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

Lead Agency:
Department of City Planning
120 Broadway, 31St Floor
New York, NY 10271

Prepared for:
Mikerose Realty, Inc.

Prepared by:
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August 11, 2021

2892 Nostrand Avenue Rezoning

Brooklyn, NY
Block 7690, Lots 65, 66, 67, 68, 69, 70, 71, 72, 73, 81/7501, 240, and 82
Brooklyn Community District 15

CEQR Reference No: 20DCP148K

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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* 2892 Nostrand Avenue Rezoning

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
20DCP148K	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
200329ZMK N200329ZRK	

4a. *Lead Agency Information*			**4b. *Applicant Information***		
NAME OF LEAD AGENCY Department of City Planning			NAME OF APPLICANT Mikerose Realty, Inc.		
NAME OF LEAD AGENCY CONTACT PERSON Olga Abinader, Director			NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON Kevin Williams, Equity Environmental Engineering LLC		
ADDRESS 120 Broadway, 31st Floor			ADDRESS 500 International Drive, Suite 150		
CITY New York	STATE NY	ZIP 10271	CITY Mount Olive	STATE NJ	ZIP 07828
TELEPHONE 212-720-3493	EMAIL oabinad@planning.nyc.gov		TELEPHONE 973-527-7451x301	EMAIL kevin.williams@equityenvironmental.com	

5. *Project Description*

The Applicant, Mikerose Realty, Inc., proposes a zoning map amendment to rezone 2872 through 2922 Nostrand Avenue Block 7690, Lots 240, 65, 66, 67, 68, 69, 70, 71, 72, 73, 81/7501 and 82 (the "Affected Area"), in the Madison neighborhood within Brooklyn Community District 15, from an R3-2 zoning district to R7A/C2-4 (Lots 73, 72, 71, 70, and a portion of 240); R6B/C2-4 (Lots 65, 66, 67, 68, 69, and a portion of 240); and R7A (Lots 81/7501 and 82) zoning districts. In addition, the Applicant proposes a text amendment to Zoning Resolution ("ZR") Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing ("MIH") Areas for Community District 15, Brooklyn to establish an MIH Area coterminous with the Affected Area. The Applicant proposes mapping both MIH Option 1 and Option 2.

The Proposed Actions would facilitate the development of 2892 Nostrand Avenue (Block 7690, Lot 73) (the "Development Site") with a new nine-story mixed residential, commercial, and community facility building with 55 proposed dwelling units, including approximately 14 permanently affordable units.

Project Location

BOROUGH Brooklyn	COMMUNITY DISTRICT(S) 15	STREET ADDRESS 2892 Nostrand Avenue
TAX BLOCK(S) AND LOT(S) Block 7690, Lots 240, 65, 66, 67, 68, 69, 70, 71, 72, 73, 82, and 81/7501		ZIP CODE 11229
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Project Site is an interior lot along Nostrand Avenue and is bounded by Kings Highway to the north, East 29th Street to the west, Avenue P to the south, and Nostrand Avenue to the east.		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R3-2		ZONING SECTIONAL MAP NUMBER 23b

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

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

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

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

***Board of Standards and Appeals*:** ☐ YES ☒ NO
☐ VARIANCE (use)
☐ VARIANCE (bulk)
☐ SPECIAL PERMIT (if appropriate, specify type: ☐ modification; ☐ renewal; ☐ other); EXPIRATION DATE:
SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

Other City Approvals Subject to CEQR (check all that apply)
☐ LEGISLATION
☐ 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.): 55,000 within Affected Area; 11,031 on Project Site
Waterbody area (sq. ft) and type:
Roads, buildings, and other paved surfaces (sq. ft.):
Other, describe (sq. ft.):

8. *Physical Dimensions and Scale of Project* (if the project affects multiple sites, provide the total development facilitated by the action)
SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 54,436
NUMBER OF BUILDINGS: 1 building
GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 54,436
HEIGHT OF EACH BUILDING (ft.): 93
NUMBER OF STORIES OF EACH BUILDING: 9 stories

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: 11,031
The total square feet not owned or controlled by the applicant: 43,969

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: 11,031 sq. ft. (width x length)
VOLUME OF DISTURBANCE: 110,000 cubic ft. (width x length x depth)
AREA OF PERMANENT DISTURBANCE: 7,356 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.)	44,969	4,685	4,782	
Type (*e.g.,* retail, office, school)	55 units	retail	UG 4	

Does the proposed project increase the population of residents and/or on-site workers? ☒ YES ☐ NO
If "yes," please specify:
NUMBER OF ADDITIONAL RESIDENTS: 158
NUMBER OF ADDITIONAL WORKERS: 18
Provide a brief explanation of how these numbers were determined: based on addition of 55 dwelling units and Community District 15 2018 ACS data average household size of 2.67 persons in Brooklyn Community District 15; 1 employee per 250 SF of

medical office; and 3 employees per 1,000 SF retail

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:

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2023

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: Development team anticipates an approximately 18-month construction timeline

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: The construction of The Applicant's site would commence subsequent to approvals expected by early 2021 and would occur in a single phase expected to last approximately 18 months.

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

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

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?	☐	☒
○ 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?	☐	☒
○ If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS*: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
○ Generate a net increase of 200 or more residential units?	☐	☒
○ Generate a net increase of 200,000 or more square feet of commercial space?	☐	☒
○ Directly displace more than 500 residents?	☐	☒
○ Directly displace more than 100 employees?	☐	☒
○ Affect conditions in a specific industry?	☐	☒
3. *COMMUNITY FACILITIES*: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations?	☐	☒
(b) Indirect Effects		
○ **Child Care Centers:** Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ **Libraries:** Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	☐	☒
○ **Public Schools:** Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	☐	☒
○ **Health Care Facilities and Fire/Police Protection:** Would the project result in the introduction of a sizeable new neighborhood?	☐	☒
4. *OPEN SPACE*: CEQR Technical Manual Chapter 7		
(a) Would the proposed project change or eliminate existing open space?	☐	☒
(b) Is the project located within an under-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☒	☐
○ If "yes," would the proposed project generate more than 50 additional residents or 125 additional employees?	☒	☐
(c) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?	☐	☒
○ If "yes," would the proposed project generate more than 350 additional residents or 750 additional employees?	☐	☐
(d) If the project in located an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	☐	☒

	YES	NO
5. *SHADOWS*: CEQR Technical Manual Chapter 8		
(a) Would the proposed project result in a net height increase of any structure of 50 feet or more?	☒	☐
(b) Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource?	☒	☐
6. *HISTORIC AND CULTURAL RESOURCES*: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	☒	☐
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	☒	☐
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See attached EAS.		
7. *URBAN DESIGN AND VISUAL RESOURCES*: CEQR Technical Manual Chapter 10		
(a) Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	☒	☐
(b) Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning?	☐	☒
8. *NATURAL RESOURCES*: CEQR Technical Manual Chapter 11		
(a) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11?	☐	☒
○ If "yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	☒	☐
○ If "yes," complete the Jamaica Bay Watershed Form, and submit according to its instructions. See attached.		
9. *HAZARDOUS MATERIALS*: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	☐	☒
(b) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	☐	☒
(c) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	☐	☒
(d) Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	☐	☒
(e) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (*e.g.*, gas stations, oil storage facilities, heating oil storage)?	☐	☒
(f) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint?	☐	☒
(g) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	☐	☒
(h) Has a Phase I Environmental Site Assessment been performed for the site?	☒	☐
○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: No RECs were identified. The presence of VECs could not be ruled out. See attached Phase I in Appendix B.	☐	☒
10. *WATER AND SEWER INFRASTRUCTURE*: CEQR Technical Manual Chapter 13		
(a) Would the project result in water demand of more than one million gallons per day?	☐	☒
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of commercial space in the Bronx, Brooklyn, Staten Island, or Queens?	☐	☒
(c) If the proposed project located in a separately sewered area, would it result in the same or greater development than the amounts listed in Table 13-1 in Chapter 13?	☐	☒
(d) Would the proposed project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	☐	☒
(e) If the project is located within the Jamaica Bay Watershed or in certain specific drainage areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it	☐	☒

