake is now St. Michel's Cemetery. All other info the same
1956	No significant changes observed subsequent to the 1947 Topographic Map.
1967	No significant changes observed subsequent to the 1956 Topographic Map.
1979	No significant changes observed subsequent to the 1967 Topographic Map.
1995-97	No significant changes observed subsequent to the 1979 Topographic Map.
2013	No significant changes observed subsequent to the 1995-97 Topographic Map.

City Directory Abstract

GAC reviewed the city directory abstract for the subject property and conducted a limited municipal deed search. The city directory abstract provides the name and operations of the property using sources such as City's City Directory. Refer to the attachments for a copy of the city directory abstract. Based on this review, the property was identified as being occupied by the following operators/owners:

43-21 52nd Street

Year	Uses	Source
1991	Domestics Wood Corp	NYNEX Information Resource Company
	Regent Baby Prods Corp	NYNEX Information Resource Company
1983	Domestics Wood Corp	New York Telephone
	Regent Baby Prods Corp	New York Telephone
1976	Domestics Wood Corp	New York Telephone
1970	Domestics Wood Corp	New York Telephone
	Regent Baby Prods Corp	New York Telephone
1967	Domestics Wood Corp	New York Telephone
	Regent Baby Prods Corp	New York Telephone
1962	Arts for Architecture Inc	New York Telephone Directory
1950	SHEER MOTORS INC PARTS DEPT	New York Telephone
1939	Clarks Percy R	New York Telephone Company Fifty Second St
	Garage	New York Telephone Company

43-15 52nd Street

Year	Uses	Source
1976	Edwards Dorothy	New York Telephone
1970	Edwards Dorothy	New York Telephone
1967	Edwards Dorothy	New York Telephone
1976	Edwards Dorothy	New York Telephone
1962	Nee John gardnr & flrst	New York Telephone Directory
	Nee John gardnr & flrst	New York Telephone Directory
	Edwards Josephine & flrst	New York Telephone Directory
1945	Edwards Josephine & flrst	New York Telephone
1939	Nee John gardnr & flrst	New York Telephone Company
1934	Nee John florist	R.L. Polk & Co.
	Nee Edw Josephine florist	R.L. Polk & Co.
	Fletcher Helen clk	R.L. Polk & Co.
	Faaolina Pasquale Mary pres Fasolino Bros. Inc	R.L. Polk & Co.
	Edwards Wm J Josephine florist	R.L. Polk & Co.

43-13 52nd Street

Year	Uses	Source
1983	Vaccaro Salvatore	New York Telephone
1976	Cosimano P	New York Telephone
1970	Brady Michael	New York Telephone
1967	Kohn Adolph	New York Telephone
	Bradley Jas	New York Telephone
1962	Kohn Adolph	New York Telephone Directory
	Keely Shelia	New York Telephone Directory
1934	Goodwin John W electn	R. L. Polk & Co.
	Goodwin Florence mlnr	R. L. Polk & Co.

2.11 PAST USES OF ADJACENT PROPERTIES

All the adjacent properties have been residential, commercial or vacant lots. There was a filing station located to the NW of the subject site in 1932 (see the Sanborn Map).

2.12 NEARBY GAS STATION, FILLING STATION AND/OR SERVICE STATION

The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information classified as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches. A review of the EDR History Auto list, as provided by EDR, has revealed that there are 7 EDR Auto sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction (Distance)
NEW YORK AUTO CENTER	4313 54TH ST	ESE 0 - 1/8 (0.112 mi.)
BENZ MOTORS INC	5315 QUEENS BLVD	SSE 0 - 1/8 (0.116 mi.)
NEW AMERICAN USED AU	4141 51ST ST APT 2R	NW 0 - 1/8 (0.061 mi.)
MARCELO AUTO REPAIR	5201 QUEENS BLVD	S 0 - 1/8 (0.088 mi.)
ADVANTAGE AUTO FINAN	5203 QUEENS BLVD	S 0 - 1/8 (0.088 mi.)
FIFTY-THIRD STREET A	52-19 QUEENS BLVD	S 0 - 1/8 (0.094 mi.)
VAN DAM AUTO SERVICE	5127 QUEENS BLVD	SW 0 - 1/8 (0.109 mi.)

3.0 RECORDS REVIEW

There are several state and federal agencies responsible for collecting environmental information that is available to the public in the form of databases. The databases searched in this site assessment include priority listings of sites with known or suspected contamination; facilities that generate, treat, store, and/or dispose of hazardous waste; solid waste facilities; underground storage tanks; leaking underground storage tanks; and spill incidents. Each database has a standard search distance from the subject property within which any listing must be addressed.

The standard search distances (measured from the subject property) necessary to establish a diligent attempt to discover potential environmental concerns are specified for each database by the ASTM E1527-13 guidelines. The database information reviewed is provided in the Appendix.

3.1 NATIONAL PRIORITIES LIST

The National Priorities List (NPL) is the U.S. Environmental Protection Agency (USEPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial action under the Superfund program. For a site to be included on the NPL, it must either meet or surpass a predetermined hazard ranking system score, be chosen as a state's top priority site, or meet all of the three following criteria:

(1) The U.S. Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure
(2) The EPA determines that the site represents a significant threat
(3) The EPA determines that remedial action is more cost effective than removal action

A review of the NPL list, as provided by Toxic Targeting has revealed that there are no NPL sites 1 mile from the target property.

3.2 CERCLIS FACILITIES LIST

The CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Inventory System) list is a USEPA-maintained inventory of sites that have been investigated or are being investigated for a release or threatened release of hazardous substances pursuant to the Superfund Act. CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. A review of the CERCLIS list, as provided by Toxic Targeting has revealed that there are no CERCLIS sites within approximately ½ mile of the target property:

3.3 RCRA Corrective Action Sites (CORRACTS LIST)

CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity. A review of the CORRACTS list, as provided by Toxic Targeting has revealed that there are no CORRACTS sites within ½ mile of the target property:

3.4 RCRIS TSD LIST (Hazardous Waste Generators)

Resource Conservation and Recovery Information System (RCRIS) includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (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. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste. A review of the RCRIS-TSD list, as provided by TOXIC TARGETTING has revealed that there are 31 Hazardous Waste Generators within 1/8 mile of the target property.

3.5 RCRIS SQG LIST

Resource Conservation and Recovery Information System (RCRIS) includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (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. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste. A review of the RCRIS-SQG list, as provided by Toxic Targeting has revealed that there are no RCRIS-SQG sites within approximately ½ mile of the target property.

3.6 NY LEAKING UNDERGROUND STORAGE TANK (LUST) LIST

The NY Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Protection & Energy's Incident Report. A review of the LUST list, as provided by Toxic Targeting has revealed that there are no active LUST sites within ½ mile from the target property.

3.7 LOCAL AND STATE PETROLEUM BULK STORAGE SITES

The database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection & Energy's UST Data. A review of the list, as provided by Toxic Targeting has revealed that there are 10 sites within 1/8 mile from the site.

3.8 CONSENT / NPL LIST

CONSENT are major Legal settlements that establish responsibility and standards for cleanup at NPL (superfund) sites. Released periodically by U.S. District Courts after settlement by parties to litigation matters. A review of the CONSENT list, as provided by Toxic Targeting, has revealed that there are no CONSENT sites within approximately ½ mile of the target property.

3.9 ERNS LIST

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center, and the US Department of Transportation. A review of the ERNS list, as provided by TOXIC TARGETTING, has revealed that there are no ERNS sites within approximately 100 feet of the target property.

3.10 BROWNFIELDS SITES

Brownfields are abandoned or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contaminations. In city planning, Brownfield land (or simply a Brownfield) is land previously used for industrial purposes or certain commercial uses that may be contaminated by low concentrations of hazardous waste or pollution and has the potential to be reused once it is cleaned up. Land that is more severely contaminated and has high concentrations of hazardous waste or pollution, such as a Superfund or hazardous waste site, does not fall under the Brownfield classification.

There is one Brownfield site within 1/8 mile of the target property. This is a NYC Voluntary Cleanup Program.

3.11

RECORD OF EMERGENCY RELEASE REPORTS

There are 15 Closed NY Spills sites within approximately 1/8 mile of the target property.

3.12 DRYCLEANERS:

A review of the DRYCLEANERS list, as provided by EDR, has revealed that there are 6 DRYCLEANERS sites within approximately 1/8 mile of the target property. None of those are located within 200 feet of the target property.

3.13 PUBLIC RECORDS

USEPA and NYSDEC

The USEPA and NYSDEC were contacted to determine for any records associated with the site. No records associated with the subject site were found at the time of this report. See Appendix for copies of correspondences. If any information becomes available, it will be forwarded to the Owner.

New York City, Office of City Clerk

Inquiries were sent to the office of the New York City Clerk. At this time GAC is still waiting for a response. Should information be found showing an adverse environmental quality at the subject property, GAC will inform the client. See Attachment F for copies of inquiry letters.

New York City, Department of City Planning

Inquiries were sent to the office of New York City Department of City Planning. At this time GAC is still waiting for a response. Should information be found showing an adverse environmental quality at the subject property, GAC will inform the client. See Attachment F for copies of inquiry letters.

New York City, Department of Finance
Inquiries were sent to the office of New York City Department of Finance. At this time GAC is still waiting for a response. Should information be found showing an adverse environmental quality at the subject property, GAC will inform the client. See Attachment F for copies of inquiry letters.

New York City, Department of Buildings
Inquiries were sent to the office of New York City Department of Buildings. At this time GAC is still waiting for a response. Should information be found showing an adverse environmental quality at the subject property, GAC will inform the client. See Attachment F for copies of inquiry letters.

New York City, Fire Department
Inquiries were sent to the office of New York City Fire Department. At this time GAC is still waiting for a response. Should information be found showing an adverse environmental quality at the subject property, GAC will inform the client. See Attachment F for copies of inquiry letters.

New York State, Department of Health
Inquiries were sent to the office of New York City Department of Health. At this time GAC is still waiting for a response. Should information be found showing an adverse environmental quality at the subject property, GAC will inform the client. See Attachment F for copies of inquiry letters.

3.14 INTERVIEWS

An interview was held with Mr. Steven Pomerantz of Woodside Equites.

4.0 SITE RECONNAISSANCE

A site reconnaissance of the subject site was conducted to observe indications of environmental degradation resulting from on-site operations and/or hazardous material handling practices. A site visit was conducted on April 24, 2017.

4.1 UNDERGROUND STORAGE TANKS

A visual was performed and there were no signs of any USTs on the premises. Sanborn Maps indicate that two UST tanks were at the building located at 43-21 52nd Street between the years of approximately 1932-1962 (the year Regent Baby Products moved into the building). These tanks may have been either abandoned in place, or removed.

4.2 ABOVEGROUND STORAGE TANKS

A visual was performed and there is one AST on the premises. It is in the cellar located at the front of the 43-21 52nd Street building. There were no signs of leaks from the tank.

4.3 POLYCHLORINATED BIPHENYLS (PCBs)

A common source for PCBs is in the cooling fluids of electrical transformers, capacitors, light ballasts, and hydraulic equipment. There are fluorescent lights on the premises of the building located at 43-21 52nd Street.

4.4 SOLID WASTE DISPOSAL

Solid Waste Generation and Disposal and Dumpsters
One dumpster was observed on the subject property. No signs of staining or discharge were observed in this area so no further investigation is warranted.

Sanitary and Process Waste Generation and Discharge Points
No generation or discharge points were observed on the subject property during site inspection.

Underground Piping, Including Industrial Process Sewers
No underground piping was observed on the subject property during the site inspection.

Waste Piles
No waste piles were observed on the subject property during the site inspection.

Landfills or Land farms
No landfills or land farms were observed on the subject property during the site inspection.

Open Pipe Discharges
No open pipe discharge points were observed on the subject property during the site inspection.

4.5 LIMITED LEAD BASED PAINT INSPECTION

The Lead Based Paint (LBP) Action Level is defined as paint, which contains greater than 0.5% lead by weight. The Action Level was established by the Office of Public and Indian Housing - Department of Housing and Urban Development (September 1990). There was evidence of peeling paint in the property.

4.6 ASBESTOS SURVEY

A visual asbestos inspection/evaluation was performed at the property. There are suspect asbestos materials located in the following areas of the 43-21 52nd Street building.

- Exterior Roof
- Interior Floor Tiles

4.7 MOLD SURVEY

GAC performed a visual mold inspection of the premises. The results of the inspection indicate no suspect mold growth at the property.

4.8 VAPOR ENCROACHMENT CONDITIONS

All readily ascertainable information including all applicable Federal, State, Tribal and local database information, historical usage information, soil and groundwater sources and information from the site reconnaissance were reviewed to determine if there is a possibility of a Vapor Encroachment Condition regarding the Subject Property. Based upon the results of the site reconnaissance and review of readily ascertainable information, the Vapor Encroachment Condition survey is described below:

POTENTIAL AREA OF CONCERN	RESULT
Does the Subject Property have a current contamination concern or past contamination concern?	None identified
Does the Subject Property have a suspected contamination concern?	None identified
Does an adjacent property have a current contamination concern or past contamination concern?	None identified
Does a nearby property have a have a current contamination concern or past contamination concern which may impact the Subject Property?	None identified
Does a regional groundwater contamination concern exist beneath the Subject Property?	None identified
Does there exist the possibility for vapor intrusion on the Subject Property?	None identified

Due to this information, there is no concern for a vapor encroachment condition (VEC) regarding the Subject Property.

4.9 SUBSURFACE INVESTIGATIONS

No subsurface investigations were previously performed at the site.

4.10 DRAINAGE SYSTEMS AND AREAS

Surface Water Bodies
No surface water bodies were observed on the subject property during the site inspection.

Floor Drains or Trenches and Piping
No floor drains were observed on the subject property during the site inspection.

Process Area Sinks and Piping
No process area sinks, or piping was observed on the subject property during site inspection.

Sanitary Sewer Collection Systems
No sanitary sewer collection systems were observed on the subject property during the site inspection.

Septic Systems and Leach Fields
No septic systems or leach fields were observed on the subject property during the site inspection.

Seepage Pits and Dry Wells
No seepage pits or dry wells were observed on the subject property during the site inspection.

Storm Water Detention Ponds and Fire Water Ponds
No storm water detention ponds or fire water ponds were observed on the subject property during the site inspection.

Drainage Swales and Culverts
No drainage swales or culverts were observed on the subject property during the site inspection.

Roof Leaders Where Process Operations Vent to The Roof
The roof was inaccessible during the site inspection, however, no process operation was observed on the subject property that may vent to the roof, so no further investigation is warranted.

4.11 HAZARDOUS SUBSTANCES AND WASTES

Hazardous Substance Inventory and Description of Use
No hazardous waste inventory was observed on the subject property during the site inspection.

Hazardous Waste Generation, Handling, and Disposal
No hazardous waste generation, handling or disposal, was observed on the subject property during the site inspection.

Hazardous Substance and Unidentified Substance Containers
No hazardous substance and unidentified substance containers were observed on the subject property during the site inspection.

4.12 OTHER SITE-SPECIFIC AREAS OF CONCERN

Storage Pads and Areas Including Drum and Waste Storage
No storage pads or areas including drum and waste storage was observed on the subject property during the site inspection.

Rail Spurs or Sidings
No rail spurs or siding were observed on the subject property during the site inspection.

Rail, Truck, or Other Loading and Unloading Areas
No loading dock was observed on the subject property during the site inspection. No signs of staining or discharge were observed in this area so no further investigation is warranted.

Pump Stations, Sumps, Drains and Pits
No pump stations or sumps were observed on the subject property during the site inspection. There are 2 pits that are sealed with metal plates in the 42-21 52nd Street building. There are multiple drains located on the first floor.

Surface Lagoons and Impoundments
No surface lagoons or impoundments were observed on the subject property during the site inspection.

Chemical Storage Cabinets or Closets
Household cleaning products were observed in a storage closet in the subject property. No signs of staining or discharge were observed in this area.

Electrical Transformers and Capacitors
No electrical transformers or capacitors were observed on the subject property during the site inspection.

Areas of Stressed Vegetation, Discolored Areas, and Odors
No stressed vegetation, discolored areas, or odors were observed on the grounds of the subject property during the site inspection.

Compressor Vent Discharges
No compressor vent discharges were observed on the subject property during the site inspection.

Non-Contact Cooling Water Discharges
No non-contact cooling water discharges were observed on the subject property during the site inspection.

Active or Inactive Production, Monitoring or Irrigation Wells
No monitoring or irrigation wells were observed on the subject property during the site inspection.

Weighing Stations
No weighing stations were observed on the subject property during the site inspection.

4.13 PRIOR USAGE AT SITE

The 43-21 52nd Street building had been a garage from approximately 1932 to 1962. It was an active, and now inactive, warehouse for baby products from 1962-2017.

4.14 ADJACENT PROPERTIES

All the adjacent properties are commercial, residential or vacant lots. The 1932 Sanborn Map shows the presence of a filling station located to the NW of the subject site.

4.15 FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

GAC performed a Phase I Environmental Site Assessment in accordance with the scope and limitations of the ASTM E AE 1527-13 guidelines (modified to include asbestos, mold and lead- paint evaluations) for the properties located at:

- **43-13 52nd Street**
- **43-15 52nd Street**
- **43-15A 52nd Street**
- **43-21 52nd Street**

Asbestos
Suspect asbestos was found in the form of floor tiles and roofing materials at 43-21 52nd Street. If plans are made to renovate or demolish the building all suspect materials must be tested. If the materials test positive, they must then be removed as an asbestos containing material in accordance with all city, state and federal asbestos regulations.

Previous Underground Storage Tanks
Two USTs were on the 43-21 52nd Street property when the site was a garage between approximately 1932-1962. It is recommended that a Phase II ESA be performed to determine if any soil has been contaminated where the tanks were buried. Soil borings should be made at various depths, and the collected soil analyzed for volatile organic compounds (VOC) and semi-volatile organic compounds (sVOCs).

There may be additional USTs still present. Ground Penetrating Radar ("GPR") should be used to determine whether there are any tanks present at the property.

Pits
There are 2 pits that are sealed with metal plates in the 42-21 52nd Street building. It is recommended that a Phase II ESA be performed to determine if any soil has been contaminated at these pit locations. Soil borings should be made at various depths, and the collected soil analyzed for volatile organic compounds (VOC) and semi-volatile organic compounds (sVOCs).

Above Ground Storage Tank
There is an old tank in the cellar of the building located at 43-21 52nd Street. There is no evidence of spills currently or historically from the tank. If plans are made to remove the tank, the tank must be tested, cleaned, and properly removed by an Environmental Contractor in accordance with all city, state and federal regulations of tank removal.

PCBs
A common source for PCBs is in the cooling fluids of electrical transformers, capacitors, light ballasts, and hydraulic equipment. There are fluorescent lights on the premises of the building located at 43-21 52nd Street. If the building is to be renovated and demolished the light fixtures should be removed in accordance with all city, state and federal regulations

5.0 STATEMENT OF LIMITATIONS

No statement or opinion in this report shall be deemed to create any warranty of representation, express or implied, with respect to the Property, or that the Property is uncontaminated, or that the Property complies with all or any environmental or other statues, regulations, ordinances or other laws. GAC Environmental, Inc. (GAC) hereby disclaims all warranties with respect to the Property, including all warranties of merchantability and/or fitness for a purpose. GAC's conclusions are based solely on the services described in the report and not on any other services except to the extent the report specifically indicated that GAC performed such services. GAC shall have no obligation to provide services with respect to the Property or investigation of its past or present condition or uses other than those described in this report.

GAC delivers this report subject to the Terms and Conditions agreed to by the CLIENT. As noted therein, (1) the scope of GAC's investigation of the Property was limited to the proposed scope of work; (2) GAC has relied on the efforts of others, including public agencies, whose work GAC cannot guarantee; (3) there are certain inherent limitations on the nature, quality and reliability of the data presented, including the fact that the absence of contamination in one location does not preclude the finding of the same of other contaminants in other locations which were not investigated in preparing this report. GAC's report is based on present regulatory criteria and interpretations; these criteria are constantly changing and a condition, which does not now require any action, may, in the future require remediation.

Nothing herein shall be construed as any representation, warranty or guarantee that CLIENT or GAC has performed all appropriate inquiry as defined in CERCLA Section 101 (35) (B) or any other or similar standard under any State of Federal law. CLIENT acknowledges that GAC has not advised CLIENT, either orally or in writing, that additional investigation concerning the Property is unwarranted or inadvisable. CLIENT understands that GAC is not licensed to practice environmental (or other) law, and CLIENT is advised to consult with an environmental lawyer of its choice concerning adequacy of Client's inquiry concerning the Property and any potential liability with respect to the state or condition of the Property. GAC delivers this report to CLIENT on the express condition and understanding that: (1) CLIENT shall be solely responsible for determining whether the Property is usable for Client's intended purposes; (2)
CLIENT shall make any decision concerning the purchase, sale or other use of the Property and has not relied, and shall not rely, on any representation by GAC concerning the Property, or the state, condition or value thereof.

This report is intended to be considered in its entirety and no excerpts or portions thereof may be quoted or used out of its context or other than as a portion of the complete report. This report is intended for Client's sole and exclusive use. It may not be reproduced or communicated in any fashion to any person or used by any person other than CLIENT without the express written permission of GAC.