	YES	NO
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): 5,056 = (158 residents X 17 pounds per week) + (30 employees X 79 pounds per week)		
○ 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): 6,986,494 = (216.3 commercial X -331) + (126.7 large residential X 46,245) + (250.7 institutional X 4,782)		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☒	☐
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.*	☐	☒
○ Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	☐	☒
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	☐	☐
○ Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☐	☒
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	☐	☐
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☐	☒
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed)	☒	☐
(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	☐	☒

	YES	NO
noise that preclude the potential for significant adverse impacts?		
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. The proposed project does not have the potential for significant adverse impacts in the technical areas above as noted in the attached Supplemental Analyses. In addition, the project would not result in the combination of moderate adverse impacts in the technical areas to have the potential to significantly affect public health. Therefore, an assessment of public health is not warranted.		
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. There would be no significant impacts to any of the constituent elements of Neighborhood Character. The Proposed Actions would be consistent with surrounding uses and bulk, and are appropriate given the adjacency to a wide road (Nostrand Avenue).		
19. *CONSTRUCTION*: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
○ Construction activities lasting longer than two years?	☐	☒
○ Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	☒	☐
○ Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, *etc.*)?	☐	☒
○ Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	☐	☒
○ The operation of several pieces of diesel equipment in a single location at peak construction?	☐	☒
○ Closure of a community facility or disruption in its services?	☐	☒
○ Activities within 400 feet of a historic or cultural resource?	☒	☐
○ Disturbance of a site containing or adjacent to a site containing natural resources?	☐	☒
○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	☐	☒
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. The construction of The Applicant's site would commence subsequent to approvals expected by early 2021 and would occur in a single phase that The Applicant expects to last approximately 18 months.		

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
Robert Greene	8/11/2021

SIGNATURE Robert Greene

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
NAME	DATE
SIGNATURE	

NEGATIVE DECLARATION

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 actions. 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 actions 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 not have a significant adverse impact on the environment. Reasons supporting this determination are noted below.

Land Use, Zoning, and Public Policy

A detailed analysis of land use, zoning, and public policy is included in the EAS. The Applicant, Mikerose Realty, Inc., proposes a zoning map amendment to rezone Block 7690, Lots 65, 66, 67, 68, 69, 70, 71, 72, 73, 81/7501, 82, and 240 (the "Affected Area"), in the Madison neighborhood within Brooklyn Community District 15, from an R3-2 zoning district to R7A/C2-4 (Lots 73, 72, 71, 70, and a portion of 240); R6B/C2-4 (Lots 65, 66, 67, 68, 69, and a portion of 240); and R7A (Lots 81/7501 and 82) zoning districts. In addition, the Applicant proposes a text amendment to Zoning Resolution Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing ("MIH") Areas for Community District 15, Brooklyn to establish an MIH Area coterminous with the Affected Area. The Proposed Actions would facilitate the development of 2892 Nostrand Avenue (Block 7690, Lot 73) (the "Development Site") with a new nine-story mixed residential, commercial, and community facility building with 54,436 gross square feet (GSF) (50,741 zoning square feet (ZSF); 4.60 FAR) of floor area. There would be 4,685 GSF of commercial floor area on the first floor served as local retail, 4,782 GSF of community facility floor area on the second floor served as medical office, and 44,969 GSF of residential floor area on floors two through nine. In total, 55 dwelling units will be provided with 41 being market rate and 14 being permanently affordable per MIH Options 1. Development along Nostrand Avenue and in the study area vary widely, including medium-density mid-block multifamily buildings and mixed residential and commercial buildings. Per the 2020 CEQR Technical Manual, the analysis found that the proposed change in land use and zoning would not constitute a significant adverse impact.

Open Space

A detailed analysis of open space is included in the EAS. The open space analysis found that the study area has 1.96 acres of open space and an existing residential population of 33,708. The ratio of open space to residents under existing conditions is 0.0581 acres per thousand residents. The Proposed Actions would result in an increase in the No-Action population by 158 residents by the 2023 build year; the total 2023 build year With-Action population would be 35,564. With this increase in population, the open space ratio would be 0.0551 acres per 1,000 residents, or a 0.5 percent reduction from the No-Action open space ratio. While the open space ratio in the With-Action Condition is substantially below the city guidelines for residents, the ratio would not substantially decrease as a result of the proposed actions. Additionally, Marine Park, a 798-acre park located within the ½-mile Study Area buffer, is an 18-minute walk from the Affected Area, but is not included in the open space ratio calculations because its Census Tract does not fall within the threshold for inclusion. As the entrance to Marine Park is within the ½-mile buffer, it is reasonable to assume that project-generated residents would utilize the open space. Therefore, in accordance with the 2020 CEQR Technical Manual, based on the minimal change to the open space ratio as a result of the proposed actions and the availability of Marine Park as an open space resource, the Proposed Actions would not result in significant adverse impacts to open space resources.

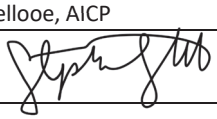
Shadows

A detailed analysis of shadows is included in the EAS. Based on the detailed shadow analysis, the Proposed Actions would cast shadows on the Private First Class (PFC) Thomas Norton Memorial Playground for a maximum of 4-hour-and-44-minutes on the December 21 analysis day. The Greenstreet at the intersection of Marine Parkway and Nostrand Avenue does not contain any active or passive open space resources, and therefore, any incremental shadows would not impact the open space utilization of this resource, nor would the shadows cast by the Projected or Potential Developments result in the complete elimination of all direct sunlight on the sunlight-sensitive feature of the resource. The shadows cast on the Greenstreet on the December 21 analysis day would last 2-hours and 7 minutes period, allowing for 3-hour-and-55-minute direct sunlight for the Greenstreet's vegetation. While incremental shadows would reduce direct sunlight during the winter months on active and passive open space features of PFC Thomas Norton Memorial Playground and on the Greenstreet, during the remainder of the year shadows would be approximately two hours or less and the resources would receive sufficient direct sunlight. Given the duration of incremental shadows and the availability of other features within the open space that would continue to receive direct sunlight during the time of incremental shadows, in accordance with the 2020 CEQR Technical Manual, the proposed actions would not result in a significant adverse impact due to incremental shadows.

Hazardous Materials, Air Quality, and Noise

An (E) designation (E-579) related to hazardous materials, air quality, and noise would be established as part of the approval of the proposed actions. Refer to "Determination of Significance Appendix: (E) designation" for the applicable (E) designation requirements. The hazardous materials, air quality, and noise analyses conclude that with the (E) designation in place, the proposed actions would not result in a significant adverse impact related to hazardous materials, air quality, or noise.

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 Katherine Glass at +1 212-720-3425.

TITLE Deputy Director, Environmental Assessment and Review Division	LEAD AGENCY Department of City Planning on behalf of the City Planning Commission 120 Broadway, 31st Fl. New York, NY 10271 | 212.720.3493
NAME Stephanie Shellooe, AICP	DATE August 13, 2021
SIGNATURE 	
TITLE Chair, City Planning Commission	
NAME Marisa Lago	DATE August 16, 2021
SIGNATURE	

Project Name: 2892 Nostrand Avenue Rezoning
CEQR # 20DCP148K
SEQRA Classification: Unlisted

Determination of Significance Appendix

The Proposed Action(s) were determined to have the potential to result in changes to development on the following site(s):

Development Site	Borough	Block and Lot
Projected Development Site 1	Bk	Block 7690, Lot 73
Potential Development Site 1	Bk	Block 7690, Lots 70, 71, and 72

(E) Designation Requirements

To ensure that the proposed actions would not result in significant adverse impacts related to hazardous materials, air quality, and noise an (E) designation (**E-579**) would be established as part of approval of the proposed actions on **Projected Development Site 1** and **Potential Development Site 1** as described below:

Development Site	Hazardous Materials	Air Quality	Noise
Projected Development Site 1	X	X	X
Potential Development Site 1	X	X	X

Hazardous Materials

The (E) designation requirements applicable to **Projected Development Site 1** and **Potential Development Site 1** for hazardous materials would apply as follows:

Task 1-Sampling Protocol
The applicant submits to OER, for review and approval, a Phase I of the site along with a soil, groundwater and soil vapor testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, specific sources of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2-Remediation Determination and Protocol
A written report with findings and a summary of the data must he submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER.

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

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

Project Name: 2892 Nostrand Avenue Rezoning
CEQR # 20DCP148K
SEQRA Classification: Unlisted

Air Quality

The (E) designation requirements for air quality would apply as follows:

> ***Block 7690, Lot 73 (Projected Development Site 1):*** *Any new residential or commercial development on the above-referenced property must ensure that the heating, ventilating, air conditioning (HVAC), and hot water system(s) stack is located at the building's highest level, and at a minimum of 96 feet above the grade to avoid any potential significant adverse air quality impacts.*
>
> ***Block 7690, Lots 70, 71, 72 (Potential Development Site 1):*** *Any new residential or commercial development on the above-referenced property must ensure that the heating, ventilating, air conditioning (HVAC), and hot water system(s) stack is located at the building's highest level, and at a minimum of 98 feet above the grade to avoid any potential significant adverse air quality impacts.*

Noise

The (E) designation requirements for noise would apply as follows:

> ***Block 7690, Lot 73 (Projected Development Site 1):*** *In order to ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades in order to maintain an interior noise level not greater than 45 dBA for residential and community facility uses. 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 7690, Lots 70, 71, and 72 (Potential Development Site 1):*** *In order to ensure an acceptable interior noise environment, future residential uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades in order to maintain an interior noise level not greater than 45 dBA for residential uses. 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.*