Appendix D – Phase II Environmental Site Assessment, Remedial Action Plan (RAP) and Construction Health & Safety Plan (CHASP)

155 West 72nd Street / Suite 605 New York, NY · 10023
P 212.875.9506 · F 212.787.8138
WEBSITE www.gacenvironmental.net

PHASE II
ENVIRONMENTAL SITE ASSESSMENT

Woodside Equites

43-21 52nd Street

Woodside, NY 11377

Block 1321, Lots 12,15,16,17

CEQR Number 18DCP020Q, 52nd Street Rezoning

Prepared for:

Mr. Steven Pomerantz

Woodside Equities

182-20 Liberty Avenue
Jamaica, NY 11412

bksteven@msn.com

July 12, 2019 (Revised)

Prepared by:

Matthew Stock

GAC Environmental

155 West 72nd Street

New York, NY 10023

mattstock@msn.com

212-875-9506

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FIGURES

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Figure 2 Zoning and Land Use Map
Figure 3 Topographic Map

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Table 2 Soil Vapor Sample Results - Analyzed for VOCs, and SVOCs
Table 3 Ambient Sample Results - Analyzed for VOCs, and SVOCs

APPENDICES

Appendix A GPR Report
Appendix B Soil Sampling Logs
Appendix C Laboratory Reports
Appendix D GAC's Phase II ESA Work Plan dated January 5, 2019
Appendix E GAC's Site-Specific Limitations/Deviations & General Limitations

1.0 EXECUTIVE SUMMARY

GAC Environmental, Inc. (GAC) was retained to complete a Phase II Environmental Site Assessment (Phase II ESA) of the subject property, Woodside Properties, located at 43-21 52nd Street in the City of Woodside, Queens County, New York (Figures 1 & 2).

The proposed Phase II ESA included the installation of six (6) soil borings, and the analysis of soil and soil vapor samples. Groundwater could not be reached and therefore no wells were installed at the property or water analyzed. The remainder of this report discusses the project background, field activities, findings/conclusions, as well as GAC's recommendations which are summarized below:

Conclusions and Recommendations

- No obvious evidence of contamination (i.e. odors, staining) was noted in the soil samples collected from this area.
- No VOCs, STARS SVOCs or RCRA 8 Metals were detected above applicable NYSDEC criteria (Unrestricted Use, Protection of Groundwater or CP-51) in the soil samples collected in the area.
- Soil Vapor samples were found to be below the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006, including all online updates).
- Groundwater was not encountered.
- Based on these results, there was no evidence of a petroleum release in the area
- Based on GAC's findings of this Phase II ESA report, GAC has no further recommendations for the site.

2.0 BACKGROUND

GAC completed a Phase I Environmental Site Assessment ("ESA") of the subject property, located at The Woodside Facility, Woodside, Queens County, New York on February 10, 2017.

Based on the findings, GAC suggested a Phase II investigation be conducted, which was authorized by the NYCDEP on January 23, 2019 in accordance with GAC's Phase II ESA Work Plan dated January 5, 2019 (Appendix D). The Phase II investigation was conducted to determine if soil and/or groundwater had been impacted by the historical use of the buildings located at the site.

3.0 FIELD ACTIVITIES

3.1 Utility Mark Out

Prior to conducting any intrusive subsurface activities, GAC contacted Aquifer Drilling who completed a utility mark out of the site. All utilities were cleared prior to the commencement of field activities.

3.2 Ground Penetrating Radar Survey and Site Plan Review

In order to identify the locations of the former USTs and to clear boring locations of underground utilities, GAC reviewed available Sanborn maps and conducted a ground penetrating radar (GPR) survey. The GPR survey was conducted in the area of the old warehouse building located at 43-21 52nd Street, Woodside, NY.

The GPR survey was conducted by GPRS on July 17, 2018. GPR is a non-destructive and non-intrusive geophysical exploration technique that uses radar waves to detect subsurface objects, such as USTs, fill lines and return lines. The GPR is also capable of detecting discontinuities in the subsurface materials indicative of excavated and backfilled areas, such as those associated with possible UST graves.

A Subsurface Interface Radar System (SIR-3000), manufactured by Geophysical Survey Systems Inc., coupled with a 400 MHz antenna was used to provide real time data during the survey. The unit was equipped with a video display module. This module converted the Subsurface Interface Radar data to a color video which is displayed on a self-contained monitor.

Locations for the GPR survey were based on the reported locations of historic USTs that may have been on the site, from interviews with site personnel and observations in the field.

Results of the GPR survey are discussed in Section 4.0 and the GPR survey report is included as Appendix A.

3.3 Site Investigation – Scope of Work

Maximum Excavation Depth
The maximum excavation depth for this project is was estimated at 12 feet.

Soil, Groundwater and Soil Vapor Summary
An investigation of soil, soil vapor and groundwater were performed to properly characterize the site for potential environmental impacts from historic on-site/off-site uses, operations, etc. The proposed sampling event will address both RECs and historic fill, as well as to provide general horizontal/vertical characterization across the site for development purposes. The sampling procedures of this investigation was performed in accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation DER-10

Six (6) test borings were completed at the site. Please see attached site plan depicting sample point locations, where soil, groundwater, and soil vapor samples were collected. A total of 12 soil samples was collected from the 6 test borings. Since groundwater is estimated at 60' to 90' and the borings went to a total of 30' deep in some areas. No groundwater was encountered at this level. A total of 3 soil vapor/sub-slab samples as well as 2 indoor and ambient air samples were collected. Each sample point location at the site was accurately measured to fixed benchmarks (i.e., select properly lines, adjacent structures, etc.) or by a precision GPS that can coordinate a fixed point with within +/- 1 foot.

Soil Sampling
A geologist/engineer/QEP screened the soil samples during borehole advancement for organic vapors with a photo-ionization detector (PID) and evaluated for visual and olfactory impacts prior to collecting environmental samples. All field work was recorded in a field log. A Track Mounted 66/10 Geoproble for the drilling. A Hollow Stem Augers was used to advance the tubes first and them direct push was used to advance the depth.

Two (2) soil samples were collected from each test borings (for a total of 12 soil samples) for laboratory analysis. A surface soil sample (from the 0-2 feet bgs interval) and subsurface soil sample (from the two (2) foot interval beneath the proposed maximum excavation depth, or as far as the Geoprobe can reasonably advance, which was 26 ft -30 ft.) were collected. Discrete (grab) samples were taken from the aforementioned sampling intervals.

No elevated PID readings were encountered and/or visual and olfactory observations made, so a third soil sample was not collected from each or several test boring(s).

Monitoring Well Installation and Groundwater Sampling

Groundwater water samples were not collected because the Geoprobe could not advance further than a fixed distance because of an obstruction (i.e. bedrock, boulders). The Geoprobe was able to get to 26 ft – 30 feet and then could not advance further.

Soil Vapor Sampling

Samples were collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006).

Soil vapor samples were collected at a depth comparable to the expected depth of foundation footings (12 feet bgs) of the proposed project, unless the Geoprobe cannot advance further than a fixed distance because of an obstruction (i.e. bedrock, boulders).

Four (4) sub-slab soil vapor and two (2) ambient air samples were collected. Sub-slab vapor probe installations were temporary. Sub-slab implants or probes were constructed in the same manner at all sampling locations to minimize possible discrepancies. The following procedures were utilized:

Temporary probes were constructed with inert tubing (e.g., polyethylene, stainless steel, nylon, Teflon®, etc.) of the appropriate size (typically 1/8 inch to 1/4-inch diameter), and of laboratory or food grade quality.

Tubing did not extend further than 2 inches into the sub-slab material. The implant was sealed to the surface with non-VOC-containing and no shrinking products for temporary installations (e.g., Pergamum grout, melted beeswax, putty, etc.) or cement for permanent installations.

The sub-slab soil vapor probes were installed to a depth of 12 feet gps.

Indoor and ambient air samples were collected concurrently with and for the duration of the sub-slab soil vapor samples. Indoor and ambient air sample collection was conducted 3-5 feet above the ground to represent the breathing zone. Sub-slab soil vapor and indoor and ambient air were sampled concurrently, and sampling occurred for the duration of 24 hours.

Samples were collected in appropriately sized Summa canisters that were certified clean by the laboratory and samples was analyzed by using USEPA Method TO-15. Flow rate for both purging and sampling did not exceed 0.2 L/min. 24-hours following soil vapor probe installation, one to three implant volumes were purged prior to the collection of any soil-gas samples. A sample log sheet was maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols.

As part of the vapor intrusion evaluation, a tracer gas was used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device to verify the integrity of the soil vapor probe seal. A container (box, plastic pail, etc.) served to keep the tracer gas in contact with the probe during testing. A portable monitoring device was used to analyze a sample of soil vapor for the tracer gas prior to sampling. If the tracer sample results showed a significant presence of the tracer, the probe seals were adjusted to prevent infiltration. At the end of the sampling round, tracer monitoring was performed a second time to confirm the integrity of the probe seals.

Sample Analysis

Soil , soil vapor and ambient air samples was submitted to EMSL Analytical , Inc. a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for Full analysis:
Volatile Organic Compounds by EPA Method 8260;
Semi-volatile organic compounds by EPA Method 8270;
Pesticides/PCBs by EPA Method 8081/8082; and
Target Analyte List Metals by EPA Method 6010 and 7471;
Soil vapor and ambient air samples was analyzed for VOCs by using USEPA Method TO-15.

Quality Assurance/Quality Control Procedures

QA/QC procedures were used to provide performance information regarding accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis for this investigation. Field QA/QC procedures was used (1) to document that samples are representative of actual conditions at the Site and (2) identify possible cross-contamination from field activities or sample transit. Laboratory QA/QC procedures and analyses was used to demonstrate whether analytical results have been biased either by interfering compounds in the sample matrix, or by laboratory techniques that may have introduced systematic or random errors to the analytical process. QA/QC samples (field and trip blanks, duplicates, etc.) was collected and analyzed at an ELAP-certified laboratory.

Investigation Derived Waste

Cuttings was disposed at the site within the borehole that generated them to within 24 inches of the surface unless:

- Free product or grossly contaminated soil are present in the cuttings;
- The borehole has penetrated an aquitard, aquiclude or other confining layer; or extends significantly into bedrock;
- Backfilling the borehole with cuttings will create a significant path for vertical movement of contaminants. Soil additives (bentonite) may be added to the cuttings to reduce permeability;
- The soil cannot fit into the borehole.

Those soil cuttings needing to be managed on-site were containerized in properly labeled DOT approved 55-gallon drums for future off-site disposal at a permitted facility. All boreholes which require drill cuttings disposal will ultimately be filled with bentonite chips (hydrated) and asphalt/concrete capping. Disposable sampling equipment including, spoons, gloves, bags, paper towels, etc. that came in contact with environmental media was double bagged and disposed as municipal trash in a facility trash dumpster as non-hazardous trash.

Reporting

This Phase II Investigation Report was prepared following completion of the field activities and receipt of the laboratory data. The report provides detailed summaries of the investigative findings. Soil, groundwater and soil vapor analytical results were compared to the NYSDEC Part 375-6.8(a) Unrestricted Used Soil Cleanup Objectives, appropriate Part 375-6.8(b) Restricted Soil Cleanup Objectives and NYSDEC Part 703 Groundwater Quality Standards (GQS) (class GA) or Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS), and NYSDOH October 2006 Final Guidance for Evaluating Soil Vapor Intrusion Matrices. The report includes an updated sampling plan, spider diagrams (if necessary(, analytical data tables for all reported constituent compounds (including non-detectable concentrations) and remedial recommendations, as warranted.

3.4 Subsurface Investigation – Soil Borings

To evaluate the condition of site soils and groundwater, GAC mobilized to the site on March 14, 2019 and installed a total of six (6) soil borings (referred to as 1 through 6) and collected representative soil samples using a track mounted Geoprobe 6610 unit with hollow stem augers. Soil borings sampling locations were completed in the old warehouse building and on the vacant lot. The specific locations of each boring were determined based on the site plans, GPR survey, and field observations.

The soil boring sampling locations are shown in Figure 1 and are summarized below.

Sample #	Soil Boring ID	Boring Locations
S1	1A and 1B	On the vacant lot located on Block 1321, Lot 17, toward 52nd Street.
S2	2A and 2B	On the vacant lot located on Block 1321, Lot 16, toward 53rd Street.
S3	3A and 3B	On the vacant lot located on Block 1321, Lot 15, toward 52nd Street.
S4	4A and 4B	Inside of the old warehouse located on Block 1321, Lot 12 toward the front of the building (52nd Street side).
S5	5A and 5B	Inside of the old warehouse located on Block 1321, Lot 12 toward the rear of the building (53rd Street side).
S6	6A and 6B	Inside of the old warehouse located on Block 1321, Lot 12 in the middle of the warehouse floor.

During the subsurface investigation composite soil samples were collected by advancing a four-foot long Macro Core sampler. Upon collection, each soil sample was examined in the field for physical evidence of contamination (i.e., odor, staining) and subjected to a headspace analysis for the presence of gross volatile organics via a photoionization detector (PID) equipped with a 10.6 eV bulb. The collected soil samples were placed in a labeled jar and stored on ice in a cooler for preservation. Decontamination procedures (i.e., wash with soap and tap water) were employed between samplings to minimize cross-contamination. Each soil boring was backfilled with the removed soil and/or bentonite chips upon completion of soil/groundwater sampling.

Based upon sample location and observation the following soil samples were selected for laboratory analysis:

Soil Sample ID	Sample Depth (ft bg)	Sample Justification
1A	2 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
1B	30 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
2A	2 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
2B	30 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
3A	2 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
3B	27 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
4A	2 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
4B	27 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
5A	2 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
5B	26 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
6A	2 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
6B	28 ft	In accordance with the NYCDEP Approved Phase II ESA Work Plan dated January 23, 2019.
Notes SB = Soil boring Ft = feet bg = below grade		

4.0 FINDINGS

4.1 Ground Penetrating Radar Survey and Site Plan Review

Prior to the GPR survey, Sanborn Maps were reviewed by GAC. The map indicated that USTs may have been present in the building located at 43-21 52nd Street. As an extra precaution GPRS LLC (GPRS) performed ground penetrating radar on the 1st Floor of the abandoned warehouse building. There is no basement in the building. No limiting conditions were noted.

Parabolic anomalies consistent with USTs were not detected in the GPR data collected on the day of the survey. The penetration of the GPR system reached a depth of approximately 10 feet below grade. Results of the GPR survey are provided throughout the report and included as Appendix A.

4.2 Lithology

During the subsurface investigation, GAC noted that shallow (2 to 4 ft bg) overburden soils at the site consisted predominantly of compacted sand and gravel with some silt. Deeper overburden soils consisted of fine angular gravel in a silt and clay matrix

4.3 Groundwater

Groundwater was not encountered in any of the boring locations. Advancements were made up to 30 feet below grade.

4.4 Field Screening

4.4.1 Soil Samples

- No obvious evidence of contamination, such as staining or odors, were noted in any of the oil samples collected.
- All soil samples collected were screened with the PID, for the presence of gross volatile organics. PID readings were 0.0 ppm.

4.5 Analytical Results

As previously stated, twelve (12) soil samples, four (4) soil vapor samples and two (2) ambient air samples were submitted under chain of custody to EMAL Analytical, Inc., a New York State certified laboratory for analysis. The laboratory results are included in Appendix D.

- Groundwater was not encountered.
- No VOCs, STARS SVOCs, Pesticides or RCRA 8+ Metals were detected above applicable NYSDEC criteria (Unrestricted Use, CP-51) in all the soil samples collected.
- Soil Vapor samples were found to be below the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006, including all online updates).

Comparison Table-1.1

Woodside Equities

43-21 52nd Street

Woodside, NY 11377

52nd Street Rezoning

CEQR # 18DCCP020Q

Block 1321, Lots 12,15,16,17

Soil Sample Results - Analyzed for VOCs, SVOCs, Pesticides, PCBs, and TAL Metals

(Only detected constituents are listed)

							Guidance Values	
Sample Group ---------->	**1**		**2**		**3**		**NYSDEC Part 375-6.8(a)&(b)**	**NYSDEC Part 375-6.8(a)&(b)**
Sample Number ------>	**1A**	**1B**	**2A**	**2B**	**3A**	**3B**		
SVOC PPB (ug/kg)	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPM (mg/kg)**	**PPB (ug/kg)**
Benzo(a)anthracene	ND	ND	100	ND	ND	ND	**1.0**	**1,000**
Benzo(a)pyrene	ND	ND	220	ND	ND	ND	**1.0**	**1,000**
Benzo(b)fluoranthene	ND	ND	150	ND	ND	ND	**1.0**	**1,000**
Benzo(g,h,i)perylene	ND	ND	120	ND	ND	ND	**100.0**	**100,000**
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	**0.8**	**800**
Chrysene	ND	ND	60	ND	ND	ND	**1.0**	**1,000**
Dibenz(a,h)anthracene	ND	60	ND	ND	ND	ND	**0.3**	**330**
Fluorantnene	ND	ND	100	ND	ND	ND	**100.0**	**100,000**
Fluorene	ND	ND	23	ND	ND	ND	**30.0**	**30,000**
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	**0.5**	**500**
Phenanthrene	ND	ND	ND	ND	ND	ND	**100.0**	**100,000**
Pyrene	ND	ND	ND	ND	ND	ND	**100.0**	**100,000**
Metals PPM (mg/kg)	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPB (ug/kg)**
Aluminum	1400	1100	600	1100	1400	1500	**NE**	**NE**
Barium	16	28.0	40.0	42.0	36.0	100.0	**350**	**350,000**
Beryllium	ND	ND	0.74	0.55	0.53	0.62	**7.20**	**7,200**
Calcium	170	250	500	1400	630	740	**NE**	**NE**
Cobalt	7	2.0	3.3	9.5	9.3	15.0	**NE**	**NE**
Copper	10	ND	17.0	17.0	15.0	14.0	**50**	**50,000**
Iron	200	200	600	1200	1300	1200	**NE**	**NE**
Lead	5.0	2.9	21.0	5.9	14.0	5.6	**63**	**63,000**

							Guidance Values	
Sample Group ---------->	**1**		**2**		**3**		**NYSDEC Part 375-6.8(a)&(b)**	**NYSDEC Part 375-6.8(a)&(b)**
Sample Number ------>	**1A**	**1B**	**2A**	**2B**	**3A**	**3B**		
Metals PPM (mg/kg)	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPB (ug/kg)**
Magnesium	100	180	300	500	600	700	**NE**	**NE**
Manganese	160	160	200	20	350	390	**1600**	**1,600,000**
Nickel	13	11.0	12.0	16.0	12.0	12.0	**30**	**30,000**
Potassium	180	530	220	300	560	200	**NE**	**NE**
Sodium	230	280.0	ND	190.0	ND	ND	**NE**	**NE**
Vanadium	27	19.0	10.0	16.0	18.0	13.0	**NE**	**NE**
Zinc	24	19.0	20.0	38.0	39.0	33.0	**109**	**109,000**
Pesticides & PCBs	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**
VOCs	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**

Notes

Clearance	**Samples Below Guidance Levels**
NE	**Not Established**
NA	**Not Applicable**
ND	**None Detected**
PPB (ug/kg)	**micrograms per kilogram**
PPM (mg/kg)	**milligrams per kilogram**
VOCs	**Volatile Organic Compounds**
sVOCs	**Semi Volatile Organic Compounds**
Color	**Guidance Values NYSDEC Part 375-6.8(a)&(b) Unrestricted Used Soil Cleanup Objectives**

Comparison Table-1.2
Woodside Equities
43-21 52nd Street
Woodside, NY 11377
CEQR # 18DCCP020Q, 52nd Street Rezoning

Block 1321, Lots 12,15,16,17
Soil Sample Results - Analyzed for VOCs, SVOCs, Pesticides, PCBs, and TAL Metals
(Only detected constituents are listed)

							Guidance Values	
Sample Group ---------->	**4**		**5**		**6**		**NYSDEC Part 375-6.8(a)&(b)**	**NYSDEC Part 375-6.8(a)&(b)**
Sample Number ------>	**4A**	**4B**	**5A**	**5B**	**6A**	**6B**		
SVOC PPB (ug/kg)	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPB (ug/kg)**	**PPM (mg/kg)**	**PPB (ug/kg)**
Benzo(a)anthracene	ND	ND	600	500	380	100	**1.0**	**1,000**
Benzo(a)pyrene	ND	ND	200	600	400	270	**1.0**	**1,000**
Benzo(b)fluoranthene	ND	ND	900	190	300	130	**1.0**	**1,000**
Benzo(g,h,i)perylene	ND	ND	100	900	100	140	**100.0**	**100,000**
Benzo(k)fluoranthene	ND	ND	320	240	200	ND	**0.8**	**800**
Chrysene	ND	ND	ND	100	200	160	**1.0**	**1,000**
Dibenz(a,h)anthracene	ND	ND	ND	ND	140	30	**0.3**	**330**
Fluorantnene	ND	ND	200	900	800	100	**100.0**	**100,000**
Fluorene	ND	ND	ND	56	ND	ND	**30.0**	**30,000**
Indeno(1,2,3-cd)pyrene	ND	ND	100	160	ND	90	**0.5**	**500**
Phenanthrene	ND	ND	30	100	100	160	**100.0**	**100,000**
Pyrene	ND	ND	600	120	200	ND	**100.0**	**100,000**
Metals PPM (mg/kg)	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPB (ug/kg)**
Aluminum	1500	700	500	400	700	500	**NE**	**NE**
Barium	21.0	35.0	91.0	58.0	54.0	47.0	**350**	**350,000**
Beryllium	ND	0.52	0.66	0.67	0.50	ND	**7.20**	**7,200**
Calcium	890	1400	400	520	50	930	**NE**	**NE**
Cobalt	5.7	7.6	6.5	9.3	7.4	7.2	**NE**	**NE**
Copper	9.3	11.0	41.0	11.0	14.0	14.0	**50**	**50,000**
Iron	1000	600	600	800	800	1000	**NE**	**NE**
Lead	3.6	3.9	20.0	24.0	17.0	20.0	**63**	**63,000**