Figure 1: Project Location Map

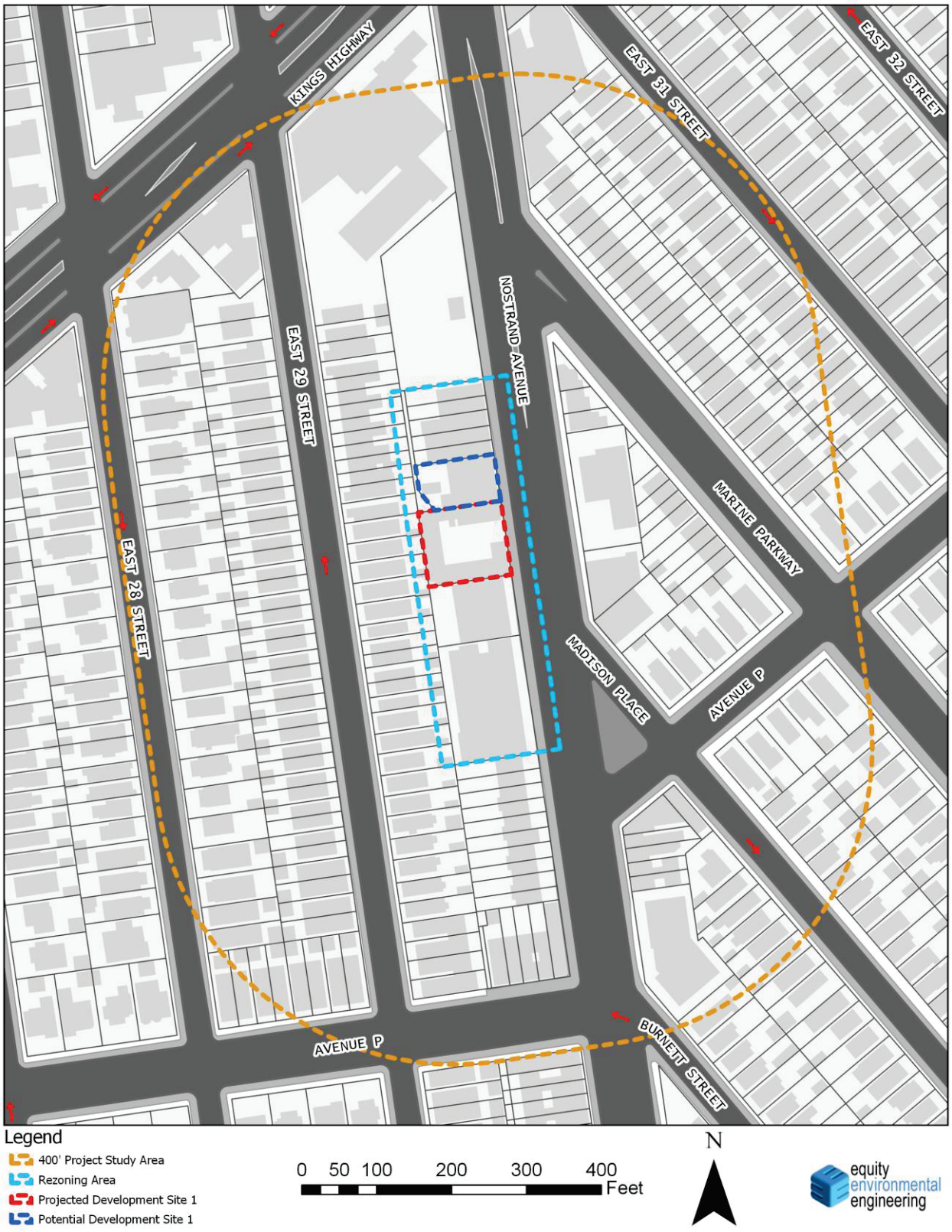


Figure 2: Land Use Map

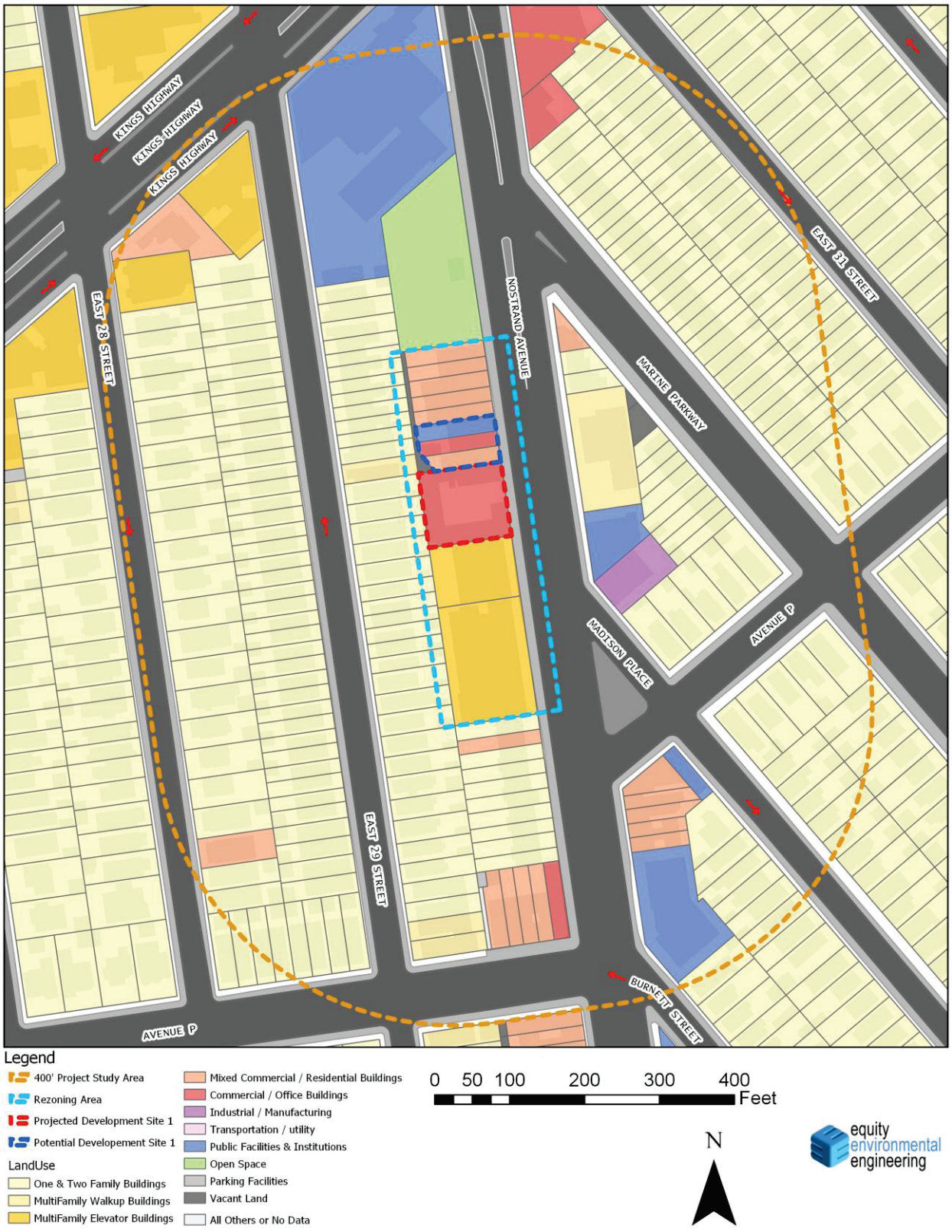


Figure 3: Tax Map

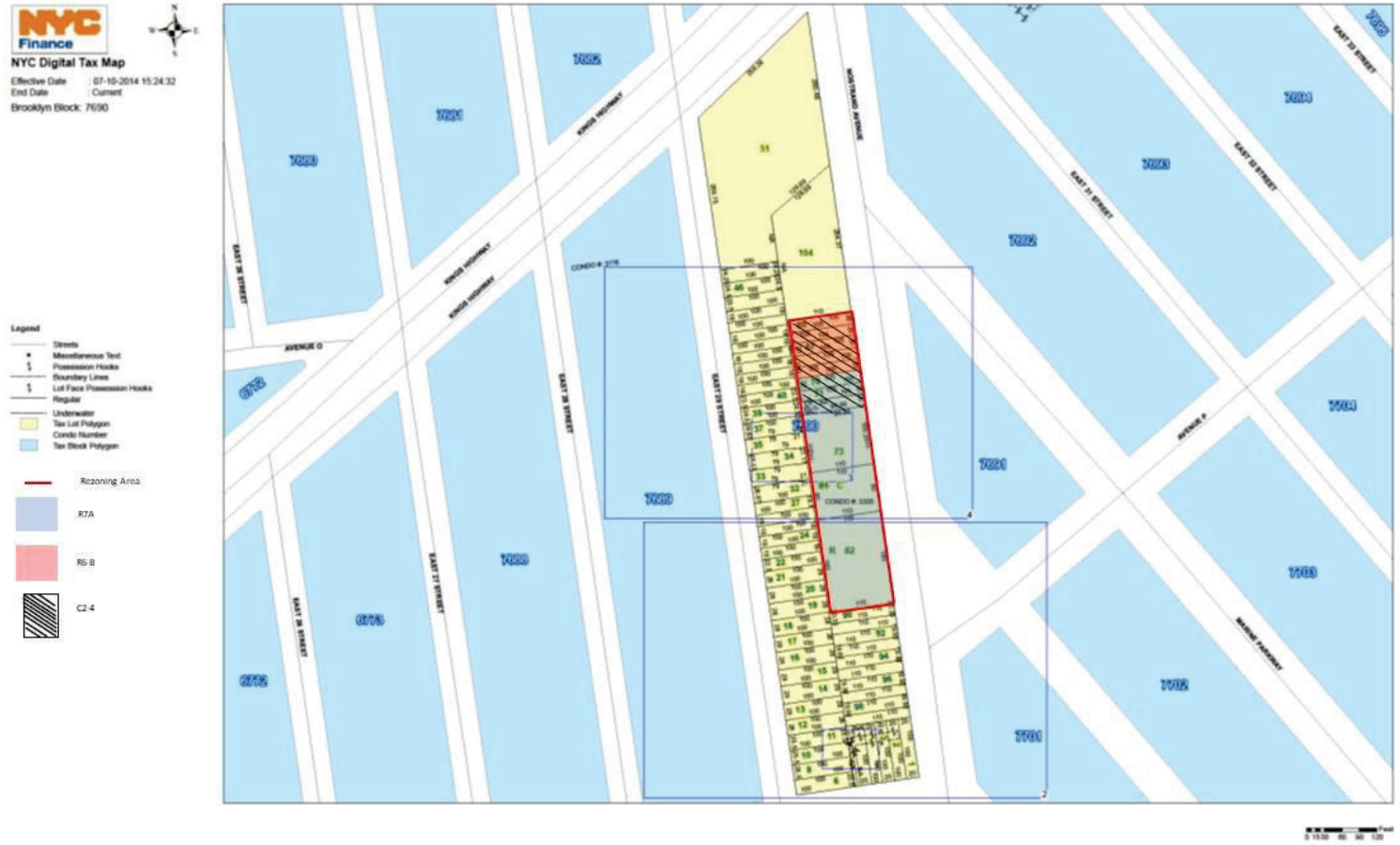
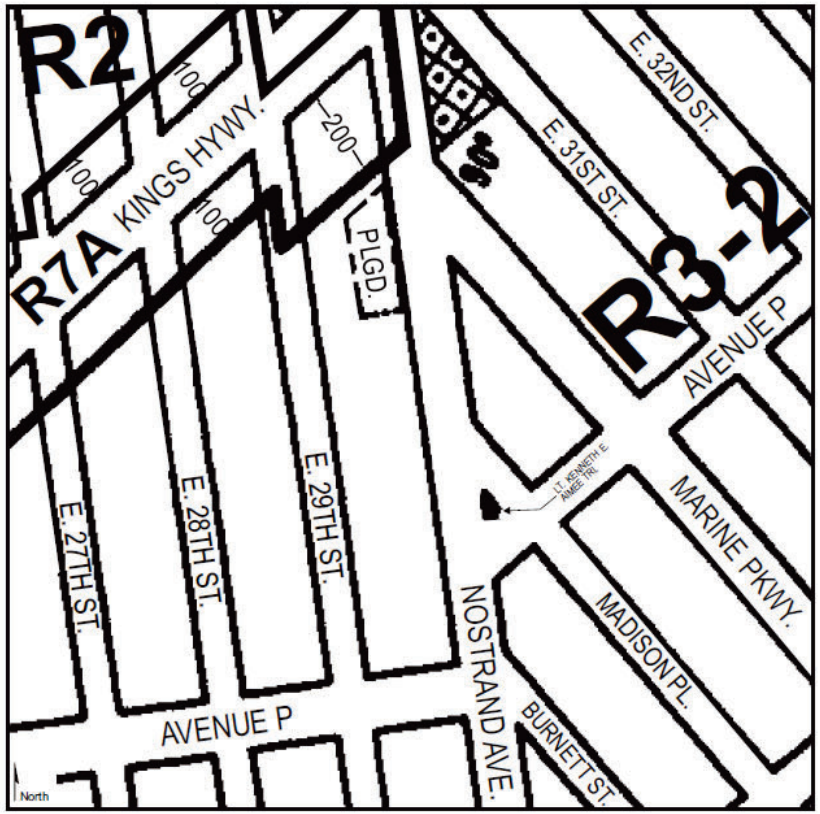
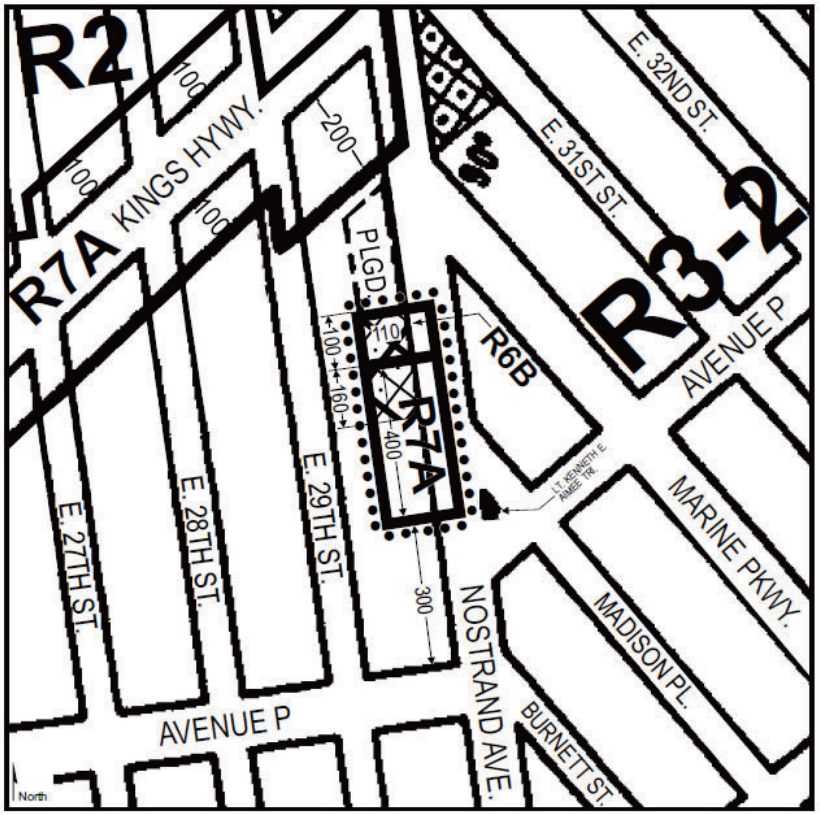


Figure 4: Zoning Change Map

Zoning Change Map

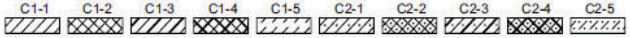


Current Zoning Map (23b)



Proposed Zoning Map (23b) - Area being rezoned is outlined with dotted lines

Changing a R3-2 district to a R7A district;
changing a R3-2 district to a R7A/C2-4 district;
and changing a R3-2 district to a R6B/C2-4 district.



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.

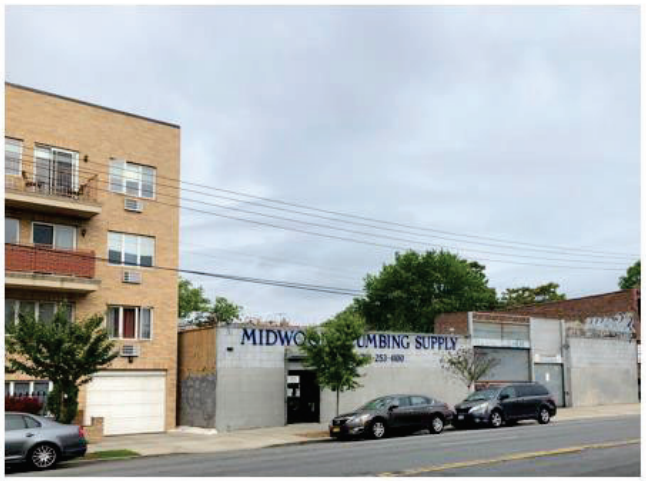
Figure 5: Existing Zoning Map



Figure 6: Photo Key



01 VIEW SOUTH ON NOSTRAND AVE. AT THE REZONING AREA



02 VIEW OF PROJECT SITE FROM EAST SIDE OF NOSTRAND AVE.





03 VIEW NW TOWARDS PROJECT SITE FROM MADISON PLACE

1.0 PROPOSED ACTION

1.1 Introduction

The Applicant, Mikerose Realty, Inc., proposes a zoning map amendment to rezone Block 7690, Lots 65, 66, 67, 68, 69, 70, 71, 72, 73, 81/7501, 82, and 240 (the "Affected Area"), in the Madison neighborhood within Brooklyn Community District 15, from an R3-2 zoning district to R7A/C2-4 (Lots 73, 72, 71, 70, and a portion of 240); R6B/C2-4 (Lots 65, 66, 67, 68, 69, and a portion of 240); and R7A (Lots 81/7501 and 82) zoning districts. In addition, the Applicant proposes a text amendment to Zoning Resolution ("ZR") Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing ("MIH") Areas for Community District 15, Brooklyn to establish an MIH Area coterminous with the Affected Area. The Applicant proposes mapping both MIH Option 1 and Option 2.

The Proposed Actions would facilitate the development of 2892 Nostrand Avenue (Block 7690, Lot 73) (the "Development Site") with a new nine-story mixed residential, commercial, and community facility building with 54,436 gross square feet (GSF) (50,741 zoning square feet (ZSF); 4.60 FAR) of floor area. There would be 4,685 GSF (3,770 ZSF; 0.34 FAR) of Use Group ("UG") 6 commercial floor area on the first floor served as local retail, 4,782 GSF (3,584 ZSF; 0.32 FAR) of UG 4 community facility floor area on the second floor served as medical office, and 44,969 GSF (43,387 ZSF; 3.93 FAR) of residential floor area on floors two through nine. In total, 55 dwelling units will be provided with 41 being market rate and 14 being permanently affordable per MIH Options 1. The Proposed Development would have a height of 93 feet with a base height of 73 feet and a 10-foot setback at the seventh floor. It would have a 30-foot rear yard, no side yards, and would have a lot coverage of 59 percent. 24 vehicular and 22 bicycle parking spaces would be provided in the enclosed garage at cellar level accessible by a curb cut on Nostrand Avenue.

The Proposed Actions are discretionary actions subject to environmental review. The NYC Department of City Planning shall be the lead agency on behalf of the NYC City Planning Commission for environmental review under CEQR.

1.2 Background

Block 7690, Lots 240, 65, 66, 67, 68, 69, 70, 71, 72, 73, 81/7501, and 82 (the Affected Area) are shown in **Figures 1 and 4**.The affected area is on Nostrand Avenue just south of Kings Highway. The Affected Area has been zoned R3-2 since the original zoning district was created in 1961.

The Affected Area is located immediately south of the northeastern edge of the Homecrest Rezoning area (Adopted February 15, 2006; C 060129 ZMK). The Homecrest Rezoning affected approximately 70 blocks of Brooklyn Community District 15, bounded by Coney Island Avenue to the west, Kings Highway to the north, Ocean Avenue on the east, and Avenue S to the south. The intent of the rezoning was to preserve the existing neighborhood scale and character with lower density and contextual zoning districts, while preserving residential development options on selected wide streets and side streets near subway stations. As part of the rezoning, 47 blocks were rezoned from R6 to R7A, including the area north of the Affected Area.

The Midwood Rezoning (effective April 5, 2006, C 060130 ZMK) area is north of the Project Area running along the northern portion of Kings Highway. The Midwood Rezoning rezoned approximately 80 predominantly residential blocks generally bounded by Avenue H to the north, Ocean Avenue to the east, Avenue P and Kings Highway to the south, and Coney Island Avenue

to the west. The Midwood Rezoning mapped R7A and C4-4A (R7A equivalent) zoning districts to permit new, higher density residential development on selected wide streets including Avenue J, Avenue K, the Avenue M commercial corridor, Ocean Avenue, Coney Island Avenue, and Kings Highway.

There have been four Board of Standards and Appeals ("BSA") cases in the immediate area of the affected area. The variance for the Development Site was originally granted in 1951 and extended three times to 1986 to permit a nonconforming use. The three variances issued to other properties have all been to increase bulk and have been granted in the last 12 years, which suggests that the current zoning district is out of sync with modern land use pressures in the area.

313-51-BZ
On October 23, 1951 the Board of Standards and Appeals granted a variance for the Development Site to permit the use of woodworking machinery and equipment so as to use the Development Site as a cabinet making shop, accessory to the lumber storage on the premises. The Board of Standards and Appeals extended this variance on July 18, 1961, October 5, 1971, and May 11, 1982. The variance expired on July 18, 1986.

25-06-BZ
On October 16, 2007 the Board of Standards and Appeals granted a variance for 2908 Nostrand Avenue, Brooklyn (Block 7690, Lot 79 and 80 (now Lots 1001-1048)), in the affected area, to permit the construction of a multi-family residential building, contrary to floor area, lot coverage, wall height, total height, density, and front and side yards. These waivers were granted, in part, in order to facilitate a reasonable return, because of the significant environmental remediation required at the site. These waivers permitted a building with, "a maximum of four stories including any basement, a maximum of 15 dwelling units, a total height and streetwall height of 36'-0", a floor area of 20,856 square feet (2.37 FAR), a front yard depth of 10'-0", a rear yard depth of 30'-0", a lot coverage of 64 percent, and a minimum of 15 parking spaces."