							Guidance Values	
Sample Group ---------->	**4**		**5**		**6**		**NYSDEC Part 375-6.8(a)&(b)**	**NYSDEC Part 375-6.8(a)&(b)**
Sample Number ------>	**4A**	**4B**	**5A**	**5B**	**6A**	**6B**		
Metals PPM (mg/kg)	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPM (mg/kg)**	**PPB (ug/kg)**
Aluminum	1500	700	500	400	700	500	**NE**	**NE**
Barium	21.0	35.0	91.0	58.0	54.0	47.0	**350**	**350,000**
Beryllium	ND	0.52	0.66	0.67	0.50	ND	**7.20**	**7,200**
Calcium	890	1400	400	520	50	930	**NE**	**NE**
Cobalt	5.7	7.6	6.5	9.3	7.4	7.2	**NE**	**NE**
Copper	9.3	11.0	41.0	11.0	14.0	14.0	**50**	**50,000**
Iron	1000	600	600	800	800	1000	**NE**	**NE**
Lead	3.6	3.9	20.0	24.0	17.0	20.0	**63**	**63,000**
Magnesium	300	200	400	400	500	200	**NE**	**NE**
Manganese	240	110	180	390	250	190	**1600**	**1,600,000**
Nickel	8.9	11.0	14.0	11.0	12.0	11.0	**30**	**30,000**
Potassium	970	300	820	10	370	170	**NE**	**NE**
Sodium	140.0	ND	ND	ND	ND	ND	**NE**	**NE**
Vanadium	20.0	16.0	14.0	12.0	27.0	11.0	**NE**	**NE**
Zinc	16.0	25.0	38.0	44.0	24.0	10.0	**109**	**109,000**
Pesticides & PCBs	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**
VOCs	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**

Clearance	**Samples Below Guidance Levels**
NE	**Not Established**
NA	**Not Apllicable**
ND	**None Detected**
PPB (ug/kg)	**micrograms per kilogram**
PPM (mg/kg)	**milligrams per kilogram**
VOCs	**Volatile Organic Compounds**
sVOCs	**Semi Volatile Organic Compounds**
Color	**Guidance Values NYSDEC Part 375-6.8(a)&(b) Unrestricted Used Soil Cleanup Objectives**

Table-2

Woodside Equities

43-21 52nd Street

Woodside, NY 11377

CEQR # 18DCCP020Q, 52nd Street Rezoning

Block 1321, Lots 12,15,16,17

Soil Vapor Results
(Only detected constituents are listed)

Samping Date: 3/19/19

					Appendix C - Final Soil Vapor Intrusion Guidance	
					INDOOR GUIDANCE VALUES	
Sample Type	**SOIL VAPOR**	**SOIL VAPOR**	**SOIL VAPOR**	**SOIL VAPOR**		**TABLE C2. EPA 2001: INDOOR Values**
Sample Number	**1**	**2**	**3**	**4**	**Table C1. NYSDOH 2003 INDOOR Values**	
SOIL VAPOR SAMPLES	**ug/m3**	**ug/m3**	**ug/m3**	**ug/m3**	**ug/m3 Max**	**ug/m3 Max**
Ethanol	11.0	11.0	11	10.0	**NE**	**300.00**
Ethyl Acetate	32.0	ND	ND	18.0	**NE**	**64.20**

Clearance	**Sample Below Guidance Levels**
NE	**Not Established**
NA	**Not Applicable**
ND	**None Detected**
Color	**Soil Vapor Samples**
Color	**Ambient Air Samples**
Color	**Guidance Values Appendix C - Final Soil Vapor Intrusion Guidance**

Table-3
Woodside Equities
43-21 52nd Street
Woodside, NY 11377
CEQR # 18DCCP020Q, 52nd Street Rezoning
Block 1321, Lots 12,15,16,17

Ambient Air Results
(Only detected constituents are listed)
Samping Date: 3/19/19

			OUTDOOR GUIDANCE VALUES	
Sample Type ----------->	**AMBIENT Outdoor**	**AMBIENT Outdoor**		**TABLE C2. EPA 2001: OUTDOOR Values**
Sample Number ----------->	**5**	**6**	**Table C1. NYSDOH 2003 OUTDOOR Value**	
AMBIENT SAMPLES	**ug/m3**	**ug/m3**	**ug/m3 Max**	**ug/m3 Max**
Ethanol	14.0	13.0	**NE**	**82.50**
Ethyl Acetate	12.0	11.0	**NE**	**3.90**
Freon 12 (Dichlorodifluoromethane)	2.6	ND	**38.0**	**183.70**
Freon 114 (1,2-Dichlorotetrafluoroethan)	1.4	ND	**4.5**	**7.80**
Bromoethene (Vinyl Bromide)	5.4	ND	**27.0**	**4.50**
Isopropyl alcohol (2-Propanol)	6.9	6.5	**NE**	**23.50**
Freon 113 (Trichlorotrifluoroethan)	10.0	ND	**NE**	**5.40**
Acetone	10.0	8.2	**200.0**	**104.20**
2-Butanone (MEK)	2.8	3.3	**NE**	**43.10**
Toluene	3.5	3.2	**640.0**	**93.10**
Isobutane	10.0	8.7	**NE**	**NE**
Butane, 2-methyl-	2.9	ND	**NE**	**NE**
Cyclohexanone	4.7	ND	**NE**	**NE**
n-Butane	ND	5.3	**NE**	**NE**
Chloromethane	ND	1.5	**4.3**	**10.60**

Clearance	**Sample Below Guidance Levels**
NE	**Not Established**
NA	**Not Applicable**
ND	**None Detected**
Color	**Soil Vapor Samples**
Color	**Ambient Air Samples**
Color	**Guidance Values Appendix C - Final Soil Vapor Intrusion Guidance**

4.6 Spill Reporting & Soil & Groundwater Management Plan

No spills were reported for the site.

5.0 CONCLUSIONS

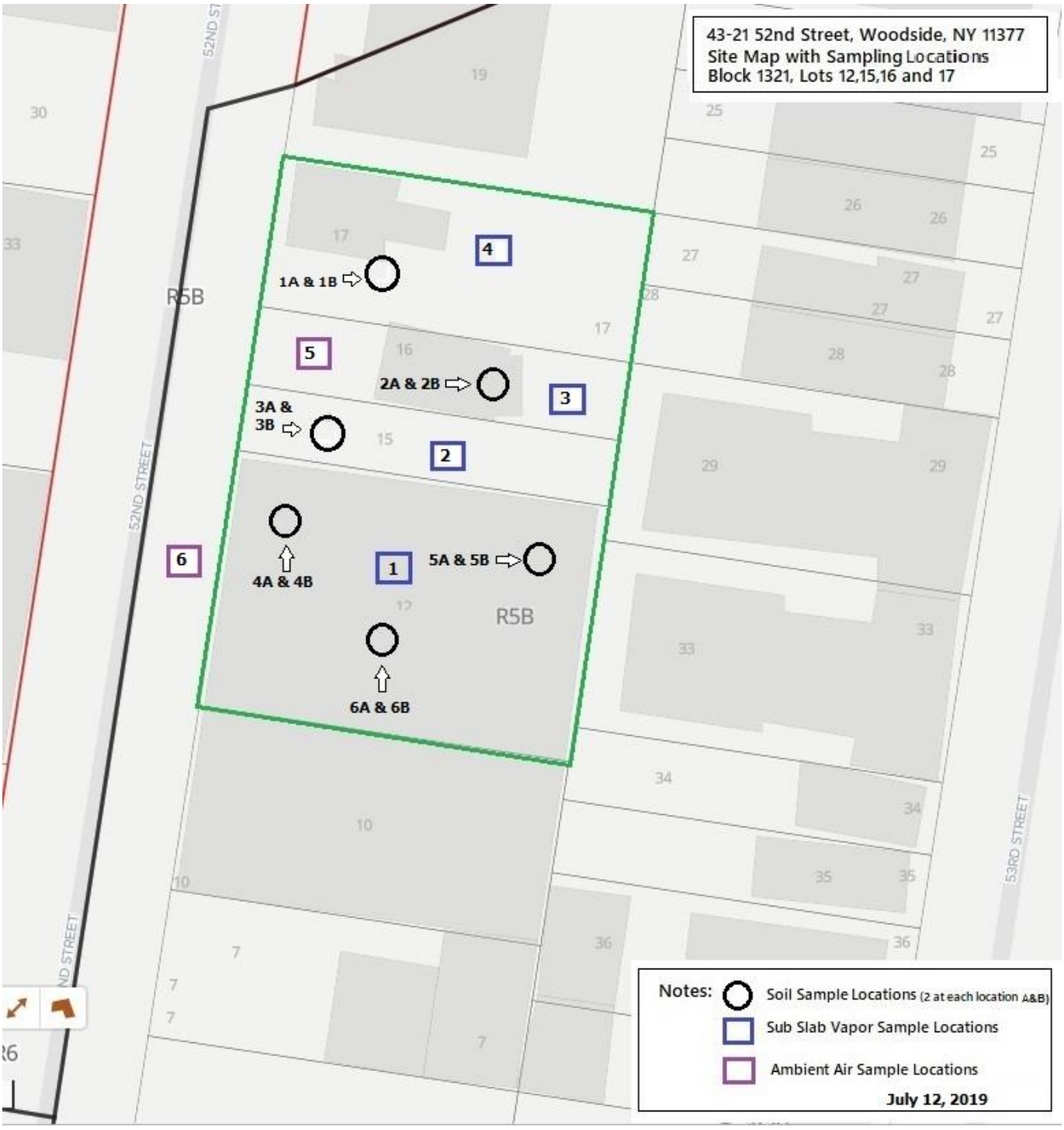
- No obvious evidence of contamination (i.e. odors, staining) was noted in the soil samples collected from this area.
- No VOCs, STARS SVOCs or RCRA 8 Metals were detected above applicable NYSDEC criteria (Unrestricted Use, Protection of Groundwater or CP-51) in the soil samples collected in the area.
- Soil Vapor samples were found to be below the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006, including all online updates).
- Groundwater was not encountered.
- Based on these results, there was no evidence of a petroleum release in the area

6.0 RECOMMENDATIONS

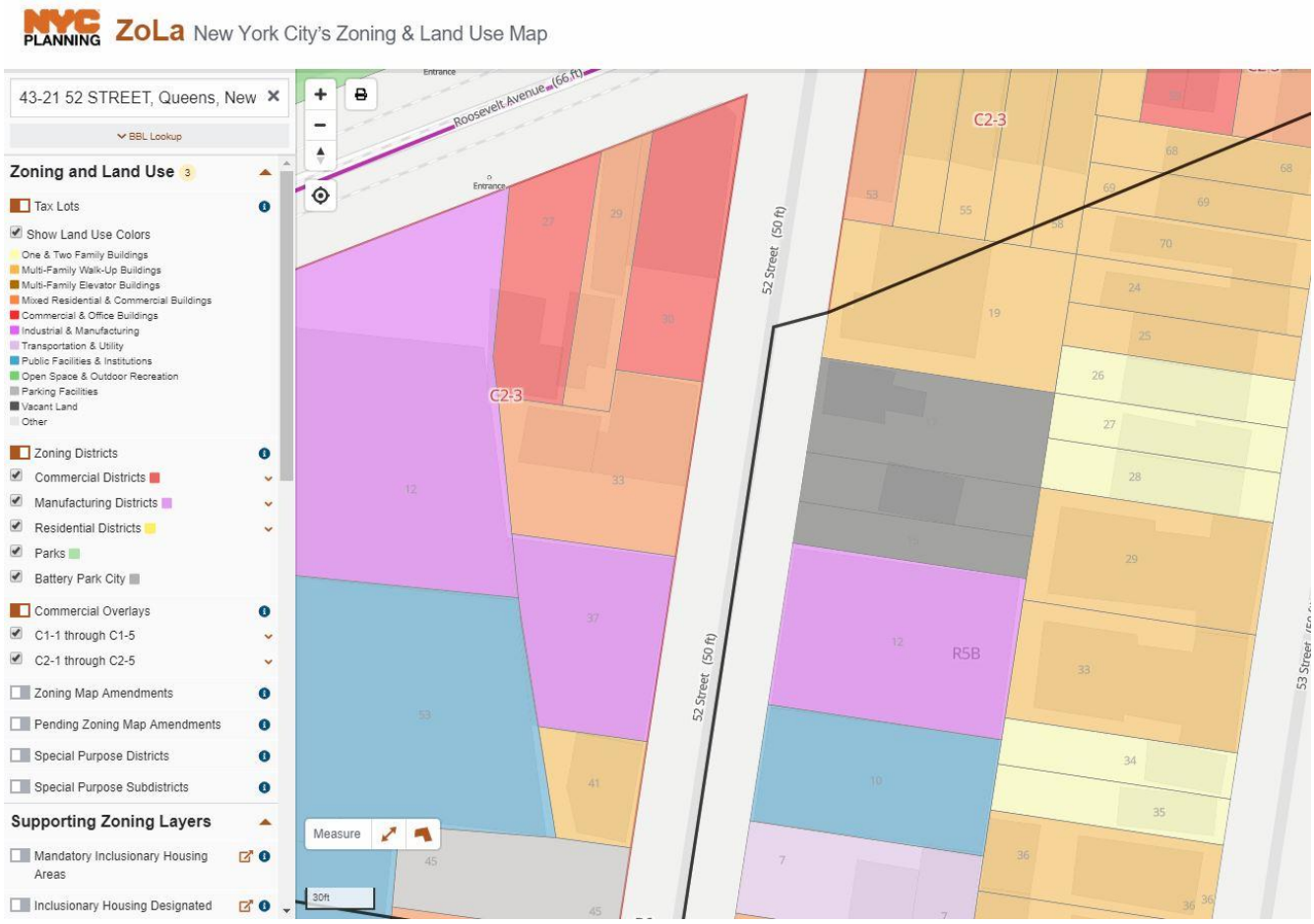
Based on GAC's findings of this Phase II ESA report, GAC has no further recommendations for the site:

FIGURES

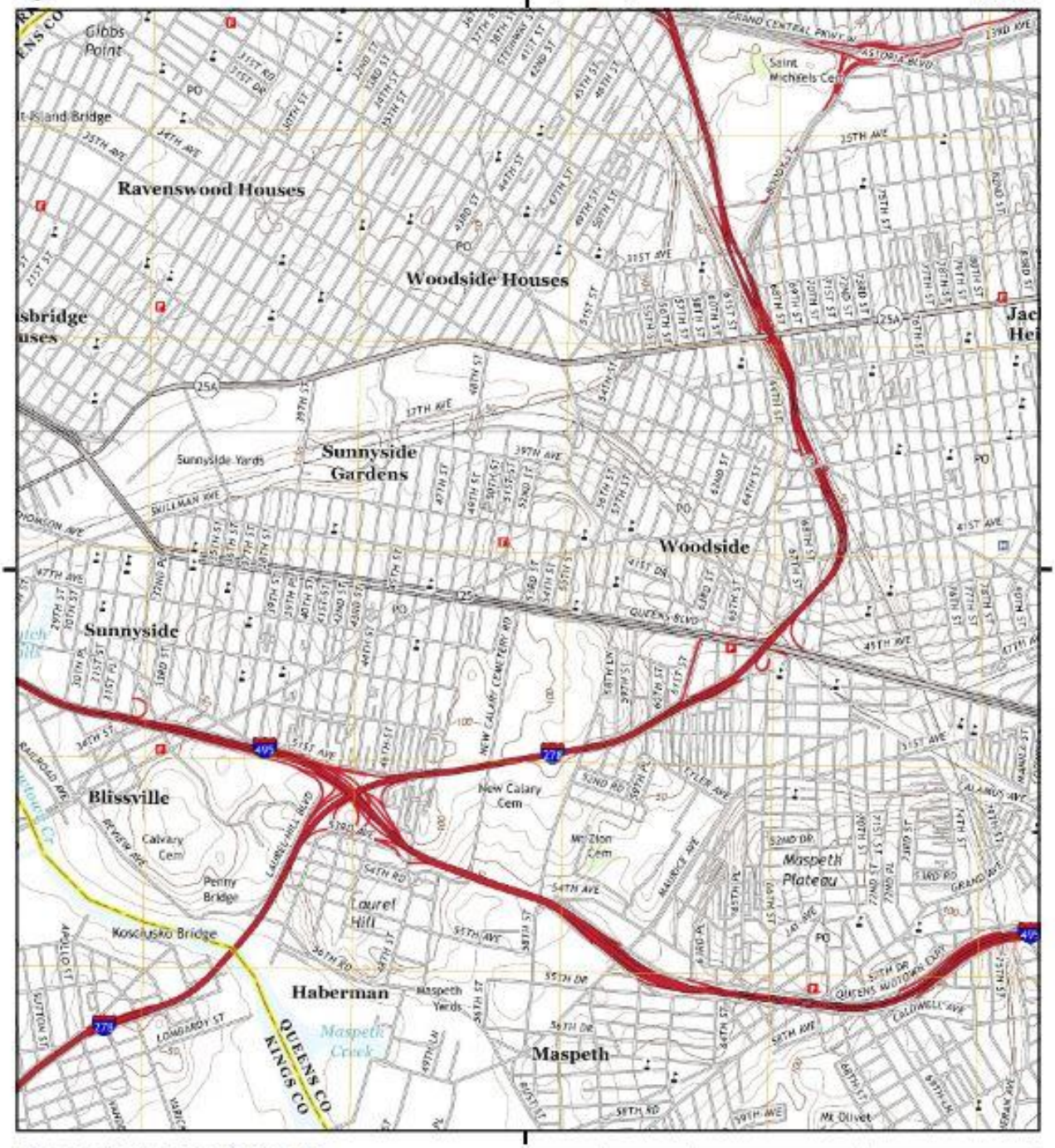
1. Site Map with Sampling Locations



2. Zoning and Land Use Map



3. Topographic Map



This report includes information from the following map sheet(s).

NW N NE
W E
SW S SE

TP, Brooklyn, 2013, 7.5-minute
N, Central Park, 2013, 7.5-minute

SITE NAME: 43-21 52nd Street
ADDRESS: 43-21 52nd Street
Woodside, NY 11377
CLIENT: GAC Environmental

N

155 West 72nd Street / Suite 605 New York, NY · 10023
P 212.875.9506 · F 212.787.8138
WEBSITE www.gacenvironmental.net

Remedial Action Plan (RAP)
& Construction Health & Safety Plan (CHASP)

Woodside Equites

43-21 52nd Street

Woodside, NY 11377

Block 1321, Lots 12,15,16,17

CEQR Number 18DCP020Q, 52nd Street Rezoning

Prepared for:

Mr. Steven Pomerantz

Woodside Equities

182-20 Liberty Avenue
Jamaica, NY 11412

bksteven@msn.com

September 5, 2019

Prepared by:

Matthew Stock

GAC Environmental

155 West 72nd Street

New York, NY 10023

mattstock@msn.com

212-875-9506

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FIGURES

Figure 1 – Project Site Location
Figure 2 – Site Plan

APPENDICES

Appendix A - Vapor Barrier Specifications (TBD)
Appendix B - Construction Health and Safety Plan (CHSP)

1.0 INTRODUCTION

This Remedial Action Plan (RAP) was prepared for the "Site" located at 43-21 52nd Street , in Woodside, NY. A location map and zoning map are provided as Figures 1 and 2.

The purpose of this RAP is to present procedures for managing soil during subsurface disturbance associated with the proposed redevelopment of the Site in accordance with applicable federal, state, and local requirements, including guidelines for temporary on-site stockpiling and off-site transportation and disposal of soil. The RAP is based upon the findings of the previous investigations summarized in Section 2.2.

All work outlined within this RAP is also subject to the Construction Phase Environmental Health and Safety Plan (CHASP) developed for the Site, provided as Appendix A. The RAP and CHASP will be submitted to NYCDEP for review and approval.

2.0 SITE BACKGROUND

2.1 Site Characterization

The Site is approximately 109 feet above sea level. A Phase II Subsurface Investigation. performed by GAC in February 2018, encountered sand and silt with occasional pockets of clay and some gravel to the termination depth of approximately 30 feet below grade. No anthropogenic fill material was encountered.

No groundwater was encountered.

The proposed project would involve demolition of the existing building prior to excavation (up to approximately 12 feet below street grade) for construction of a new building. Based on the depth of groundwater, dewatering is not expected to be required.