6-13-BZ
On March 4, 2014 the Board of Standards and Appeals granted a variance for 2899 Nostrand Avenue, Brooklyn (Block 7691, Lot 13), east of the Project Area across Nostrand Avenue, to permit the construction of a synagogue and school (Yeshiva Ohr Yisrael), contrary to floor area, lot coverage, side yard, rear yard, sky exposure plane, and parking regulations. These variances permitted a building built to a maximum of four stories, 20,420 square feet floor area (3.75 FAR), a wall height of 52 feet, and a rear setback of 15 feet at the third and fourth stories.

254-13-BZ
On March 31, 2015 the Board of Standards and Appeals granted a variance for 2881 Nostrand Avenue, Brooklyn (Block 7691, Lot 19), east of the Project Area across Nostrand Avenue, to permit the construction of a multi-family residential building, contrary to floor area, maximum number of dwelling units, front yards, lot coverage, and height. These variances were granted in order to facilitate a reasonable return, in part, because of the significant environmental remediation that needed to be done on the site. These waivers permitted a building with specifications as follows: four stories with a height of 40 feet, 21,827 square feet of floor area (1.71 FAR), 19 apartments, no front yard, side yards of 20 feet and 15 feet, a 30-foot rear yard, 56 percent lot coverage, and 19 parking spaces.

1.3 Description of Surrounding Area

The Affected Area is in the Madison neighborhood of Brooklyn, Community District 15. The Flatlands and Marine Park neighborhoods are also considered part of the surrounding area. Nostrand Avenue is a significant corridor in this area of Brooklyn and developed with a wider range of uses than the surrounding area. Kings Highway is also a major corridor in this area and developed with medium-density residential uses; the two streets intersect just north of the affected area. Land uses within the 400-foot surrounding area are predominantly low-density residential uses outside of those uses located along these corridors. Medium-density residential uses, commercial uses, and community facility uses are developed along Nostrand Avenue and Kings Highway in this area.

The surrounding area is generally developed with low-rise one- and two-family homes outside of the areas along or near Kings Highway and Nostrand Avenue which are developed with a mix of low-rise and mid-rise residential buildings, low-rise mixed residential and commercial buildings, and low-rise public facilities and institutions. Larger buildings, ranging from six- to-nine stories in height, are typically located along Kings Highway at the end of each block, while mid-block buildings range from one- to four-stories.

Zoning in the surrounding area is generally low-density residential, with medium-density residential districts along Kings Highway. The Affected Area is located at the northern edge of a R3-2 zoning district (**see Figure 4**). Zoning to the north of the Affected Area, along Kings Highway, is R7A.

Kings Highway, bounding the Affected Area to the north, is a principal arterial roadway running northeast-southwest with two moving lanes in each direction and curbside parking along separate local service roads. Nostrand Avenue bounds the Affected Area to the east and is also a principal arterial roadway running north-south with two moving lanes in each direction and curbside parking. Both Kings Highway and Nostrand Avenue are wide streets.

The traffic grid is irregular. The streets east of Nostrand Avenue and those to the west are disjoint which results in several irregular blocks and intersections east of the affected area.

The Aimee Triangle, directly east of the Affected Area, provides stops for the B44 and the BM4 buses. Approximately 700 feet north, along Kings Highway, stops for the B7 and B82 buses are available. The Kings Highway Station, three-quarters of a mile to the west, is served by the MTA B and Q subway lines. Additionally, The B82 and B44 buses have Select Bus Service (SBS) routes, which provides a complementary service to the subway system by connecting neighborhoods to subway stations and major destinations.

1.4 Description of Affected Area

The Affected Area is located along Nostrand Avenue on Block 7690, between Kings Highway and Avenue P in the Madison neighborhood within Brooklyn Community District 15. It is currently zoned R3-2. The Project Area is bounded by the PFC Thomas Norton Memorial Playground to the north; a line 110 feet west of Nostrand Avenue, running parallel to it; a line 300 feet north of Avenue P, running parallel to it; and Nostrand Avenue to the west.

The Development Site

2892 Nostrand Avenue, Block 7690, Lot 73 is an approximately 11,000 square foot lot improved with a one-story, 13 feet high 0.46 FAR non-conforming commercial building, built in 1931, currently occupied by a plumbing supply business. There is one curb cut on this lot. This lot has

approximately 100 feet of frontage on Nostrand Avenue and is approximately 110 feet deep. One person currently works in this building.

Non-Development Sites

2872 Nostrand Avenue, Block 7690, Lot 65 is an approximately 2,100 square foot lot improved with a two-story, 22 feet high 1.21 FAR legally non-conforming mixed residential (UG 2) and commercial building (UG 6) built in 1931 with two dwelling units. This lot has approximately 20 feet of frontage on Nostrand Avenue and is approximately 105 feet deep. The Applicant estimates that no employees work in this building.

2874 Nostrand Avenue, Block 7690, Lot 66 is an approximately 2,100 square foot lot improved with a two-story, approximately 22 feet high 1.21 FAR legally non-conforming mixed residential and commercial building built in 1931 with two dwelling units. This lot has approximately 20 feet of frontage on Nostrand Avenue and is approximately 105 feet deep. It is currently occupied by an accounting firm. The Applicant estimates that two employees work in this building.

2876 Nostrand Avenue, Block 7690, Lot 67 is an approximately 2,100 square foot lot improved with a two-story, 23 feet high, 1.45 FAR legally non-conforming mixed residential and commercial building built in 1931 with two dwelling units. This lot has approximately 20 feet of frontage on Nostrand Avenue and is approximately 105 feet deep. In 2015, a job application was filed at the Department of Buildings (Job No. 321085044) to convert this building to a community facility use and increase the FAR to 1.68, but it was disapproved.

2880 Nostrand Avenue, Block 7690, Lot 68 is an approximately 2,100 square foot lot improved with a two-story, approximately 20 feet high 1.43 FAR legally non-conforming mixed residential and commercial building built in 1931. This lot, also owned by the Applicant, has approximately 20 feet of frontage on Nostrand Avenue and is approximately 105 feet deep. It is currently occupied by a liquor store and one dwelling unit controlled by the Applicant. The Applicant estimates that two employees work in this building.

2882 Nostrand Avenue, Block 7690, Lot 69 is an approximately 2,100 square foot lot improved with a two-story, 20 feet high 1.43 FAR legally non-conforming mixed residential and commercial building built in 1931 with one dwelling unit. This lot has approximately 20 feet of frontage on Nostrand Avenue and is approximately 105 feet deep. It is currently occupied by a Jewish organization serving people with special needs.

2884 Nostrand Avenue, Block 7690, Lot 70 is an approximately 2,100 square foot lot improved with a two-story, 25 feet high 1.83 FAR legally non-complying public facility (UG 3) built in 1931. This lot has approximately 20 feet of frontage on Nostrand Avenue and is approximately 105 feet deep. It is currently occupied by a Jewish special education school for children.

2886 Nostrand Avenue, Block 7690, Lot 71 is an approximately 2,100 square foot lot improved with a two-story, approximately 20 feet high 1.22 FAR legally non-conforming commercial building built in 1931. This lot has approximately 20 feet of frontage on Nostrand Avenue and is approximately 105 feet deep. It is currently occupied by an upholstery shop. The Applicant estimates that two employees work in this building.

2890 Nostrand Avenue, Block 7690, Lot 72 is an approximately 1,910 square foot lot improved with a two-story, 20 feet tall 1.33 FAR legally non-conforming mixed residential and commercial

building built in 1931. This lot has approximately 20 feet of frontage on Nostrand Avenue and is approximately 87 feet deep.

Nostrand Avenue, Block 7690, Lot 240 is an approximately 370 square foot vacant lot with no street frontage. It is bounded by Block 7690, Lots 65-73, 39-43, and 104. The property was auctioned off by the City of New York in 1977 and transferred to Wadsworth Richmond Corp. Since then, it appears that in 2008 the City of New York put a tax lien on the property.

2910 Nostrand Avenue, Block 7690, Lot 81/7501 is an approximately 8,800 square foot lot improved with a four-story residential building (UG 2) with 15 dwelling units. There are two curb cuts on this lot. This lot has approximately 80 feet of frontage on Nostrand Avenue and is approximately 110 feet deep. This building was built in 2010 pursuant to variance adopted by the Board of Standards and Appeals Resolution (25-06-BZ, October 9, 2007) that permitted a building with, “a maximum of four stories including any basement, a maximum of 15 dwelling units, a total height and streetwall height of 36’-0”, a floor area of 20,856 square feet (2.37 FAR), a front yard depth of 10’-0”, a rear yard depth of 30’-0”, a lot coverage of 64 percent, and a minimum of 15 parking spaces.”

2922 Nostrand Avenue, Block 7690, Lot 82 is an approximately 17,600 square foot lot improved with a six-story, 60 feet high 2.84 FAR legally non-complying residential building built in 1960 with 69 dwelling units. This lot has approximately 160 feet of frontage on Nostrand Avenue, is approximately 110 feet deep, and has one curb cut.

The Affected Area is shown in **Figures 1 through 7** and summarized below. The affected area is entirely zoned R3-2 which permits low-density, residential development up to 0.50 FAR and community facility development up to 1.00 FAR. All of the lots in the Affected Area are interior lots fronting on Nostrand Avenue. The Lots within the rezoning area are described below in **Table 1.4-1.**

Table 1.4-1: Affected Area Existing Conditions

Block	Lot	Site ID	Lot Area (ft)	Existing Land Use	Estimated FAR
7690	65	N/A	2,100	Mixed Residential/Commercial	1.21
	66		2,100	Mixed Residential/Commercial	1.21
	67		2,100	Institutional	1.45
	68		2,100	Mixed Residential/Commercial	1.43
	69		2,100	Mixed Residential/Commercial	1.43
	81/7501		8,800	Multifamily	2.37
	82		17,600	Multifamily Co-Op	2.84
	240		370	Vacant	0.00
	70	Potential Site 1	2,100	Institutional	1.83
	71		2,100	Commercial/Office	1.22
	72		1,910	Mixed Residential/Commercial	1.33
	73	Projected Site 1	11,031	Commercial	0.45

1.5 Description of the Development Site

The Applicant-owned Development Site is Block 7690, Lot 73 located at 2892 Nostrand Avenue. The structure was built in 1931, and, according to Department of Building records, has been used for lumber supply, cabinet making accessory use, office space, for sales and display, and most recently as a plumbing supply business. Historic aerials of the area indicate that the lot was vacant and unimproved at least as late as 1924. The site is developed with surface parking and several connected one-story warehouse structures occupied by Midwood Plumping Supply, which is an active business. The site is gated and developed along its entire frontage.

1.6 Description of Proposed Development

The Applicant proposes to demolish the existing structure on the development site and construct a new, 9-story, 93-foot-tall, mixed-use building with approximately 54,436 GSF (50,741 ZSF; 4.60 FAR) of floor area. There would be 4,685 GSF (3,770 ZSF; 0.34 FAR) of UG 6 commercial floor area on the first floor served as local retail, 4,782 GSF (3,584 ZSF; 0.32 FAR) of UG 4 community facility floor area on the second floor served as medical office, and 44,969 GSF (43,387 ZSF; 3.93 FAR) of residential floor area on floors two through nine. In total, 55 dwelling units will be provided with 41 being market rate and 14 being permanently affordable per MIH Options 1. The Proposed Development would have a height of 93 feet with a base height of 73 feet and a 10-foot setback at the seventh floor. It would have a 30-foot rear yard, no side yards, and would have a lot coverage of 59 percent. 24 vehicular and 22 bicycle parking spaces would be provided in the enclosed garage at cellar level accessible by a curb cut on Nostrand Avenue.

1.7 Action(s) Necessary to Facilitate the Project

There are two actions necessary to facilitate the Proposed Project:

1) A Zoning Map Amendment to rezone an R3-2 zoning district to R7A/C2-4 (Lots 73, 72, 71, 70, and a portion of 240), R6B/C2-4 (Lots 65, 66, 67, 68, 69, and a portion of 240), and R7A (Lots 81/7501 and 82) zoning districts within the Affected Area.
2) A Zoning Text Amendment to ZR Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Areas for Community District 15, Brooklyn, to establish the Affected Area as an MIH Area, Program Option 1 and 2.

Together, these actions are the “Proposed Actions.”

1.8 Purpose and Need

The Affected Area is overwhelmingly typified by non-conforming uses and non-complying bulk. The Affected Area does not contain complying/conforming buildings that could be developed as-of-right under the existing zoning. Of the 12 lots in the Project area, eight contain non-conforming commercial uses, two lots are non-complying concerning residential or community facility FAR, one lot required a variance to have a viable development, and one lot with no frontage is vacant. Every tax lot in the Affected Area, other than the Development Site, that is improved with a building, substantially exceeds the maximum FAR allowed under the current zoning. The average FAR for those 10 sites is approximately 1.6, which is more than three times higher than the base residential FAR in R3-2 zoning districts, for buildings without sloped roofs such as those in the

Project Area. The proposed changes in the residential districts (R7A/C2-4 for Lots 73, 72, 71, 70, and a portion of 240; R6B/C2-4 for Lots 65, 66, 67, 68, 69, and a portion of 240; and R7A for Lots 81/7501 and 82) would bring all of the buildings into compliance and conformance while allowing for a tailored step up in density. Specifically, density would be lower at the north end of the Project Area, adjacent to the playground, and higher at the southern end closest to the Kenneth E. Aimee Triangle, where Madison Place, Avenue P, and Nostrand Avenue converge, thereby reinforcing existing land use patterns while permitting needed growth.

1.9 Analysis Framework

Build Year

The analysis year for the Proposed Actions is 2023 based on an 18-month period for the environmental review and ULURP processes and an 18-month construction schedule for the Proposed Development. No other sites are expected to redevelop as a result of the Proposed Actions in the foreseeable future as discussed in detail below and as reflected by the analysis year.

The Technical Manual categorizes soft sites as either “projected” or “potential” development sites. Projected development sites are defined as those sites that are more likely to be developed as a result of the proposed project. Potential sites are defined as sites that could be developed but have been determined to have less development potential than the projected development sites, based on observed historic and current market conditions, location, site configuration, proximity to transit, infrastructure and other facilities, and other factors that affect the likelihood that they would be developed under the proposed actions. Projected development sites are analyzed for both site-specific and density-related effects whereas potential development sites are only analyzed for site-specific effects.

Pursuant to 2014 CEQR Technical Manual methodology, sites may be considered ‘soft’ if they are built to substantially less than the maximum permitted floor area ratio and are of a sufficient size or could be assembled into a parcel of sufficient size, to support a feasible development. Sites that have recently been developed or redeveloped are considered less likely to be soft, due to the significant recent investment in the current use.

The analysis which follows compares the difference between the future without the proposed actions (no-action condition) and the future with the proposed actions (with-action condition) for the 2023 analysis year. This EAS studies the potential for individual and cumulative environmental impacts related to the proposed actions.

Two sites were determined to be soft and analyzed in this environmental review as discussed below. The remaining sites are not anticipated to redevelop as a result of the Proposed Actions for the reasons described below.

- Lots 65, 66, 67, 68, and 69 are all 2,100 square foot lots that are separately owned with long-tenanted active uses. Given neighborhood trends, it is not expected that they would assemble under common ownership and redevelop—the incremental density facilitated by the Proposed Actions (for these lots, rezoning from R3-2 to R6B) are not anticipated to provide sufficient economic incentive for redevelopment. The purpose of the rezoning of these lots is to bring them into conformance and compliance with zoning, not to induce development.
- Lot 82 is an approximately 17,600 square foot lot improved with a 69-unit multi-family residential building that is cooperatively owned, making redevelopment unlikely. Further,

the transfer of development rights is also considered unlikely because of neighborhood development trends and the co-op ownership structure.