2.2 Previous Environmental Investigations

Phase I Environmental Site Assessment (ESA), 43-21 52nd Street, GAC Environmental, Inc., September 2017

The Phase I ESA was performed in accordance with ASTM Standard E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Practice* GAC completed a Phase I Environmental Site Assessment ("ESA") of the subject property, located at The Woodside Facility, Woodside, Queens County, New York on September 10, 2017.

Based on the findings, GAC suggested a Phase II investigation be conducted, which was authorized by the NYCDEP on January 23, 2019 in accordance with GAC's Phase II ESA Work Plan dated January 5, 2019 (Appendix D). The Phase II investigation was conducted to determine if soil and/or groundwater had been impacted by the historical use of the buildings located at the site.

Phase II Environmental Site Assessment, 43-21 52nd Street, Woodside, New York, GAC Environmental, Inc., July 12, 2019

GAC conducted a Subsurface (Phase II) Investigation to determine whether former on-site or off-site activities had adversely affected the subsurface and included: a geophysical survey (no anomalies consistent with the presence of buried tanks were detected.

In addition, six (6) test borings were completed at the site. A total of 12 soil samples was collected from the 6 test borings. Since groundwater is estimated at 60' to 90' and the borings went to a total of 30' deep in some areas. No groundwater was encountered at this level. A total of 3 soil vapor/sub-slab samples as well as 2 indoor and ambient air samples were collected. Each sample point location at the site was accurately measured to fixed benchmarks (i.e., select properly lines, adjacent structures, etc.) or by a precision GPS that can coordinate a fixed point with within +/- 1 foot.

No VOCs, STARS SVOCs, Pesticides or RCRA 8+ Metals were detected above applicable NYSDEC criteria (Unrestricted Use, CP-51) in all the soil samples collected. Soil Vapor samples were found to be below the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006, including all online updates). .

No groundwater was encountered. Sub-slab vapor analytical results indicated that Ethanol and Ethyl Acetate were detected, but none exceeded New York State Department of Health (NYSDOH) Air Guidance Values (AGVs). The VOCs detected in sub-slab vapor are not uncommon in commercial/industrial areas

3.0 CONSTRUCTION MEASURES

Soil and fill materials containing generally low concentrations of SVOCs and metals, and sub-slab vapor containing certain VOCs below AGVs (where applicable), were identified at the Site and will likely be encountered during soil disturbance for the proposed project. Dewatering is not anticipated to be required.

A plan for the removal of any unexpectedly encountered tanks is provided in Section 3.1. In the event that contaminated soil (e.g., petroleum-contaminated soil) is encountered, a contingency plan is provided in Section 3.2 for appropriate handling, testing, and disposal of these materials during general excavation.

The project design will incorporate measures to minimize potential impacts after construction, as described in Section 4.0. Following completion of subsurface work, a closure report will be submitted to the NYCDEP. The report will include any manifests/bills of lading, etc. associated with off- site disposal of material, photographs of the work in progress, and any laboratory data conducted for characterization or off-site disposal purposes.

3.1 Petroleum Tank Removal

No petroleum storage tanks are known or suspected at the Site. If petroleum storage tanks are unexpectedly encountered, the tanks and any appurtenances will be cleaned, removed and disposed of in accordance with accepted industry standards and applicable federal, state, and local regulatory agency requirements.

Tank and soil removal from the vicinity of any discovered underground storage tanks will be conducted in accordance with the NYSDEC Division of Spills Management Spill Prevention Operations Technology Series (SPOTS) Memo No. 14 “Site Assessments at Bulk Storage Facilities”, NYSDEC, Bureau of Spill Response, Spills Technology and Remediation Series (STARS) Memo No. 1, "Petroleum-Contaminated Soil Guidance Policy," August 1992, and NYSDEC CP-51/Soil Cleanup Guidance, October 2010. Laboratory testing of samples obtained from the excavation areas will include the CP-51 contaminant list for VOCs and SVOCs.

Any tanks encountered at the Site will be registered with NYSDEC and the New York City Fire Department, if necessary. Tank removal activities and any associated petroleum-contaminated soil removal must be documented in a Tank/Spill Closure Report, which will be submitted to NYSDEC. In addition, the removal of any gasoline underground storage tanks must be reported to the New York City Fire Department.

Typical tank removal procedures are summarized below:

1. Open fill cap or vent pipe and measure for product. Collect a sample of the product. Tank contents will be sampled in accordance with applicable federal, state and local requirements and tested in accordance with the requirements of the receiving facility. Proper disposal of tank contents at an approved facility will be dictated by sample results.
2. Excavate to expose the tank. Vacuum liquid tank contents and pumpable tank bottom residue.
3. Excavate around the tank with care to avoid release of tank and piping contents. Hand excavation around the tank may be necessary. The sides of all excavated areas will be properly stabilized in accordance with OSHA regulations. Continuously monitor the excavated areas in the worker breathing zone for the presence of flammable, toxic or oxygen deficient atmosphere with a PID, a combustible gas indicator (CGI), and an oxygen meter.
4. Inert the tank of flammable vapors using dry ice and verify using an oxygen meter (less than 7 percent). An access hole will be cut in the tank and the tank will be thoroughly cleaned of residual liquids and sludges.

5. Entry of the tank, if necessary, will be conducted in conformance with OSHA confined space requirements.
6. Remaining fuels, loose slurry, sludge materials and wastewater will be collected in DOT-approved drums, sampled and analyzed for disposal characterization. After disposal characterization, waste material will be removed and disposed of in accordance with applicable regulations.
7. Remove the tank and all associated piping from the ground and clean the outside of the tank. The tank and piping will be rendered "not reusable," removed from the Site and disposed of according to applicable regulations with proper documentation. Remove and dispose of all concrete tank support structures or vaults as encountered.
8. Spill reporting to the NYSDEC Spill Hotline (800-457-7362) will be conducted, as necessary.
9. After tank removal, examine for evidence of petroleum releases in accordance with NYSDEC, Division of Spills Management SPOTS Memo No. 14 “Site Assessments at Bulk Storage Facilities.” If there is evidence of a petroleum release, follow procedures for Soil Contamination Plan in addition to the procedures below.
10. Suspect materials will be field-screened with a PID. If soil contamination is present, excavate and remove contaminated soil from the tank areas in accordance with the stockpiling and/or direct-loading procedures presented in Sections 3.2.1 and 3.2.2. Material will be excavated until field screening with a PID yields concentrations of less than 20 ppm and until there are no remaining visible signs of contamination or odors. After contaminated soil removal, collect endpoint samples at each sidewall and at the bottom of the excavation for analytical testing as specified in the NYSDEC, Bureau of Spill Response, STARS Memo No. 1, "Petroleum-Contaminated Soil Guidance Policy," August 1992 and NYSDEC CP-51/Soil Cleanup Guidance, October 2010.
11. Photo-document all procedures and record all procedures in a bound field notebook.
12. Copies of all testing results, correspondence with disposal facilities concerning classification of materials, and permits/approvals will be maintained by the project manager and will be submitted to the NYSDEC in a Tank Closure Report.
13. A signed affidavit will be prepared by the licensed tank installation (removal) contractor and submitted to the New York City Fire Department certifying proper removal of the tank(s).

3.2 Soil Disposal

Soil disposal will be in accordance with federal, state and local requirements, including those for hazardous waste, industrial waste, petroleum contaminated soil, construction and demolition debris, etc., as applicable. Sampling will be required to characterize soil for disposal in accordance with receiving facility requirements.

If sludges, soil or sediment known to be contaminated or showing evidence of potential contamination, such as discoloration, staining, or odors are encountered during excavation activities, the following procedures will be implemented:

1. Spill reporting to the NYSDEC Spill Hotline (800-457-7362) will be conducted, as necessary.

2. The suspect soil will be sampled for laboratory analyses. Soil samples will be analyzed at a minimum for parameters required by the intended disposal facility.
3. If the suspect soil is contaminated based on sampling results, it will be excavated and removed in accordance with the stockpiling and/or direct-loading procedures presented below. Soils intended for off-site disposal will be disposed of in accordance with applicable federal, state and local requirements and tested in accordance with the requirements of the receiving facility. Additional sample analysis may be required by alternative disposal facilities. Additional analysis may be run on existing sample material at the laboratory as long as all holding time and preservation requirements have not been exceeded. If there are exceedances to these requirements or if additional sampling material is required by the laboratory to complete the required analysis, additional samples may be collected.
4. The excavated soil will then be disposed of in accordance with all applicable federal, state and local regulations.
5. The excavation will continue vertically until no evidence of contamination is noted in the base of the excavation or until groundwater or bedrock is encountered. The excavation will continue horizontally until no evidence of contamination is noted in the sidewalls of the excavation. Post-excavation endpoint samples will be collected from the sides and bottom of the excavated area, as required by the NYSDEC. Analytical parameters for post excavation soil samples will be determined based on NYSDEC. If post-excavation samples exceed action levels, then additional excavation will be performed, as warranted.
6. Copies of correspondence with disposal facilities concerning classification of materials, testing results, and permits/approvals will be maintained by the project manager and will be submitted to NYSDEC in a Spill Closure Report.

When applicable, hazardous waste manifest forms and/or non-hazardous waste records will be completed as required by the appropriate regulatory agencies for verifying the material and quantity of each load in units of volume and weight.

3.2.1 Stockpiling Procedures

Any contaminated material intended for off-site disposal may be stockpiled temporarily or loaded directly onto trucks for off-site disposal, if pre-approved by the receiving facility. No petroleum-contaminated soil encountered that is excavated from the Site will be re-used on-site for grading or other purposes.

Soil for disposal with known contamination or exhibiting evidence of contamination will be stockpiled on polyethylene sheeting. If the soil is expected to remain on-site overnight or longer, the stockpile will be covered with similar polyethylene sheeting and be secured with large rocks or other appropriate weights to protect against leaching or runoff of contaminants into groundwater or stormwater. The surface surrounding the stockpile will be graded to provide for positive drainage away from the pile. Stockpiles will be managed to minimize dust generation, run-off and erosion, using water, plastic covers, silt fences, and/or hay bales, as necessary.

Soil will be segregated and stockpiled based on its known or anticipated type and/or level of contamination (based on analytical data, PID readings, odor, staining, etc.). Stockpiles will be separated by a sufficient distance to ensure that mixing of dissimilar or potentially dissimilar materials does not occur. The location and classification of stockpiles will be

tracked on site drawings and updated, if necessary, at the end of each workday according to the following categories:

- Soil intended for reuse on-site (if any);
- Hazardous waste;
- Non-petroleum contaminated non-hazardous soil for off-site disposal;
- Petroleum-contaminated soil for off-site disposal; and
- Soil pending analysis.

Copies of site drawings will be kept in the field log book. Stockpiles intended for off-site disposal may be mixed with other compatible stockpiles on-site (compatibility will be determined by the requirements of the receiving disposal facility), but hazardous wastes will not be mixed with non-hazardous wastes.

3.2.2 Alternatives to Stockpiling

Alternative procedures to stockpiling could include, but are not limited to, agreement(s) from the intended disposal or treatment facilities to accept boring data and/or analytical data previously obtained so that materials may be directly loaded into trucks for shipment to the disposal facility.

3.3 Waste Management and Transportation

The proposed project will require excavation for construction of the new building's cellar and foundations.

- Any material showing evidence of contamination (such as odors, staining and/or elevated PID readings) will be properly disposed of off-site in accordance with applicable regulatory requirements and facility requirements.
- Material including C&D material showing no evidence of contamination may be properly disposed of or recycled off-site, or alternatively may be reused on-site provided it is below the new building's foundation.

Transportation of all material leaving the Site for off-site disposal will be in accordance with federal, state and local requirements (including 6 NYCRR Part 364 and U.S. DOT regulations) covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc.

The schedule for truck arrival will be coordinated to meet the approved project schedule. The schedule will be compatible with the availability of equipment and personnel for material handling operations at the job site. Trucks will be protected against contamination by properly covering and lining truck beds with compatible material (such as polyethylene) or by decontaminating them prior to any use other than hauling contaminated materials.

All vehicles leaving the Site will be inspected to ensure that soil adhering to the wheels or under carriage is removed prior to the vehicle leaving the Site. Any situations involving material spilled in transit or mud and dust tracked off-site will be remedied. The truck access routes will be evaluated for road conditions, overhead clearance, and weight restrictions.

Contaminated materials from other projects will not be combined with material from the construction area. The transporter will not deliver waste to any facility other than the facility(s) listed on the shipping manifest.

3.4 Dust Control

To prevent the potential migration of dust that may contain above-background levels of contaminants, the following measures will be implemented during all earth-disturbing operations:

- Water will be available (and used) for sprinkling/wetting to suppress dust in dry weather or as necessary.
- All haul trucks will have tarp covers.
- Stabilized construction entrances (e.g., gravel pads) and wash stations will be placed at access points to prevent tracking out of or dispersion of dust.

All work that involves soil disturbance or otherwise generates dust will be performed utilizing methods to minimize dust generation to the extent practicable. Particulate air monitoring requirements will be conducted as discussed in Section 3.5 of this Plan.

3.5 Air Monitoring

In the event that evidence of soil or groundwater contamination (e.g., odors, sheen or staining) is discovered during redevelopment activities, an air monitoring program will be implemented during the disturbance of that contamination to avoid or minimize exposure of the field personnel and the public to potential Environmental hazards. Results of this air monitoring will be used to determine appropriate response actions. A Dust Trak® dust monitor or equivalent would be used to measure real-time concentrations of total particulates 10 micrometers or less (PM-10) for all types of contamination and a photoionization detector (PID) would be used to perform air monitoring for VOCs if soil showing evidence of petroleum contamination (such as odors or staining) is encountered. The PID would be calibrated with isobutylene in accordance with the manufacturer's recommendations.

Measurements for particulate and volatile organic compounds would be taken prior to commencement of the work and during the work in areas where contaminated soil would be disturbed. The action levels below are based on 15-minute averages of the monitoring data. The measurements would be made as close to the workers as practicable and at their breathing height. The Site Safety Officer (SSO) will set up the equipment and confirm that it is working properly. His/her qualified designee may oversee the air measurements during the day. The initial measurement for the day will be performed before the start of work and will establish background levels. The final measurement for the day will be performed after the end of work. The action levels and required responses are listed in Table 1.

Table 1
Action Levels and Required Responses

Instrument	**Action Level** (Note 1)	**Response Action**
Particulate Monitoring	Less than 5 mg/m^3	**Level D or D-Modified** (Requires coveralls and steel toe boots) (As applicable: Chemical resistant gloves, chemical resistant boot covers, Hard hat, safety glasses, face shield, or escape mask)

Table 1
Action Levels and Required Responses

Instrument	Action Level (Note 1)	Response Action
	Between 5 mg/m^3 and 125 mg/m^3	**Level C.** (Requires Full Face or half face respirator, Hooded chemical resistant two piece Tyvek suite or overalls, Chemical resistant inner and outer gloves, Chemical resistant boot covers, Steel toe and shank boots) (As applicable: Hard hat, face shield, or escape mask) Apply dust suppression measures. If less than 2.5 mg/m^3, resume work using Level D. Otherwise, upgrade Level C.
	Above 125 mg/m^3	**Stop work.** Apply additional dust suppression measures. Resume work when less than 125 mg/m3 and maintain Level C.
Volatile Organic Compound Monitoring	Less than 5 ppm in breathing zone.	**Level D or D-Modified**
	Between 5 and 50 ppm	**Level C**.
	More than 50 ppm	**Stop work.** Resume work when source of vapors is abated and readings are less than 50 ppm above background
Notes: 1: 15-minute time-weighted average, parts per million (ppm), milligrams per cubic meter (mg/m^3)		

3.6 Groundwater Management Plan

If dewatering is necessary during the proposed construction, it will be conducted in accordance with a NYCDEP Bureau of Wastewater Treatment (BWT) Wastewater Quality Control Permit. Groundwater testing, and possibly pre-treatment (dependent upon the testing results), will be necessary to comply with NYCDEP requirements.

4.0 PROJECT DESIGN MEASURES

4.1 Site Cap and Importation of Fill

The proposed project is expected to cap the entire Site with new building foundations. If the proposed project changes to include at or below grade landscaped areas, for all areas, which will be landscaped or covered with grass (not capped), a minimum of two (2) feet of DEP approved clean fill/top soil must be imported from an approved facility/source and graded across all landscaped/grass covered areas of the sites not capped with concrete/asphalt. The clean fill/top soil must be segregated at the source/facility, have qualified environmental personnel collect representative samples at a frequency of one (1) sample for every 250 cubic yards, analyze the samples for Target Compound List VOCs by EPA Method 8260, SVOCs by EPA Method 8270, pesticides by EPA Method 8081, PCBs by EPA Method 8082, and TAL metals by a New York State Department of Health Environmental Laboratory Approval Program certified laboratory, compared to NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs.

Upon completion of the investigation activities, the applicant should submit a detailed clean soil report to DEP for review and approval prior to importation and placement on-site. The report should include, at a minimum, an executive summary, narrative of the field activities, laboratory data, and comparison of soil analytical results (i.e., NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs).

Soil disturbance should not occur without DEP's written approval of the RAP and CHASP.

Pertinent clean soil/fill investigation activities will be documented and submitted to NYCDEP (e.g., in the Remedial Closure Report and/or a "clean soil report") to ensure proper importation and on-site placement.

In addition to the criteria above, reuse procedures in Section 3.3 of this RAP shall also be followed.

4.2 Vapor Barrier

As a conservative measure, to reduce the potential for vapor intrusion, a vapor barrier will be incorporated into the new foundation. Vapor control will be accomplished by installation of a minimum 20-mil reinforced membrane (e.g., Raven Vaporblock® VBP20 or a NYCDEP-approved equivalent) applied to the underside of new foundation slabs and the outside of the perimeter sub-grade walls. See Appendix A for (tentative) vapor barrier specifications. Any penetrations will be sealed in accordance with the manufacturer's specifications.

5.0 QUALITY ASSURANCE/QUALITY CONTROL

All necessary analyses will be performed by a laboratory that has received approval from the New York State Department of Health's Environmental Laboratory Approval Program (ELAP) for the methods that require analysis.

5.1 Sample Collection

Samples will be collected in accordance with the following procedures:

- Record sample observations (evidence of contamination, PID readings, soil classification) in field log book.
- Collect an aliquot of soil or groundwater using a dedicated and disposable plastic sample spoon or sample bailer and place in laboratory-supplied sample jars. One grab sample will be collected for volatile organic compound analysis, if applicable. One composite sample will be collected for all other analyses.
- Seal and label the sample jars as described in Section 5.6 below and place in a chilled cooler.

5.2 Decontamination Procedures

To avoid contamination and cross-contamination of samples, only dedicated or disposable sampling equipment may be used to collect these samples. All non-disposable equipment involved in field sampling must be decontaminated before being brought to the sampling location and must be properly decontaminated after use.

5.3 Sample Identification

All samples will be consistently identified in all field documentation, chain-of-custody documents and laboratory reports using an alpha-numeric or alpha-alpha code. For stockpiled soil, the alpha prefix will be "SP" and the numbers following the alpha prefix will correspond to excavated stockpiles, beginning with "1, 2, 3…etc." For example, the first sample collected from the first stockpile will be labeled "SP-1-1" and the first sample collected from the second stockpile will be labeled "SP-2-1."

For groundwater samples, the alpha prefix will be "GW" and the number following the prefix will correspond to the sample number. For example, the first groundwater sample collected for sample analysis will be labeled "GW-1" and the second sample will be "GW-2."

5.4 Sample Labeling and Shipping

All sample containers will be labeled with the following information:

- Site identification
- Sample identification
- Date and time of collection
- Analysis(es) to be performed
- Sampler's initials

Once the samples are collected and labeled, they will be placed in chilled coolers and stored in a cool area away from direct sunlight to await shipment to the laboratory. Soil samples will be shipped to the laboratory at a frequency that will not result in an exceedance of applicable holding times for sample methods. At the start and end of each workday, field personnel will add ice to the coolers as needed.

The samples will be prepared for shipment by placing each sample jar in a sealable plastic bag, then wrapping each bag in bubble wrap to prevent breakage, adding freezer packs and/or fresh ice in sealable plastic bags and the chain-of-custody form. Samples will be shipped overnight (e.g., Federal Express) or transported by a laboratory courier. All coolers shipped to the laboratory will be sealed with mailing tape and a chain-of-custody (COC) seal to ensure that the coolers remain sealed during delivery.

5.5 Sample Custody

Field personnel will be responsible for maintaining the sample coolers in a secured location until they are picked up and/or sent to the laboratory. The record of possession of samples from the time they are obtained in the field to the time they are delivered to the laboratory or shipped off-site will be documented on COC forms. The COC forms will contain the following information: project name; names of sampling personnel; sample number; date and time of collection and matrix; and signatures of individuals involved in sample transfer, and the dates and times of transfers. Laboratory personnel will note the condition of the custody seal and sample containers at sample check-in.

5.6 Documentation

A sample log book will be maintained. The following information, as a minimum will be recorded to the log.

- Sample identification number
- Sample location
- Field Observations
- Sample Type
- Analyses
- Date/Time of collection
- Collector's name
- Sample procedures and equipment utilized
- Date sent to laboratory/name of laboratory
- Copies of Site drawings indicating stockpile numbers and locations

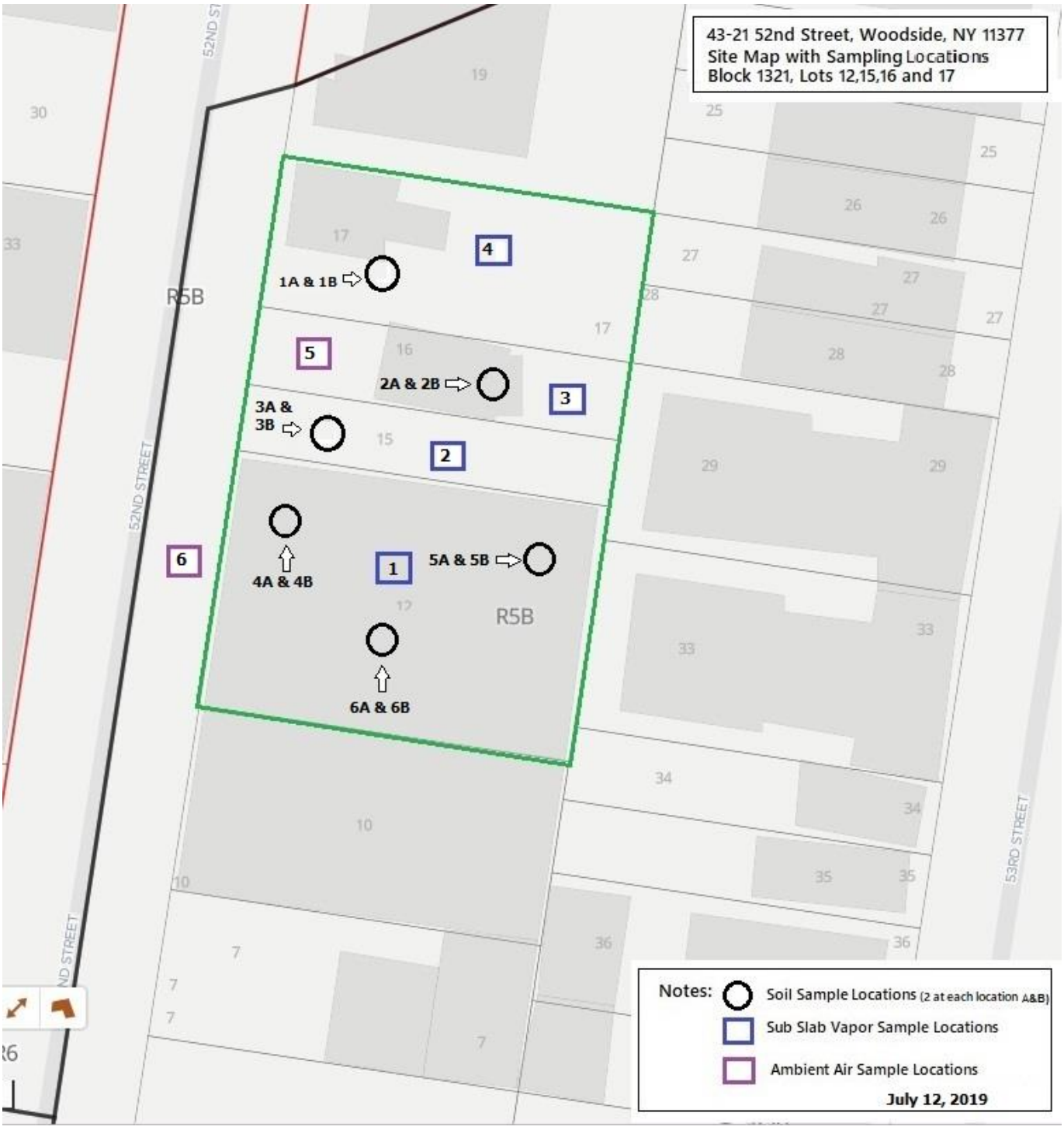
6.0 CLOSURE REPORT AND DOCUMENTATION

Copies of any pertinent New York State Department of Environmental Conservation (NYSDEC) correspondence, reports, tank closure reports, No Further Action letters, etc. will be submitted to NYCDEP for filing purposes.

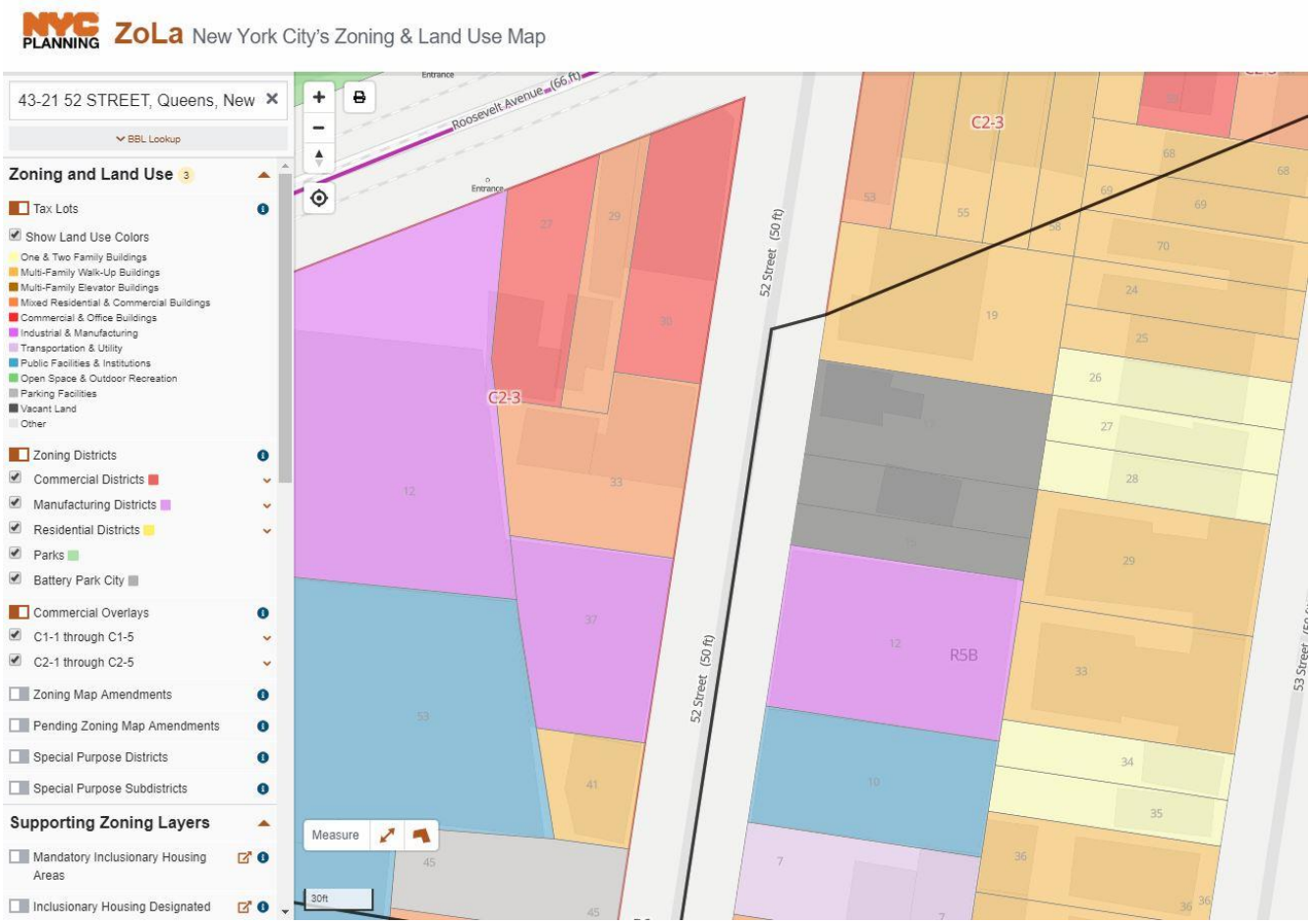
Upon completion of all NYCDEP-approved remedial requirements, as outlined in this RAP, a certified Remedial Closure Report will be submitted to NYCDEP. This report will demonstrate that all remedial activities have been properly implemented, including site capping and installation of the vapor barrier. At a minimum, the report will include all transportation manifests, soil disposal/recycling certificates, proof of importing and grading certified clean fill/top soil for any landscaped areas as well as all preapproved soil analytical testing results for any imported or re-graded/re-placed fill/top soil. Photographs of the vapor barrier installed as part of the proposed project will be included in the closure report. Once the P.E.-certified Remedial Closure Report is received and approved by the NYCDEP, a Notice of Satisfaction letter would be forwarded to the NYC Department of Buildings (DOB).

FIGURES

1. Site Map with Sampling Locations



2. Zoning and Land Use Map

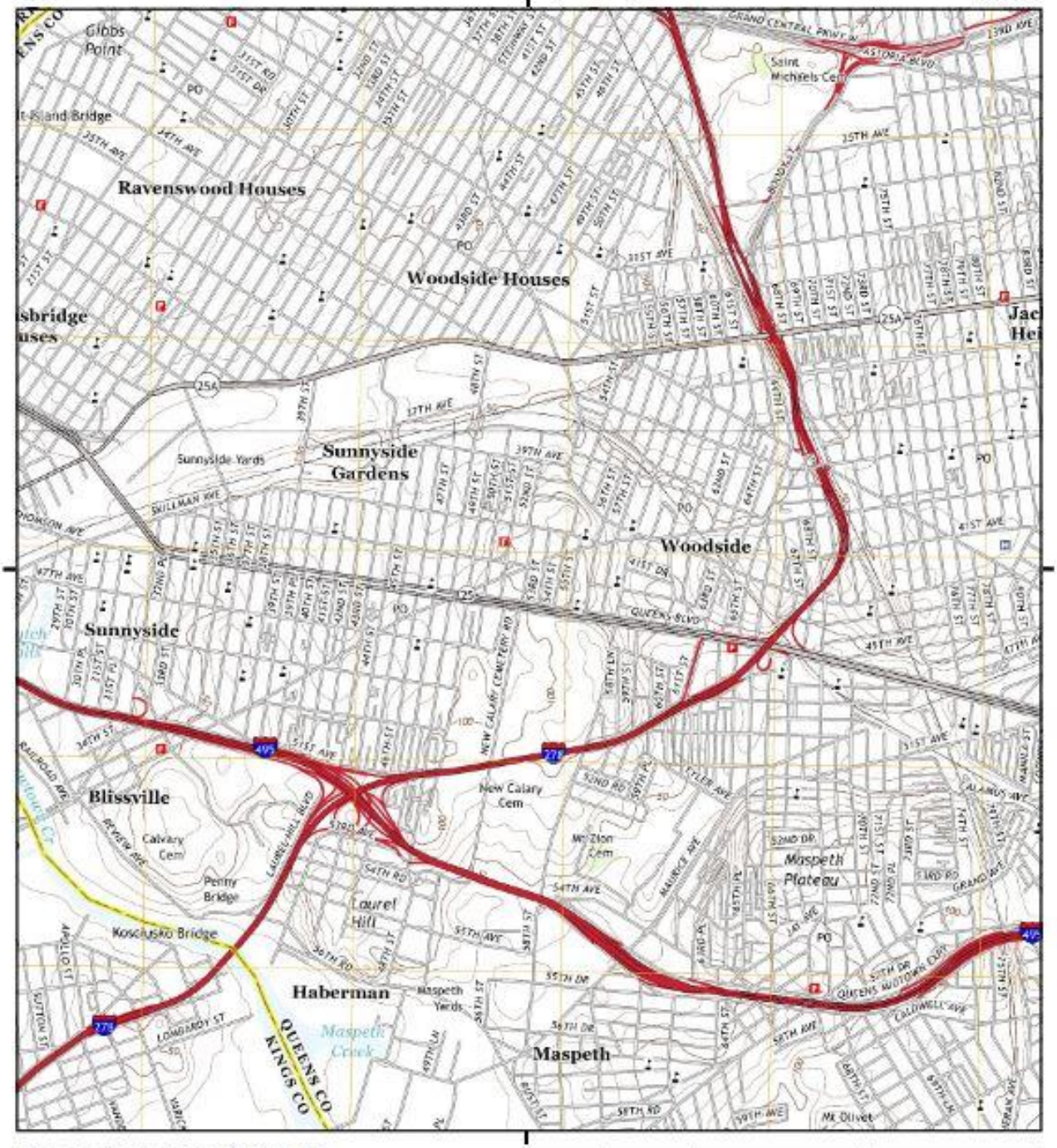


3. Topographic Map

EDR

Historical Topo Map

2013



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Brooklyn, 2013, 7.5-minute
N, Central Park, 2013, 7.5-minute

SITE NAME: 43-21 52nd Street
ADDRESS: 43-21 52nd Street
Woodside, NY 11377
CLIENT: GAC Environmental

N

APPENDIX A
VAPOR BARRIER SPECIFICATIONS

VAPORBLOCK® PLUS™ VBP20

UNDER-SLAB VAPOR / GAS BARRIER

RAVEN

PRODUCT DESCRIPTION

VaporBlock® Plus™ 20 is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and EVOH barrier resins to provide unmatched impact strength and superior resistance to gas and moisture transmission. VaporBlock® Plus™ is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases from migrating through the ground and concrete slab. VaporBlock® Plus™ 20 is more than 100 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon, and other harmful VOCs. Tested and verified for unsurpassed protection against BTEX, HS, TCE, PCE, methane, radon, other toxic chemicals and odors.

VaporBlock® Plus™ 20 multi-layer gas barrier is manufactured with the latest EVOH barrier technology to mitigate hazardous vapor intrusion from damaging indoor air quality, and the safety and health of building occupants. VBP20 is one of the most effective underslab gas barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in a 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock® Plus™ 20 is produced within the strict guidelines of our ISO 9001 Certified Management System.

PRODUCT USE

VaporBlock® Plus™ 20 resists gas and moisture migration into the building envelop when properly installed to provide protection from toxic/harmful chemicals. It can be installed as part of a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock® Plus™ 20 works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

SIZE & PACKAGING

VaporBlock® Plus™ 20 is available in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.



Under-Slab Vapor/Gas Retarder

PRODUCT	PART #
VaporBlock® Plus™ 20	VBP20

APPLICATIONS

- Radon Barrier
- Methane Barrier
- VOC Barrier
- Brownfields Barrier
- Vapor Intrusion Barrier Under-Slab Vapor Retarder
- Foundation Wall Vapor Retarder

VaporBlock® Plus™ UNDERSLAB VAPOR RETARDER / GAS BARRIER

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VAPORBLOCK® PLUS™ VBP20

UNDER-SLAB VAPOR / GAS BARRIER

PROPERTIES	TEST METHOD	VAPORBLOCK® PLUS™ 20 IMPERIAL	VAPORBLOCK® PLUS™ 20 METRIC
Appearance		White/Gold	
Thickness, nominal		20 mil	0.51 mm
Weight		102 lbs/MSF	498 g/m²
Classification	ASTM E 1745	CLASS A, B & C	
[3] Tensile Strength	ASTM E 154 Section 9 (D-882)	58 lbf	102 N
Impact resisTAnce	ASTM D 1709	2600 g	
Permeance (neW mATeriAl)	ASTM E 154 Section 7 ASTM E 96 Procedure B	0.0098 Perms grains/(ft²·hr·in·Hg)	0.0064 Perms g/(24hr·m²·mm Hg)
Permeance (AfTer condiTioning) (same meAsuremenT As Above permeance)	ASTM E 154 Section 8, E96 Section 11, E96 Section 12, E96 Section 13, E96	0.0079 0.0079 0.0097 0.0113	0.0052 0.0052 0.0064 0.0074
WvTr	ASTM E 96 Procedure B	0.0040 grains/hr-ft²	0.0028 gm/hr-m²
benzene permeance	See Note [6]	1.57E^{-10} m/s	
Toluene permeance	See Note [6]	2.18E^{-10} m/s	
ethylbenzene permeAnce	See Note [6]	1.71E^{-10} m/s	
m & p-Xylenes permeance	See Note [6]	1.62E^{-10} m/s	
o-Xylene permeance	See Note [6]	1.53E^{-10} m/s	
hydrogen sulfide	See Note [9]	1.92E^{-09} m/s	
perchloroethylene (pce)	See Note [10]	1.5 x 10^{-9} m/s	
Trichloroethylene (Tce)	See Note [10]	2.4 x 10^{-9} m/s	
radon diffusion coeffiecienT	K124/02/95	< 1.1 x 10^{-13} m²/s	
methane permeAnce	ASTM D 1434	3.68E^{-12} m/s Gas Transmission Rate (GTR): 0.32 mL/m²•day•atm	
maximum sTATic use TemperATure		180° F	82° C
minimum Static use TemperATure		- 70° F	- 57° C

[3] Tests are an average of machine and transverse directions.

[6] Aqueous Phase Film Permeance.
Permeation of Volatile Organic Compounds through EVOH Thin Film Membranes and Coextruded LLDPE/EVOH/LLDPE Geomembranes, McWaters and Rowe, Journal of Geotechnical and GeoEnvironmental Engineering© ASCE/September 2015. (Permeation is the Permeation Coefficient adjusted to actual film thickness)

[9] The study used to determine diffusion coefficients is titled: Hydrogen Sulfide (H_2S) Transport through Simulated Interim Covers with Conventional and Co-Extruded Ethylene-Vinyl Alcohol (EVOH) Geomembranes.

[10] The study used to determine PCE and TCE is titled: Evaluation of diffusion of PCE & TCE through high performance geomembranes by Battista and Rowe, Queens University 8 Feb 2018

VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed.

Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located at www.ravenefd.com.

ASTM E-1643 also provides general installation information for vapor retarders.

VaporBlock® Plus™ UNDERSLAB VAPOR RETARDER / GAS BARRIER

VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance, odor transmission, longevity as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage. Limited Warranty available at www.RavenEFD.com

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RAVEN
ENGINEERED
FILMS
P.O. Box 5107
Sioux Falls, SD
57117-5107
Ph: +1 (605) 335-
0174 • TF: +1
(800) 635-3456
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efdsales@ravenind.com www.ravenefd.com

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030118 EFD 1125

APPENDIX B
CONSTRUCTION HEALTH AND SAFETY PLAN (CHSP)

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FIGURES

Figure 1 - Hospital Location Map

APPENDICES

Appendix A - Potential Health Effects from On-site Contaminants
Appendix B - Report Forms
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1.0 PURPOSE

This Construction Health and Safety Plan (CHASP) was prepared for the 43-21 52nd Street Site (the "Site"), located in Woodside, between Hudson Avenue to the west and Rockwell Place to the east (Tax Block 2106, Lot 35). A location map is provided as Figure 1.

The purpose of this CHASP is to assign responsibilities, establish personnel protection standards and mandatory safety practices and procedures, and provide for contingencies that may arise during construction at the Site. The CHASP is intended to minimize health and safety risks resulting from the known or potential presence of subsurface hazardous materials.

This plan is not designed to address geotechnical, mechanical or general construction safety concerns, nor to supersede or replace any OSHA regulation and/or local and state construction codes or regulations.

2.0 APPLICABILITY

Work subject to this CHASP includes all activities that disturb the existing soil on-site. The contractors and their subcontractors involved in the construction project will provide a copy of this CHASP to their employees whose work involves any potential exposure to on-site soil, and will complete all work in accordance with this CHASP.

3.0 SITE DESCRIPTION

3.1 General Information

Topography is generally level. Based on the U.S. Geological Survey Central Park Quadrangle, the Site is approximately 34 feet above the National Geodetic Vertical Datum of 1929 (an approximation of mean sea level). Subsurface materials encountered during a Phase II investigation consisted of sand and silt with occasional pockets of clay and trace fine to medium gravel to the termination depth of approximately 36 feet below cellar grade. No anthropogenic fill material was encountered. Bedrock was not encountered.

Groundwater was first encountered at approximately 18 feet below cellar grade (approximately 30 feet below sidewalk grade) during the investigation, and is assumed to flow towards nearby surface water bodies (Gowanus Canal or East River). However, actual groundwater flow could well be affected by other factors, including nearby subway tunnels. Groundwater in Woodside is generally not used as a source of potable water (the municipal water supply uses upstate reservoirs), but in the rare instances when it is used, pre-treatment is required.

The proposed project would involve demolition of the existing building prior to excavation (up to approximately 15 feet below street grade) for construction of a new 39-story, 227,598-gross- square-foot (gsf) mixed-use retail/residential/office building with a cellar. The project is expected to encompass the entirety of the Site. Based on the encountered depth to groundwater, dewatering is not expected to be required. A map showing the Site location and the route to the nearest hospital is provided as Figure 1.

3.2 Hazard Potential

The hazard potential at the Site was evaluated based on findings of a *Phase I Environmental Site Assessment* (ESA) (Hydro Tech Environmental Corporation, August 2014), a *Phase I ESA Update* (HydroTech, September 2015) and a *Subsurface (Phase II) Investigation* (GAC ENVIRONMENTAL, February 2018).

The Phase I ESA, and a review of historical Sanborn maps by GAC ENVIRONMENTAL, indicated that the Site's
three-story (plus two separate full basements and one sub-basement) building was constructed by 1887. The building was historically used as a store and a health center. No evidence of past or present on-site petroleum storage tanks was identified. Petroleum storage facilities, hazardous waste generators and petroleum spills were identified nearby.

The February 2018 Phase II investigation was conducted throughout the Site and included collection of soil, groundwater, and sub-slab soil vapor samples. The Phase II indicated the following:

- Subsurface material consisted of sand and silt with occasional pockets of clay and trace fine to medium gravel up to the termination depth of approximately 36 feet below grade. No anthropogenic fill material was encountered. No elevated PID readings or petroleum odors were observed in the borings. Groundwater was encountered at approximately 18 feet below cellar grade (approximately 30 feet below sidewalk grade). No evidence of contamination (e.g., sheen or floating product) was noted in the groundwater samples.
- Soil analytical results were compared to New York State Department of Environmental Conservation (NYSDEC) Part 375 Unrestricted Use SCOs (UUSCOs) and Restricted Residential Use SCOs (RRSCOs). No VOCs were detected in any samples at concentrations above the RRSCOs or UUSCOs. Two VOCs (acetone and methylene chloride) were detected in seven and nine of the ten samples, respectively at trace concentrations up to a maximum of 0.0073 ppm (methylene chloride) in sample SB-4(0-2); all below their UUSCOs of 0.05 ppm. Acetone and methylene chloride are common laboratory agents and their detection is likely attributable to laboratory artifacts and not reflective of actual Site conditions. Only one SVOC [bis(2-ethylhexyl)phthalate] was detected in sample SB-5(0-2) at an estimated trace concentration of 0.0517 ppm. Bis(2-ethylhexyl)phthalate does not have a SCO, is a common plasticizing agent, and may well be a sampling artifact. No other SVOCs were detected above laboratory detection limits. Eighteen metals (out of the 23 analyzed) were detected in one or more samples at concentrations below UUSCOs. No pesticides or PCBs were detected above laboratory detection limits in the soil samples analyzed. All detections were below the UUSCOs. The lack of exceedances is most likely attributable to the encountered native soil.
- Groundwater analytical results were compared to NYSDEC Class GA Ambient Water Quality Standards (drinking water standards), although groundwater in Woodside is not and would not be used as a potable source. Three VOCs (acetone, tetrachloroethene and vinyl chloride) were detected in the groundwater samples at concentrations ranging from 0.32 to 1.7 µg/L. All were below Class GA standards. One SVOC [bis(2-ethylhexyl)phthalate] was detected in sampleTW-1 at a concentration of 43.8 µg/L, above the Class GA standard of 5 µg/L. This SVOC was also detected in one of the corresponding soil samples and is a common plasticizing agent and is attributable to a sampling artifact. No other SVOCs were detected in the groundwater samples above laboratory detection limits. Sodium was detected in both groundwater samples above its Class GA standards for both total and dissolved analysis. Sodium is likely naturally occurring and/or or representative of regional groundwater conditions and does not represent an Environmental concern. None of the other detected metals exceeded the Class GA standards. No pesticides or PCBs were detected in the samples above laboratory detection limits.
- Sub-slab vapor sampling identified several VOCs that were detected in one or both samples, specifically 1,2,4-trimethylbenzene, 1,2,4-trimethylbenzene, acetone, chloroform, carbon disulfide, carbon tetrachloride, chloromethane, dichlorodifluoromethane, isopropanol, methyl methacrylate, methylene chloride, tetrachloroethene, tetrahydrofuran, trichloroethene,

trichlorofluoromethane, and some typically petroleum-related compounds (2-butanone, 2-hexanone, 4-methyl-2-pentanone, ethanol, cyclohexane, benzene, ethyl benzene, n-hexane, heptane, o-xylene, p/m-xylene, p-ethyl toluene, propylene, and toluene). The typically petroleum-related VOCs were detected at levels up to a maximum concentration of 23 µg/m^3 (propylene) in sample SV-3. Chloroform was detected up to a maximum concentration of 74 µg/m3in sample SV-3. The common laboratory contaminant acetone was detected in all three samples up to 30 µg/m^3. No VOCs were detected in exceedance of New York State Department of Health (NYSDOH) Air Guidance Values (AGVs). These detections are not uncommon in commercial/industrial areas and given that the same compounds were not detected at appreciable levels in Site soil, do not appear likely to have originated on Site.

3.3 Hazard Evaluation

The most likely routes of exposure are breathing of volatile and semi-volatile compounds or particulate-laden air released during soil disturbing activities, dermal contact, and accidental ingestion. Appendix A includes specific health effects from chemicals present or potentially present on-site. Although some of the chemicals of concern listed in the sections below were not detected during the subsurface investigation, they are included here as a precaution. The remaining sections of this CHASP address procedures (including training, air monitoring, work practices and emergency response) to reduce the potential for unnecessary and unacceptable exposure to these contaminants.

The potential adverse health effects from these detected contaminants are diverse. Many of these compounds are known or suspected to result in chronic illness from long-term exposures. However, due to the limited nature of the proposed construction, only acute effects are a potential concern.

This CHASP addresses potential Environmental hazards from the presence of hazardous materials. It is not intended to address the normal hazards of construction work, which are separately covered by OSHA regulations and/or local and state construction codes and regulations.

3.3.1 Hazards of Concern

Check all that apply		
(x) Organic Chemicals	(x) Inorganic Chemicals	( ) Radiological
( ) Biological	( ) Explosive/Flammable	( ) Oxygen Deficient Atm.
(x) Heat Stress	(x) Cold Stress	( ) Other
Comments: No personnel are permitted to enter permit confined spaces		

3.3.2 Physical Characteristics

Check all that apply		
(x) Liquid	(x) Solid	( ) Sludge
(x) Vapors	( ) Unknown	( ) Other
Comments:		

3.3.3 Hazardous Materials

Check all that apply					
Chemicals	**Solids**	**Sludges**	**Solvents**	**Oils**	**Other**
( ) Acids	( ) Ash	( ) Paints	(x) Halogens	( ) Transformer	( ) Lab
( ) Caustics	( ) Asbestos	( ) Metals	( ) Petroleum	( ) Other DF	( ) Pharm.
( ) Pesticides	( ) Tailings	( ) POTW	( ) Other	( ) Motor or Hydraulic Oil	( ) Hospital
(x) Petroleum	( ) Other: Fill Material	( ) Other – Tars & Other NAPL		( ) Gasoline	( ) Rad.
( ) Inks				( ) Fuel Oil	( ) MGP
( ) PCBs					( ) Mold
(x) Metals					( ) Cyanide
(x) Other: VOCs, SVOCs					

3.3.4 Chemicals of Concern

Chemicals	REL/PEL/STEL	Health Hazards
Benzene	REL = 0.1 ppm PEL = 1 ppm STEL = 5 ppm	Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude, dermatitis; bone marrow depression, potential occupational carcinogen.
Ethylbenzene	REL = 100 ppm PEL = 100 ppm	Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma.
Tetrachloroethylene	REL = 100 ppm PEL = 100 ppm	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin redness; liver damage; potential occupational carcinogen.
Toluene	REL = 100 ppm PEL = 200 ppm STEL = 300 ppm	Irritation eyes, nose; lassitude, confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage.
Trichloroethylene	REL = 100 ppm PEL = 100 ppm	Irritation eyes, skin; headache, visual disturbance, weakness, exhaustion, dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; potential occupational carcinogen.
Xylenes	REL = 100 ppm PEL = 100 ppm	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, poor coordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis.

Comments:
REL = National Institute for Occupational Safety and Health ("NIOSH") Recommended Exposure Limit
PEL = OSHA Permissible Exposure Limit
STEL = OSHA Short Term Exposure Limit
TWA = Time-Weighted Average Exposure Limit
ppm = parts per million
mg/m^3 = milligrams per cubic meter

4.0 HEALTH AND SAFETY OFFICER

The contractor or engineer will designate one of its personnel as the Site Safety Officer (SSO). The SSO will be a competent person responsible for the implementation of this plan. The SSO will have completed a 40-hour training course (updated by an annual refresher) that meets OSHA requirements of 29 CFR Part 1910, Occupational Safety and Health Standards. The SSO has stop-work authorization, which he/she will execute on his/her determination of an imminent safety hazard, emergency situation, or other potentially dangerous situation. If the SSO must be absent from the Site, he/she will designate a suitably qualified replacement that is familiar with the CHASP.

5.0 TRAINING

If evidence of contamination is found, all those who enter the work area where the contamination is present while intrusive activities are being performed must recognize and understand the potential hazards to health and safety. All construction personnel upon entering the Site must attend a brief training meeting, its purpose being to:

- Make workers aware of the potential hazards they may encounter;
- Instruct workers on how to identify potential hazards,

- Provide the knowledge and skills necessary for them to perform the work with minimal risk to health and safety;
- Make workers aware of the purpose and limitations of safety equipment; and
- Ensure that they can safely avoid or escape from emergencies.

Each member of the construction crew will be instructed in these objectives before he/she goes onto the Site. Construction personnel will be responsible for identifying potential hazards in the work zone. The SSO or other suitably trained individual will be responsible for conducting the training program. Others who enter the Site must be accompanied by a suitably-trained construction worker.

6.0 GENERAL WORK PRACTICES

To protect the health and safety of the field personnel, all field personnel will adhere to the guidelines listed below during activities involving subsurface disturbance in contaminated areas.

- Eating, drinking, chewing gum or tobacco, and smoking are prohibited, except in designated areas on the Site. These areas will be designated by the SSO.
- Workers must wash their hands and face thoroughly on leaving the work area and before eating, drinking, or any other such activity. The workers should shower as soon as possible after leaving the Site.
- Contact with contaminated or suspected surfaces should be avoided.
- The buddy system should always be used; each buddy should watch for signs of fatigue, exposure, and heat stress.

7.0 PERSONAL PROTECTIVE EQUIPMENT & AIR MONITORING

7.1 Personal Protective Equipment

The personal protection equipment required for various kinds of site investigation tasks are based on 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, Appendix B, "General Description and Discussion of the Levels of Protection and Protective Gear."

During the implementation of air monitoring, if deemed appropriate by the SSO, site personnel will wear, at a minimum, Level D personal protective equipment. The protection will be based on the air monitoring described in Section 7.2.

Level of Protection Summary

LEVEL OF PROTECTION & PPE		**1 – Excavation**	**2 – Other Earth Moving Activities**
Level D (x) Steel Toe Shoes (x) Hard Hat **(within 25 ft of excavator)** (x) Work Gloves	(x) Safety Glasses ( ) Face Shield (x) Ear Plugs (within 25 ft of drill rig/excavator) (x) Work Gloves (Latex if worker may handle/contact soil)	Yes	Yes
Level D – Modified ***(in addition to Level D)*** (x) Tyvek Coveralls	(x) Nitrile Gloves ( ) Overboots ( ) Saranex Coveralls	As Necessary	As Necessary
Level C ***(in addition to Level D – Modified)*** ( ) Half-Face Respirator (x) Full Face Respirator ( ) Full-Face PAPR	( ) Particulate Cartridge ( ) Organic Cartridge (x) Dual Organic/ Particulate Cartridge	If PID > 5 ppm and/or PM-10 dust > 5 mg/m^3 (breathing zone)	If PID > 5 ppm and/or PM-10 dust > 5 mg/m^3 (breathing zone)
Comments: Cartridges to be changed out at least once per shift unless warranted beforehand (e.g., more difficult to breathe or any odors detected).			

7.2 Work Zone Air Monitoring

Monitoring with a particulate air monitor will be conducted during excavation and other earth moving activities only in the event that evidence of contamination (e.g., odors, sheen or staining) is encountered. Real-time air monitoring will be performed with a photoionization detector (PID) during sampling and excavation work at areas where petroleum or other volatile organic compounds are detected. Measurements would be taken prior to commencement of work and continuously during the work as outlined in the following table. Measurements will be made as close to the workers as practicable and at the breathing height of the workers. The SSO will set up the equipment and confirm that it is working properly. His/her designee may oversee the air measurements during the day. The initial measurement for the day will be performed before the start of work and will establish the background level for that day. The final measurement for the day will be performed after the end of work. The action levels and required responses are listed in the following table.

Action Levels and Required Safety Response Actions

Instrument	Task to be Monitored	Action Level	Response Action
PID (OVM 580B or equivalent)	Excavation activities disturbing contaminated soil (if encountered)	Less than 5 ppm in breathing zone.	Level D or D-Modified
		Between 5 and 50 ppm	Level C
		More than 50 ppm	Stop work. Resume work when readings are less than 20 ppm.
Particulate monitor (MIE 1000 Personal DataRam or equivalent)	Excavation activities disturbing contaminated soil (if encountered)	Less than 5 mg/m^3	Level D
		Between 5 mg/m^3 and 125 mg/m^3	Level C. Apply dust suppression measures. If < 2.5 mg/m^3, resume work using Level D. Otherwise, use Level C.
		Above 125 mg/m^3	Stop work. Apply additional dust suppression measures. Resume work when less than 125 mg/m^3.

Field personnel will be trained in the proper operation of all field instruments at the start of the field program. Instruction manuals for the equipment will be on file at the Site for referencing proper operation, maintenance and calibration procedures.

The equipment will be calibrated according to manufacturer specifications at the start of each day of fieldwork. If an instrument fails calibration, the project manager will be contacted immediately to obtain a replacement instrument and arrange for repairs. A calibration log will be maintained to record the date of each calibration, any failure to calibrate and corrective actions taken. The PID will be calibrated each day using 100 parts per million (ppm) isobutylene standard gas.

8.0 DECONTAMINATION PROCEDURES

8.1 Personnel Decontamination

Personnel decontamination (decon), if deemed necessary by the SSO, will take place in a designated decontamination area. This area will be delineated during each stage of work. Personnel decontamination will consist of the following steps:

- Soap and potable water wash and potable water rinse of gloves;
- Coverall removal (if applicable);
- Glove removal;
- Disposable clothing removal; and
- Field wash of hands and face.

8.2 Sampling Equipment Decontamination

Any non-disposable sampling equipment for confirmatory sampling or other equipment that is in contact with contaminated materials will be decontaminated in accordance with the following procedure:

- Double wash with solution of Simple Green® and clean tap water;
- Double rinse with clean tap water;
- Rinse with clean distilled water; and
- Allow equipment to air dry.

8.3 Heavy Equipment Decontamination

If heavy equipment comes in contact with contaminated materials, it will be decontaminated prior to being relocated to a clean area or leaving the Site. A designated decontamination pad will be constructed, where soil, dust, or oil will be washed off the exterior, undercarriage, and wheels or tracks of the equipment. Wash water will be collected for treatment and/or disposal.

9.0 EMERGENCY RESPONSE

9.1 Emergency Procedures

In the event that an emergency develops at the Site, the procedures delineated herein are to be immediately followed. Emergency conditions are considered to exist if:

- Any member of the field crew is involved in an accident or experiences any adverse effects or symptoms of exposure while on-site; and
- A condition is discovered that suggests the existence of a situation creating a higher health hazard than anticipated.
- A spill of oil or other hazardous materials.

General emergency procedures and specific procedures for personal injury and chemical exposure are described below. In the event of an accident or emergency, an Incident Report form should be filled out and placed in the project file. An example Incident Report form is provided in Appendix B. Information on emergency hand signals is provided in Appendix C.

9.1.1 Chemical Exposure

If a member of the field crew demonstrates symptoms of chemical exposure the procedures outlined below should be followed:

- Another team member (buddy) should remove the individual from the immediate area of contamination. The buddy should communicate to the SSO (via voice and hand signals) of the chemical exposure. The SSO should contact the appropriate emergency response agency.
- Precautions should be taken to avoid exposure of other individuals to the chemical.
- If the chemical is on the individual's clothing, the chemical should be neutralized or removed if it is safe to do so.
- If the chemical has contacted the skin, the skin should be washed with copious amounts of water.

- In case of eye contact, an emergency eye wash should be used. Eyes should be washed for at least 15 minutes.
- All chemical exposure incidents must be reported in writing to the Project Manager. The SSO is responsible for completing the Incident Report Form.

9.1.2 Personal Injury

In case of personal injury at the Site, the following procedures should be followed:

- Another team member (buddy) should signal the SSO that an injury has occurred.
- A field team member trained in first aid can administer treatment to an injured worker.
- If deemed necessary, the victim should then be transported to the nearest hospital or medical center. If necessary, an ambulance should be called to transport the victim.
- The SSO is responsible for making certain that an Incident Report Form is completed. This form is to be submitted to the GAC ENVIRONMENTAL Health and Safety Officer. Follow-up action should be taken to correct the situation that caused the accident.
- Any incident (near miss, property damage, first aid, medical treatment, etc.) must be reported.

A first-aid kit, eye-wash, and blood-borne pathogens kit will be kept on-site during the field activities.

9.1.3 Evacuation Procedures

- The SSO will initiate evacuation procedures by signaling to leave the Site or containment structure;
- All personnel in the work area should evacuate the area and meet in the common designated area;
- All personnel suspected to be in or near the contract work area should be accounted for and the whereabouts or missing persons determined immediately; and
- The SSO will then give further instruction.

9.1.4 Procedures Implemented in the Event of a Major Fire, Explosion, or Emergency

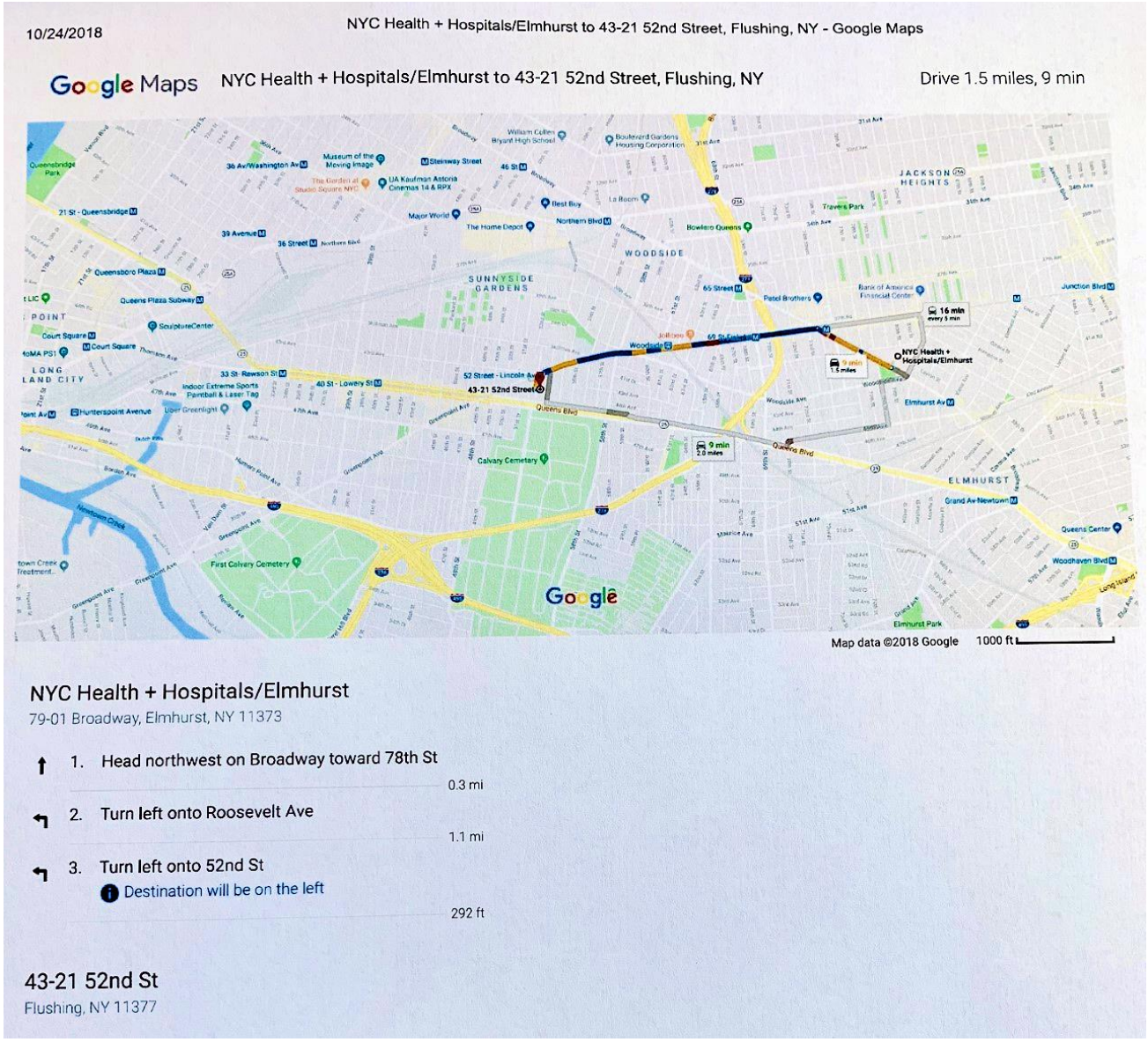
- Notify the paramedics and/or fire department, as necessary;
- Signal the evacuation procedure previously outlined and implement the entire procedure;
- Isolate the area;
- Stay upwind of any fire;
- Keep the area surrounding the problem source clear after the incident occurs;
- Complete accident report for and distribute to appropriate personnel.

9.1.5 Spill Response

All personnel must take every precaution to minimize the potential for spills during site operations. Any spill will be reported immediately to the SSO. The SSO will then determine and report any required spills to the NYCDEP and/or NYSDEC Hotlines. Spill

control apparatus (sorbent materials) will be located on-site. All materials used for the clean-up of spills will be containerized and labeled separately from other wastes. The SSO, in consultation with the Project Manager, will determine if additional spill response measures are required.

9.2 Hospital Directions



9.3 CHASP Contact Information

GAC Project Manager – Matthew Stock..... (212) 875-9506 (office)

Site Safety Officer (SSO)…….……To Be Determined

SSO Alternate – Mark Jepsen .....To Be Determined

Woodside Properties Representative – Steven Pomerantz .....(646)-208-9839 (cell phone)

Ambulance, Fire and Police Departments..... 911

Local Poison Control ..... (212) 764-7667

NYSDEC Spill Response Team..... (800) 457-7362

NYCDEP Hotline .....(718) DEP-HELP

Appendix E – New York City Department of Environmental Protection Correspondence

NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

September 6, 2018

Alexander McClean
Project Manager
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Re: 52nd Street Rezoning
Block 1321, Lots 1, 7, 10, 12, 15, 16, 17, and 19
CEQR # 18DCP020Q

Dear Mr. McClean:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the August 2018 limited Phase II Environmental Site Assessment (Phase II) prepared by GAC Environmental on behalf of Woodside Equities, LLC (applicant) for the above referenced project. It is our understanding that the applicant, is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to amend Zoning Map 9b to rezone Block 1321, Lots 7, 10, 12, 15, 16, 17, 19 and a portion of Lot 1 from the existing R5B and R6/C-3 zoning district to an R7A zoning district with a C2-3 commercial overlay. The proposed actions also include a zoning text amendment to establish a new Mandatory Inclusionary Housing Area in Appendix F of the Zoning Resolution. The proposed actions would facilitate the applicant's proposed development of a new mixed-use, residential building with a total of 85,565 gross square feet (gsf) containing approximately 61 residential units, ground floor retail and 47 parking spaces on Lots 12, 15, 16, and 17 (Projected Development Site 1). Development is also projected to occur on Block 1321, Lot 7 (Projected Development Site 2) and Block 1321, Lot 19 (Projected Development Site 3). The proposed rezoning also is not expected to induce new development on Block 1321, p/o Lot 1 and Block 1321, Lot 10. The rezoning area is located in the Woodside neighborhood of Queens Community District 2.

During the July 2018 fieldwork, Aquifer Drilling & Testing, Inc. advanced six soil borings to a depth of 4 to 6 feet below grade surface. One soil sample was collected from each soil boring location. Soil samples were analyzed for volatile organic compounds (VOCs) via United States Environmental Protection Agency (EPA) Method 8260 and semi-volatile organic compounds (SVOCs) via EPA Method 8270 in accordance with the New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series Memo #1, Petroleum-Contaminated Soil Guidance Policy, dated August 1992.

The soil analytical results revealed that VOCs and SVOCs were below their respective NYSDEC CP-51 Soil Clean-Up Values.

It should be noted that the limited Phase II investigation was conducted without DEP approval and not in accordance with the *City Environmental Quality Review Technical Manual.*

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

Projected Development Site 1: Block 1321, Lots 12, 15, 16, and 17 (Site under the control or ownership of the applicant)

- Based on the limited Phase II Investigation, DCP should inform the applicant that a supplemental Phase II Environmental Site Assessment (Phase II) is necessary to adequately identify/characterize the surface and subsurface soils of the subject property. A Phase II Investigative Protocol/Work Plan summarizing the proposed drilling, soil, groundwater, and soil vapor sampling activities should be developed in accordance with the *City Environmental Quality Review Technical Manual* and submitted to DEP for review and approval. The Work Plan should include blueprints and/or site plans displaying the current surface grade and sub-grade elevations and a site map depicting the proposed soil, groundwater, and soil vapor sampling locations. All soil and groundwater samples should be collected and analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory for the presence of VOCs by EPA Method 8260, SVOCs by EPA Method 8270, pesticides by EPA Method 8081, polychlorinated biphenyls by EPA Method 8082, and Target Analyte List metals (filtered and unfiltered for groundwater samples). The soil vapor sampling should be conducted in accordance with NYSDOH's October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York. The soil vapor samples should be collected and analyzed by a NYSDOH ELAP certified laboratory for the presence of VOCs by EPA Method TO-15. An Investigative Health and Safety Plan (HASP) should also be submitted to DEP for review and approval.

- DCP should also instruct the applicant that the Phase II Work Plan and HASP should be submitted to DEP for review and approval prior to the start of any fieldwork.

Projected Development Sites 2 and 3: Block 1321, Lots 7 and 19 (Sites not under the control or ownership of the applicant)

- Based on prior on-site and/or surrounding area land uses which could result in environmental contamination, DEP recommends that an (E) designation for hazardous materials should be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for the subject properties. The (E) designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance. Further hazardous materials assessments should be coordinated through the Mayor's Office of Environmental Remediation.

Future correspondence and submittals related to this project should include the following CEQR # **18DCP020Q**. If you have any questions, you may contact Scott Davidow at (718) 595-7716.

Sincerely,

Wei Yu
Deputy Director, Hazardous Materials

c: R. Weissbard
S. Davidow
T. Estesen
M. Wimbish
R. Dobruskin – DCP
O. Abinader – DCP
M. Bertini – OER

NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

November 16, 2018

Alexander McClean
Project Manager
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Re: 52nd Street Rezoning
Block 1321, Lots 12, 15, 16, and 17 (Projected Development Site 1)
CEQR # 18DCP020Q

Dear Mr. McClean:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the October 2018 Phase II Work Plan (Work Plan) and Health and Safety Plan (HASP) prepared by GAC Environmental on behalf of Woodside Equities, LLC (applicant) for the above referenced project. It is our understanding that the applicant, is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to amend Zoning Map 9b to rezone Block 1321, Lots 7, 10, 12, 15, 16, 17, 19 and a portion of Lot 1 from the existing R5B and R6/C-3 zoning district to an R7A zoning district with a C2-3 commercial overlay. The proposed actions also include a zoning text amendment to establish a new Mandatory Inclusionary Housing Area in Appendix F of the Zoning Resolution. The proposed actions would facilitate the applicant's proposed development of a new mixed-use, residential building with a total of 85,565 gross square feet (gsf) containing approximately 61 residential units, ground floor retail and 47 parking spaces on Lots 12, 15, 16, and 17 (Projected Development Site 1). Development is also projected to occur on Block 1321, Lot 7 (Projected Development Site 2); Block 1321, Lot 19 (Projected Development Site 3); and Block 1321, Lot 10 (Projected Development Site 4). Since the portion of the parcel of Block 1321, p/o Lot 1 included in the affected area represents less than half of the parcel, redevelopment is unlikely. Thus this partial lot is excluded from consideration as a development site. The rezoning area is located in the Woodside neighborhood of Queens Community District 2.

The October 2018 Work Plan proposes to advance six soil borings at the subject property. A surface soil sample will be collected from the 0-2 feet below grade surface (bgs) interval and subsurface soil sample will be collected from the two (2) foot interval beneath the proposed maximum excavation depth or as far as the Geoprobe can reasonably advance. Discrete (grab) samples will be taken from the aforementioned sampling intervals. A third soil sample may be collected from each or several test boring(s) if 1) elevated photoionization detector (PID) readings and/or visual and olfactory observations are noted

during borehole advancement and/or 2) field observations identify an upper fill layer underlain by native material. Six temporary groundwater monitoring wells will be installed, and one groundwater sample will be collected from each well, for a total of six groundwater samples. Soil and groundwater samples will be analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260, semi-volatile organic compounds by EPA Method 8270, pesticides by EPA Method 8081, polychlorinated biphenyls by EPA Method 8082, and Target Analyte List metals by EPA Method 6010 and 7471 (filtered and unfiltered for groundwater samples). A total of three sub-slab soil vapor samples as well as two indoor and one ambient air sample will be collected. The sub-slab soil vapor probe(s) will be installed to a depth of 2 inches beneath the existing building slab. Air and soil vapor samples will be collected and analyzed for VOCs by EPA Method TO-15.

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

Work Plan

- DCP should instruct the applicant that the maximum excavation depth of the proposed project should be defined to determine the appropriate sampling depth(s).

- DCP should instruct the applicant that the sampling map should correspond to a current tax map. All lots of Projected Development Site 1 (Lots 12, 15, 16, and 17) should be depicted and characterized.

- DCP should instruct the applicant that a minimum of two soil samples should be collected from each soil boring. One surface soil sample should be collected from the upper two feet of soil (typically the 0-2 feet bgs interval) and one subsurface soil sample should be collected between 2 feet bgs and the maximum proposed excavation depth (based on visual/olfactory evidence of impacts and/or elevated soil screening readings obtained using accepted field instruments). If no evidence or elevated readings are noted during borehole advancement, the subsurface soil sample should be collected from the two foot interval below the proposed maximum excavation depth(s) and/or the groundwater interface (whichever is encountered first).

- DCP should instruct the applicant that where the water table is less than 30 feet beneath the deepest level of proposed on-site basement or slab-on-grade construction, groundwater samples should be collected during the Phase II investigation to adequately characterize the site.

- DCP should instruct the applicant that soil vapor samples should be collected at a depth comparable to the expected depth of foundation footings of the proposed project.

HASP

- DCP should instruct the applicant to include information fact sheets and/or Safety Data Sheets for potential contaminants of concern.

- DCP should instruct the applicant to include an accident and injury report form.

- DCP should instruct the applicant to include a highlighted route (including map) to the nearest hospital.

DCP should instruct the applicant that a revised Work Plan and HASP should be submitted to DEP for review and approval prior to the start of any fieldwork. Future correspondence and submittals related to this project should include the following CEQR # **18DCP020Q**. If you have any questions, you may contact Scott Davidow at (718) 595-7716.

Sincerely,

Wei Yu

Wei Yu
Deputy Director, Hazardous Materials

c: R. Weissbard
S. Davidow
T. Estesen
M. Wimbish
R. Lucas
R. Dobruskin – DCP
O. Abinader – DCP

NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

February 15, 2019

Alexander McClean
Project Manager
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Re: 52nd Street Rezoning
Block 1321, Lots 12, 15, 16, and 17 (Projected Development Site 1)
CEQR # 18DCP020Q

Dear Mr. McClean:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the January 2019 Phase II Work Plan (Work Plan) and Health and Safety Plan (HASP) prepared by GAC Environmental on behalf of Woodside Equities, LLC (applicant) for the above referenced project. It is our understanding that the applicant, is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to amend Zoning Map 9b to rezone Block 1321, Lots 7, 10, 12, 15, 16, 17, 19 and a portion of Lot 1 from the existing R5B and R6/C-3 zoning district to an R7A zoning district with a C2-3 commercial overlay. The proposed actions also include a zoning text amendment to establish a new Mandatory Inclusionary Housing Area in Appendix F of the Zoning Resolution. The proposed actions would facilitate the applicant's proposed development of a new mixed-use, residential building with a total of 85,565 gross square feet (gsf) containing approximately 61 residential units, ground floor retail and 47 parking spaces on Lots 12, 15, 16, and 17 (Projected Development Site 1). Development is also projected to occur on Block 1321, Lot 7 (Projected Development Site 2); Block 1321, Lot 19 (Projected Development Site 3); and Block 1321, Lot 10 (Projected Development Site 4). Since the portion of the parcel of Block 1321, p/o Lot 1 included in the affected area represents less than half of the parcel, redevelopment is unlikely. Thus this partial lot is excluded from consideration as a development site. The rezoning area is located in the Woodside neighborhood of Queens Community District 2.

The January 2019 Work Plan proposes to advance six soil borings at the subject property. A surface soil sample will be collected from the 0-2 feet below grade surface (bgs) interval and subsurface soil sample will be collected from the two (2) foot interval beneath the proposed maximum excavation depth (currently proposed at 12 feet bgs) or as far as the Geoprobe can reasonably advance. Discrete (grab) samples will be taken from the aforementioned sampling intervals. A third soil sample may be collected from each or several

test boring(s) if 1) elevated photoionization detector readings and/or visual and olfactory observations are noted during borehole advancement and/or 2) field observations identify an upper fill layer underlain by native material. Six temporary groundwater monitoring wells will be installed, and one groundwater sample will be collected from each well, for a total of six groundwater samples. Soil and groundwater samples will be analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260, semi-volatile organic compounds by EPA Method 8270, pesticides by EPA Method 8081, polychlorinated biphenyls by EPA Method 8082, and Target Analyte List metals by EPA Method 6010 and 7471 (filtered and unfiltered for groundwater samples). A total of four sub-slab soil vapor samples as well as two ambient air samples will be collected. The sub-slab soil vapor probes will be installed to a depth of 12 feet bgs. Air and soil vapor samples will be collected and analyzed for VOCs by EPA Method TO-15.

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

DEP finds the January 2019 Work Plan and HASP for the proposed project acceptable. DCP should inform the applicant that upon completion of the investigation activities, the applicant should submit a detailed Phase II report to DEP for review and approval. The report should include, at a minimum, an executive summary, narrative of the field activities, laboratory data and conclusions, comparison of soil, groundwater and soil vapor analytical results (i.e., New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375, NYSDEC Water Quality Regulations, and the New York State Department of Health's October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York), updated site plans depicting sample locations, boring logs, and remedial recommendations, if warranted.

Future correspondence and submittals related to this project should include the following CEQR # **18DCP020Q**. If you have any questions, you may contact Scott Davidow at (718) 595-7716.

Sincerely,

Wei Yu
Deputy Director, Hazardous Materials

c: R. Weissbard
S. Davidow
T. Estesen
M. Wimbish
R. Lucas
O. Abinader – DCP

NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

June 20, 2019

Alexander McClean
Project Manager
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Re: 52nd Street Rezoning
Block 1321, Lots 12, 15, 16, and 17 (Projected Development Site 1)
CEQR # 18DCP020Q

Dear Mr. McClean:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the May 2019 Phase II Environmental Site Assessment (Phase II) prepared by GAC Environmental on behalf of Woodside Equities, LLC (applicant) for the above referenced project. It is our understanding that the applicant, is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to amend Zoning Map 9b to rezone Block 1321, Lots 7, 10, 12, 15, 16, 17, 19 and a portion of Lot 1 from the existing R5B and R6/C-3 zoning district to an R7A zoning district with a C2-3 commercial overlay. The proposed actions also include a zoning text amendment to establish a new Mandatory Inclusionary Housing Area in Appendix F of the Zoning Resolution. The proposed actions would facilitate the applicant's proposed development of a new mixed-use, residential building with a total of 85,565 gross square feet (gsf) containing approximately 61 residential units, ground floor retail and 47 parking spaces on Lots 12, 15, 16, and 17 (Projected Development Site 1). Development is also projected to occur on Block 1321, Lot 7 (Projected Development Site 2); Block 1321, Lot 19 (Projected Development Site 3); and Block 1321, Lot 10 (Projected Development Site 4). Since the portion of the parcel of Block 1321, p/o Lot 1 included in the affected area represents less than half of the parcel, redevelopment is unlikely. Thus this partial lot is excluded from consideration as a development site. The rezoning area is located in the Woodside neighborhood of Queens Community District 2.

During the March 2019 fieldwork, Aquifer Drilling and Testing advanced six soil borings at the site. A surface soil sample was collected from the 0-2 feet below grade surface (bgs) interval and subsurface soil sample was collected from 26-30 feet bgs from each boring. Groundwater was not encountered during the boring activities. Soil samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method

8270, pesticides by EPA Method 8081, polychlorinated biphenyls (PCBs) by EPA Method 8082, and Target Analyte List (TAL) metals by EPA Method 6010 and 7471. A total of four sub-slab soil vapor samples and two ambient air samples were collected. The sub-slab soil vapor probes were installed to a depth of 12 feet bgs. Soil vapor and ambient air samples were collected and analyzed for VOCs by EPA Method TO-15.

The soil analytical results revealed that VOCs, SVOCs, pesticides, PCBs and metals were either non-detect or below their New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives.

The soil vapor analytical results revealed several VOCs (ethanol, ethyl acetate, freon 12, chloromethane, isopropyl alcohol, acetone, 2-butanone, toluene and n-butane) were detected.

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

- DCP should instruct the applicant that the Phase II should include a tabulated comparison of detected compounds for soil (VOCs, SVOCs, pesticides, PCBs, and TAL metals); and soil vapor and ambient air samples (VOCs), to applicable regulatory standards and guidance.

- DCP should instruct the applicant that Figure 1 (Site Map with Sampling Locations) should coincide with the report text, with regards to the number of soil vapor and ambient air samples. Page 7 states "Three (3) sub-slab soil vapor, 2 indoor air, and 1 ambient air samples were collected" while page 12 states "four (4) soil vapor samples and two (2) ambient air samples were submitted under chain of custody". These inconsistencies should be clarified.

- DCP should instruct the applicant to include a Chain-of-Custody with the soil laboratory analytical report.

- The Chain-of-Custody identification numbers for the soil vapor samples and ambient air samples do not coincide with Figure 1 (Site Map with Sampling Locations). Therefore, DCP should instruct the applicant to clarify and show which samples were collected as soil vapor and ambient air. The identification of the samples should be consistent.

DCP should instruct the applicant that a revised Phase II Report should be submitted to DEP for review and approval. Future correspondence and submittals related to this project should include the following CEQR # **18DCP020Q**. If you have any questions, you may contact Scott Davidow at (718) 595-7716.

Sincerely,

We Yu

Wei Yu
Deputy Director, Hazardous Materials

c: R. Weissbard, S. Davidow, T. Estesen, M. Wimbish, R. Lucas, O. Abinader – DCP

NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

August 6, 2019

Alexander McClean
Senior Project Manager
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Re: 52nd Street Rezoning
Block 1321, Lots 12, 15, 16, and 17 (Projected Development Site 1)
CEQR # 18DCP020Q

Dear Mr. McClean:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the Revised July 2019 Phase II Environmental Site Assessment prepared by GAC Environmental on behalf of Woodside Equities, LLC (applicant) for the above referenced project. It is our understanding that the applicant, is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to amend Zoning Map 9b to rezone Block 1321, Lots 7, 10, 12, 15, 16, 17, 19 and a portion of Lot 1 from the existing R5B and R6/C-3 zoning district to an R7A zoning district with a C2-3 commercial overlay. The proposed actions also include a zoning text amendment to establish a new Mandatory Inclusionary Housing Area in Appendix F of the Zoning Resolution. The proposed actions would facilitate the applicant's proposed development of a new mixed-use, residential building with a total of 85,565 gross square feet (gsf) containing approximately 61 residential units, ground floor retail and 47 parking spaces on Lots 12, 15, 16, and 17 (Projected Development Site 1). Development is also projected to occur on Block 1321, Lot 7 (Projected Development Site 2); Block 1321, Lot 19 (Projected Development Site 3); and Block 1321, Lot 10 (Projected Development Site 4). Since the portion of the parcel of Block 1321, p/o Lot 1 included in the affected area represents less than half of the parcel, redevelopment is unlikely. Thus this partial lot is excluded from consideration as a development site. The rezoning area is located in the Woodside neighborhood of Queens Community District 2.

During the March 2019 fieldwork, Aquifer Drilling and Testing advanced six soil borings at the site. A surface soil sample was collected from the 0-2 feet below grade surface (bgs) interval and subsurface soil sample was collected from 26-30 feet bgs from each boring. Groundwater was not encountered during the boring activities. Soil samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, pesticides by EPA Method 8081, polychlorinated biphenyls (PCBs) by

EPA Method 8082, and Target Analyte List (TAL) metals by EPA Method 6010 and 7471. A total of four sub-slab soil vapor samples and two ambient air samples were collected. The sub-slab soil vapor probes were installed to a depth of 12 feet bgs. Soil vapor and ambient air samples were collected and analyzed for VOCs by EPA Method TO-15.

The soil analytical results revealed that VOCs, SVOCs, pesticides, PCBs and metals were either non-detect or below their New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives.

The soil vapor analytical results revealed several VOCs (ethanol, ethyl acetate, freon 12, chloromethane, isopropyl alcohol, acetone, 2-butanone, toluene and n-butane) were detected.

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

- DCP should instruct the applicant to develop and submit a Remedial Action Plan (RAP) for the proposed project for review and approval. The RAP should delineate the requirements for items including: disposal and transportation of soils; soil stockpiling; dust control; air monitoring; de-watering; engineering controls; capping with concrete/asphalt and/or imported clean fill, etc.

- DCP should inform the applicant that at a minimum, a vapor barrier should be incorporated into the design plan of the proposed project. The manufacturer's specifications of the proposed vapor barrier should be included in the RAP.

- DCP should instruct the applicant to submit a site-specific Construction Health and Safety Plan (CHASP) on the basis of possible exposure of workers and/or community to contaminants from the proposed project. The CHASP should identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that will be utilized to mitigate concerns.

- DCP should instruct the applicant that for all areas, which will be landscaped or covered with grass (not capped), a minimum of two (2) feet of DEP approved clean fill/top soil must be imported from an approved facility/source and graded across all landscaped/grass covered areas of the sites not capped with concrete/asphalt. The clean fill/top soil must be segregated at the source/facility, have qualified environmental personnel collect representative samples at a frequency of one (1) sample for every 250 cubic yards, analyze the samples for Target Compound List VOCs by EPA Method 8260, SVOCs by EPA Method 8270, pesticides by EPA Method 8081, PCBs by EPA Method 8082, and TAL metals by a New York State Department of Health Environmental Laboratory Approval Program certified laboratory, compared to NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs. Upon completion of the investigation activities, the applicant should submit a detailed clean soil report to DEP for review and approval prior to importation and placement on-site. The report should include, at a minimum, an executive summary, narrative of the field activities, laboratory data, and comparison of soil analytical results (i.e., NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs).

- DCP should instruct the applicant that soil disturbance should not occur without DEP's written approval of the RAP and CHASP.

Future correspondence and submittals related to this project should include the following CEQR # **18DCP020Q**. If you have any questions, you may contact Scott Davidow at (718) 595-7716.

Sincerely,

Wei Yu
Deputy Director, Hazardous Materials

c: R. Weissbard
S. Davidow
T. Estesen
M. Wimbish
R. Lucas
O. Abinader – DCP

NYC Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

September 17, 2019

Alexander McClean
Senior Project Manager
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Re: 52nd Street Rezoning
Block 1321, Lots 12, 15, 16, and 17 (Projected Development Site 1)
CEQR # 18DCP020Q

Dear Mr. McClean:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the September 2019 Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) prepared by GAC Environmental on behalf of Woodside Equities, LLC (applicant) for the above referenced project. It is our understanding that the applicant, is seeking a zoning map amendment from the New York City Department of City Planning (DCP) to amend Zoning Map 9b to rezone Block 1321, Lots 7, 10, 12, 15, 16, 17, 19 and a portion of Lot 1 from the existing R5B and R6/C-3 zoning district to an R7A zoning district with a C2-3 commercial overlay. The proposed actions also include a zoning text amendment to establish a new Mandatory Inclusionary Housing Area in Appendix F of the Zoning Resolution. The proposed actions would facilitate the applicant's proposed development of a new mixed-use, residential building with a total of 85,565 gross square feet (gsf) containing approximately 61 residential units, ground floor retail and 47 parking spaces on Lots 12, 15, 16, and 17 (Projected Development Site 1). Development is also projected to occur on Block 1321, Lot 7 (Projected Development Site 2); Block 1321, Lot 19 (Projected Development Site 3); and Block 1321, Lot 10 (Projected Development Site 4). Since the portion of the parcel of Block 1321, p/o Lot 1 included in the affected area represents less than half of the parcel, redevelopment is unlikely. Thus this partial lot is excluded from consideration as a development site. The rezoning area is located in the Woodside neighborhood of Queens Community District 2.

The September 2019 RAP proposes the excavation, transportation and off-site disposal of soil in accordance with all applicable federal, state and local regulations; stockpiled soil will be covered with polyethylene sheeting; dust control; air monitoring; if necessary, a New York City Department of Environmental Protection Sewer Discharge Permit will be obtained prior to the start of any de-watering activities that will discharge into New York City sewer drain; a minimum 2-foot thick clean soil cover will be placed in all landscaped/grass covered areas of the site not capped with concrete/asphalt; and

installation of a vapor barrier system consisting of a minimum 20-mil reinforced membrane (e.g., Raven Vaporblock VBP20 or a New York City Department of Environmental Protection approved equivalent) applied to the underside of new foundation slabs and the outside of the perimeter sub-grade walls. The September 2019 CHASP addresses worker and community health and safety during redevelopment.

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

CHASP

- DCP should inform the applicant that the names and phone numbers of the Site Health and Safety Officer and Alternate Site Health and Safety Officer should be included when they are appointed.

DEP finds the September 2019 RAP and CHASP for the proposed project acceptable, as long as the aforementioned information is incorporated into the CHASP. DCP should instruct the applicant that at the completion of the project, a Professional Engineer (P.E.) certified Remedial Closure Report should be submitted to DEP for review and approval for the proposed project. The P.E. certified Remedial Closure Report should indicate that all remedial requirements have been properly implemented (i.e., installation of vapor barrier; transportation/disposal manifests for removal and disposal of soil in accordance with New York State Department of Environmental Conservation regulations; and two feet of DEP approved certified clean fill/top soil capping requirement in any landscaped/grass covered areas not capped with concrete/asphalt, etc.).

Future correspondence and submittals related to this project should include the following CEQR # **18DCP020Q**. If you have any questions, you may contact Scott Davidow, P.G. at (718) 595-7716.

Sincerely,

Wei Yu
Deputy Director, Hazardous Materials

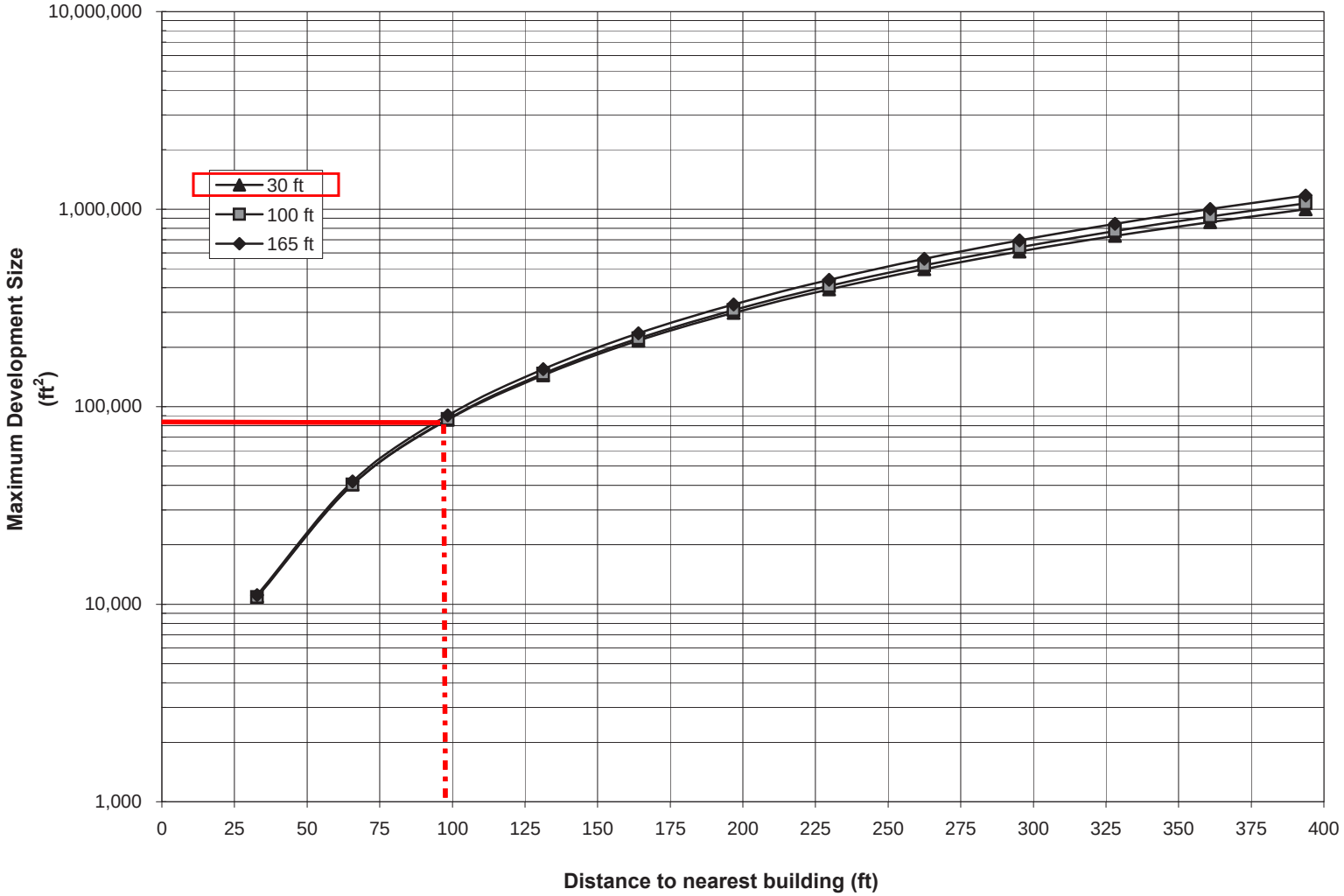
c: R. Weissbard
S. Davidow
T. Estesen
M. Wimbish
R. Lucas
O. Abinader – DCP

Appendix F – Air Quality Technical Appendix

HVAC Screening Analysis

Site: Projected Development Site 1

FIG App 17-5
SO_2 BOILER SCREEN
RESIDENTIAL DEVELOPMENT - FUEL OIL #2

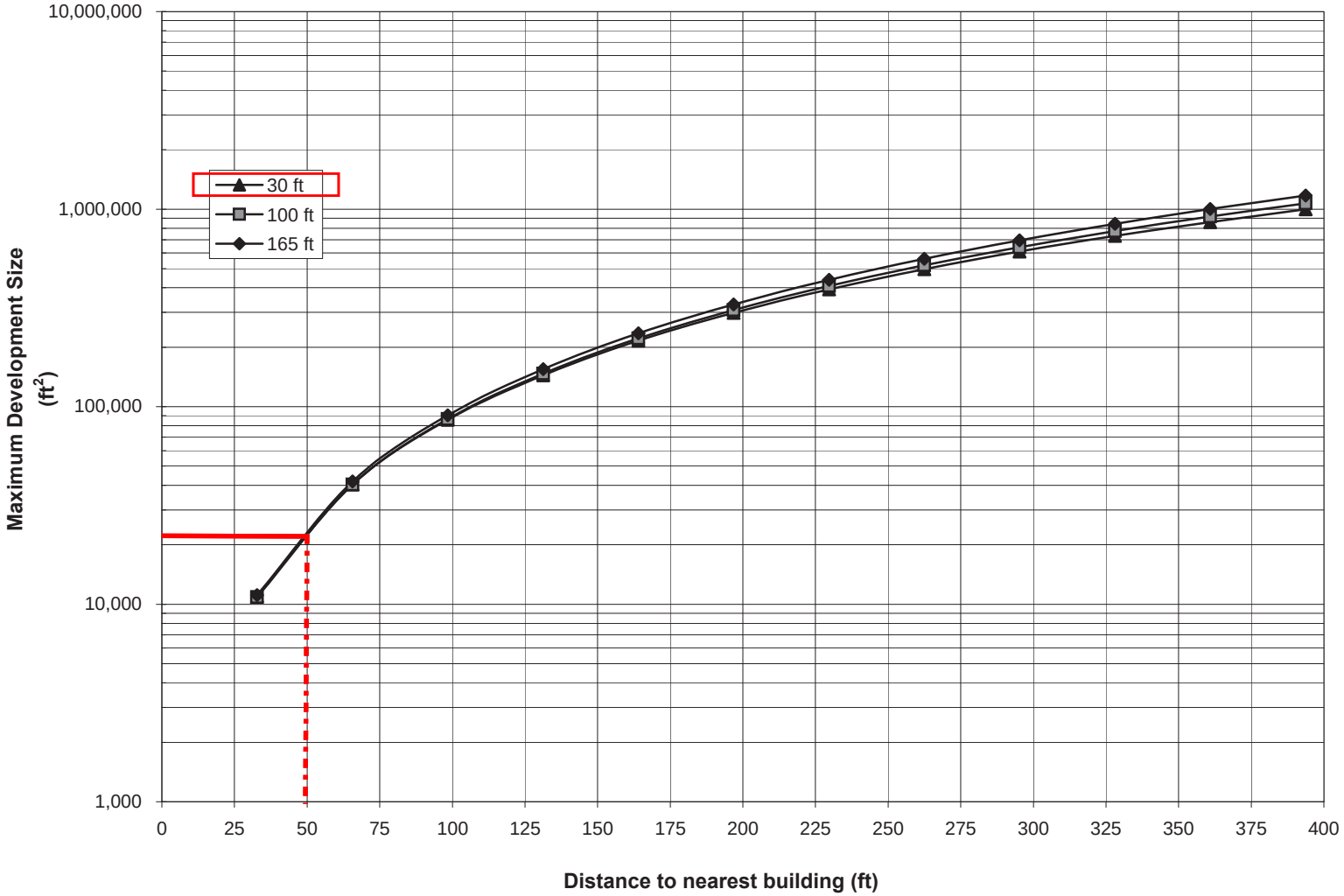


Stack Height: 98 ft
Proposed Maximum SQFA: 82,500 ft²
Minimum Allowable Distance to Nearest Building: 96 ft

HVAC Screening Analysis

Site: Projected Development Site 2

FIG App 17-5
SO_2 BOILER SCREEN
RESIDENTIAL DEVELOPMENT - FUEL OIL #2

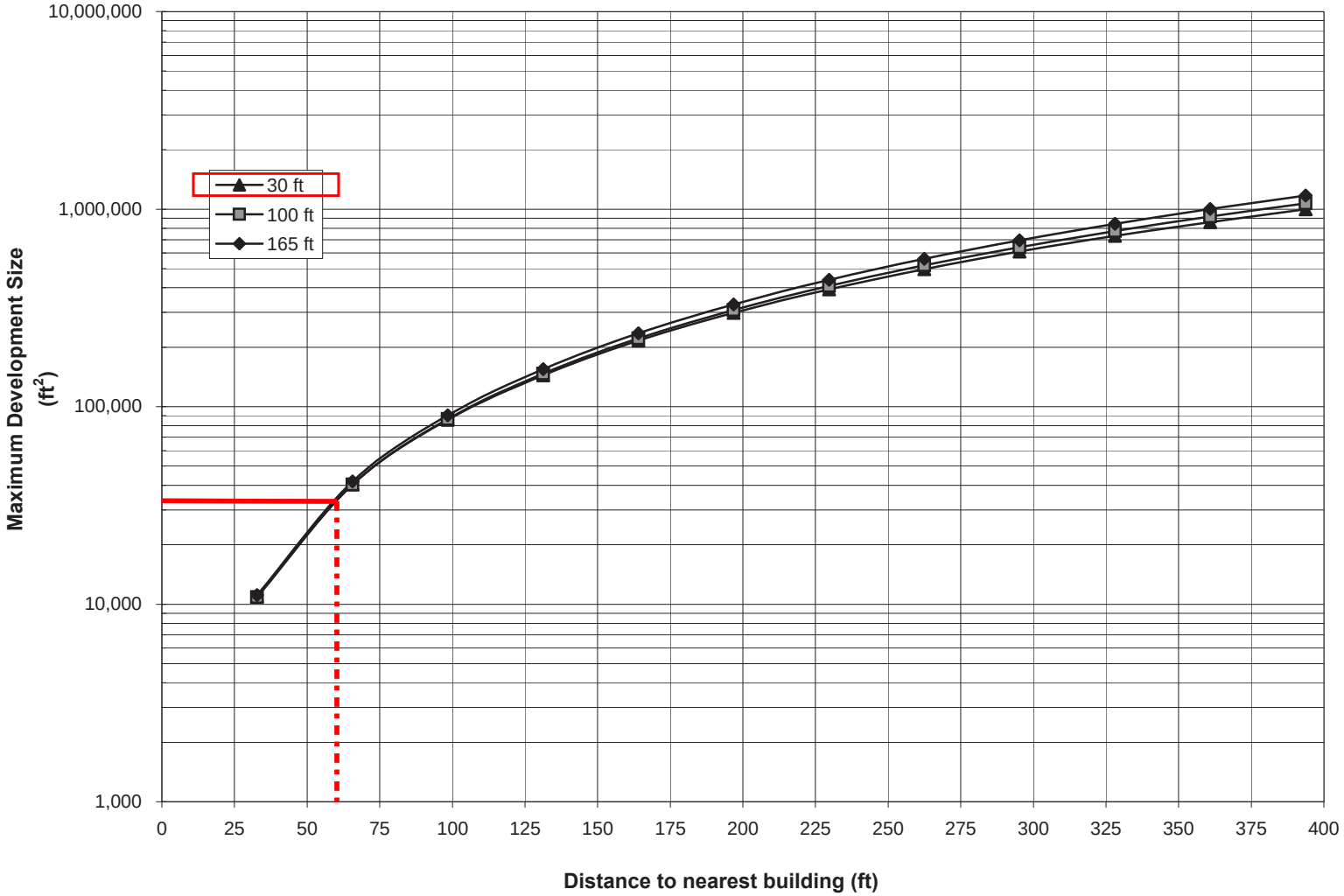


Stack Height: 98 ft
Proposed Maximum SQFA: 22,000 ft²
Minimum Allowable Distance to Nearest Building: 50 ft

HVAC Screening Analysis

Site: Projected Development Site 3

FIG App 17-5
SO_2 BOILER SCREEN
RESIDENTIAL DEVELOPMENT - FUEL OIL #2

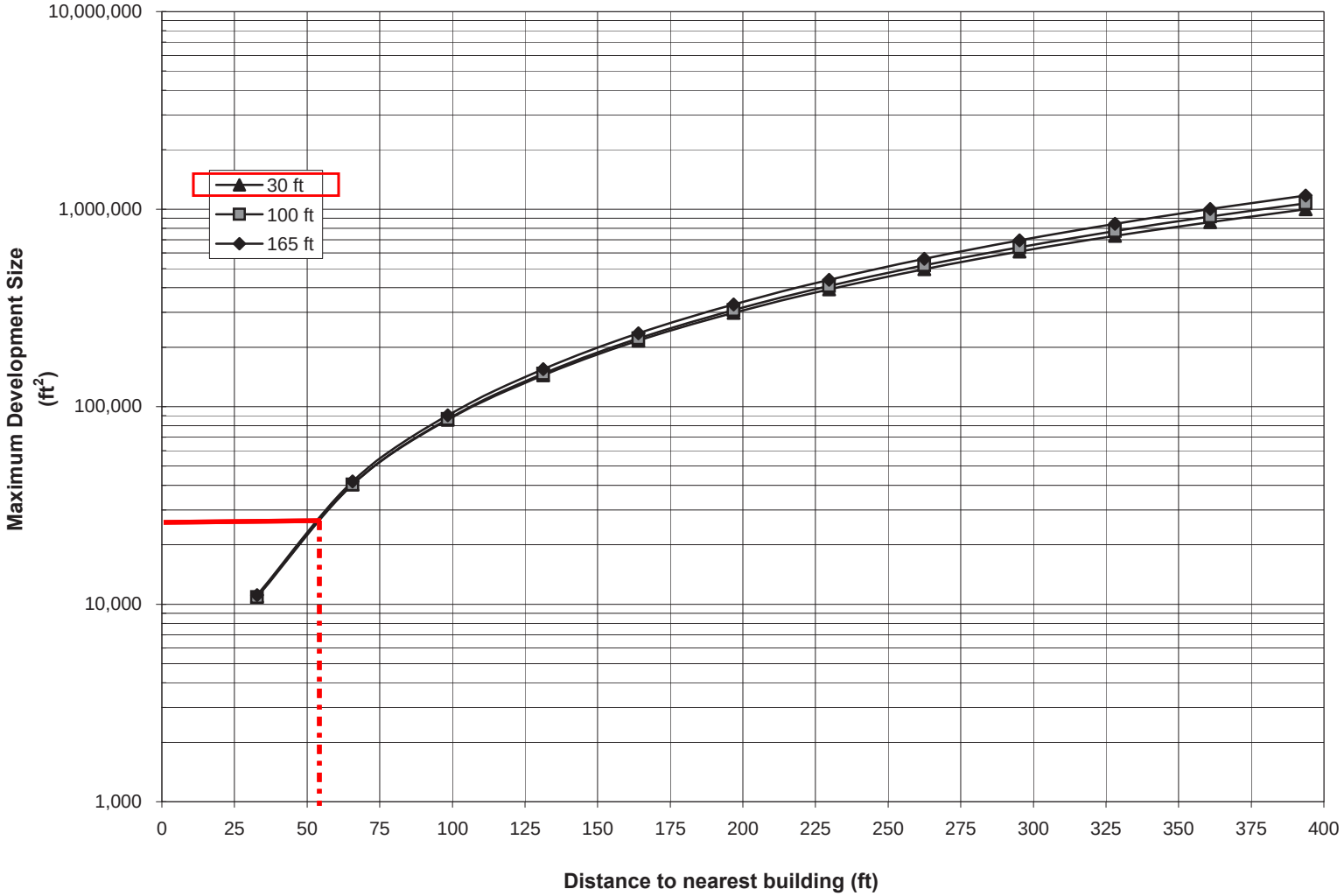


Stack Height: 98 ft
Proposed Maximum SQFA: 33,000 ft²
Minimum Allowable Distance to Nearest Building: 62 ft

HVAC Screening Analysis

Site: Projected Development Site 4

FIG App 17-5
SO_2 BOILER SCREEN
RESIDENTIAL DEVELOPMENT - FUEL OIL #2



Stack Height: 98 ft
Proposed Maximum SQFA: 27,500 ft²
Minimum Allowable Distance to Nearest Building: 55 ft

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AECOM
125 Broad Street
New York, NY 10004
T 212.377.8400
F 212.377.8410
www.aecom.com