- Lot 81/7501 is an approximately 8,800 square foot lot improved with a 15-unit condominium building that was constructed in 2010. Because the building was constructed so recently it is not expected to redevelop, and because of neighborhood development trends a transfer of development rights is also not anticipated.

Existing conditions for the remaining sites within the affected area are described above in **Section 1.4**.

Future Without the Proposed Actions

In the future without the Proposed Actions existing conditions are expected to continue. Under the existing R3-2 zoning, all lots within the Affected Area would be significantly overbuilt under the current R3-2 zoning district, and based on current neighborhood trends and existing active use of the buildings no new development is expected to occur. The buildings on Lots 65, 66, 67, 68, 69, 70, 71, 72, and 73 contain legal non-conforming uses and/or non-complying bulk. Lot 240 is an unimproved small, narrow lot that runs along the rear of lots 65 through 72 and is not developable. Lots 81/7501 and 82 are improved with 2.37 FAR and 2.84 FAR cooperatively owned buildings, respectively, and would not be able to develop further within the R3-2 zoning district. A summary of the No-Action condition for Potential Development Site 1 and Projected Development Site 2 is provided in **Table 1.9-1.**

Future With the Proposed Actions

In the future with the Proposed Actions Block 7690, Lots 73, 72, 71, 70, and a portion of 240 would be rezoned to R7A/C2-4; Lots 65, 66, 67, 68, 69, and a portion of 240 would be rezoned to R6B/C2-4; and Lots 81/7501 and 82 would be rezoned to R7A. The Applicant-owned Lot 73 would be developed with the Proposed Development.

Projected Development Site 1
In the future with the Proposed Actions, Lot 73 would be developed with the proposed development, a new, 9-story, 93-foot-tall, mixed-use building with approximately 54,436 GSF (50,741 ZSF; 4.60 FAR) of floor area. There would be 4,685 GSF (3,770 ZSF; 0.34 FAR) of UG 6 commercial floor area on the first floor served as local retail, 4,782 GSF (3,584 ZSF; 0.32 FAR) of UG 4 community facility floor area on the second floor served as medical office, and 44,969 GSF (43,387 ZSF; 3.93 FAR) of residential floor area on floors two through nine. In total, 59 dwelling units will be provided with 44 being market rate and 15 being permanently affordable per MIH Options 1. The Proposed Development would have a height of 93 feet with a base height of 73 feet and a 10-foot setback at the seventh floor. It would have a 30-foot rear yard, no side yards, and would have a lot coverage of 59 percent. 24 vehicular and 22 bicycle parking spaces would be provided in the enclosed garage at cellar level accessible by a curb cut on Nostrand Avenue.

Though the Applicant is seeking to set aside up to 15 units for MIH, but for a conservative analysis, this RWCDS will assume the most conservative assumption in each respective technical area. Therefore, 20% (12) of the total 59 dwelling units will be analyzed as the number of the affordable units set aside in this EAS.

Potential Development Site 1
The assemblage and development of Lots 70, 71, and 72 may be induced as a result of the proposed rezoning. The assemblage of these lots under a With-Action condition is assumed as

each lot would be significantly underdeveloped under the proposed zoning. These lots are considered more likely to assemble and redevelop as compared to Lots 65 through 69 because of the additional density provided by an R7A district as compared to an R6B district. Potential Development Site 1 was categorized as a potential rather than projected site because the lots are under separate ownership, tenanted with long-standing active uses, and the site would be fairly small given neighborhood trends.

Block 7690, Lots 70, 71, and 72 would assemble to form a 6,110 SF lot. Assuming a typical split between residential and commercial uses of the mixed-use buildings in the area and the property owners' intent to maximize the bulk under the proposed R7A/C2-4 zoning district, the lot would be developed with a 30,196 GSF (28,107 ZSF) 9-story, 95-foot-tall building. 4,131 GSF (3,972 ZSF) of commercial space would be provided on the first floor. Floors 2-9 would have 26,065 GSF (24,135 ZSF) of residential space, with 26 total dwelling units (5 affordable units assuming MIH Option 1 is pursued). The average dwelling unit size has been assumed to be 1,000 GSF. No parking would be provided as the requirements for residential (15 or fewer spaces waived) and commercial (40 or fewer spaces waived) would not be met.

It is assumed that ground floor development for both Projected Development Site 1 and Potential Development Site 1 would be local retail, and 2nd floor development for Projected Development Site 1 would be community facility use, as per The Applicant's Proposed Development.

For purposes of a conservative analysis the RWCDS will assess the maximum permitted envelope for the urban design and shadows assessment. The shadows assessment will also take into account a reasonable bulkhead height for mechanical equipment. The most conservative assumption related to MIH will be made in each respective technical area, with 20% of dwelling units assumed to be reserved as permanently affordable to households with incomes at or below 80% of the MSA AMI for the purpose of the publicly-funded childcare analysis.

The Projected and Potential Development Sites are shown in **Figure 1.** The RWCDS Analysis Framework described above is shown in **Table 1.9-1.**

Density-related aspects of environmental review (e.g., land use, zoning and public policy; open space; transportation; construction) will be based on the increment between the no-action and with-action condition on Projected Development Site 1 as shown in Table **1.9-2** as potential sites are not accounted for in density-related analyses.

The existing, no-action, and with-action conditions for Projected Development Site 1 is shown in **Table 1.9-2 Incremental Analysis Table.**

Table 1.9-1: Analysis Framework – Existing, No-Action and With-Action Calculations

Site Info				Existing/No-Action Conditions					With-Action Condition					
Site ID	Block	Lot	Lot Area (gsf)	Zoning	Res. (gsf)	DU	CF (gsf)	Com. (gsf)	Zoning	Res. (gsf)	DU	Affordable DU	CF (gsf)	Com. (gsf)
Projected Site 1	7690	73	11,031	R3-2	0	0	0	5,016	R7A/C2-4	44,969	59	12	4,782	4,685
Potential Site 1		70	6,110		0	0	3,840	5,100		26,065	30	6	0	4,131
		71												
		72												

DU = Dwelling Units

CF = Community Facility

gsf = gross square feet

Res. = Residential

Com. = Commercial

Table 1.9-2: Incremental Analysis Table

Use	No-Action Condition	With-Action Condition	Increment
Residential[1]	0 DUs	59 DUs	59 DUs
	0 gsf	44,969 gsf	44,969 gsf
Market Rate (DUs)	0	47	47
Affordable (DUs)[2]	0	12	12
Comm. Facility (gsf)	0	4,782	4,782
Commercial (gsf)	5,016	4,685	-331
Residents[3]	0	158	158
Workers[4]	1	33	32

Notes: 'DUs' indicates Dwelling Units; 'gsf' indicates gross square feet

[1] Average Unit Size assumed to be 760 gsf

[2] Assumed 20 percent of residential floor area is reserved as affordable to households with incomes at or below 80 percent of the AMI for the publicly-funded childcare analysis.

[3] Assumes 2.67 persons per residential dwelling unit per 2018 Brooklyn Community District 15 Census Data

[4] Assumes 1 employee per 250 SF community facility medical office space; 3 employees per 1,000 SF retail/community facility

2.0 ENVIRONMENTAL REVIEW

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. This section considers existing conditions, development trends, and zoning and other public policies in relation to the affected area. Because the proposed actions involve discretionary zoning actions, a preliminary assessment of Land Use, Zoning, and Public Policy is provided.

Methodology

Existing land uses were determined by reference to the New York City Zoning and Land Use (Zola) database and PLUTOTM 19v1 shapefiles. These uses were then confirmed through site visits. The evaluation of lots within the 400-foot Study Area were performed with reference to New York City Zoning Maps and the Zoning Resolution of the City of New York and served as the basis for the zoning evaluation of the Future No-Action and Future With-Action Conditions. Public Policy research was performed through an evaluation of New York City Department of City Planning (NYCDCP) and other city agencies programs and documentation.

2.1.1 Land Use

The *CEQR Technical Manual* suggests that a land use, zoning and public policy study area should generally extend 400 feet from the affected area. Existing land uses within approximately 400 feet of the affected area are presented in **Figure 2.** The proposed zoning map amendment would affect the following lots: Block 7690, Lots 65, 66, 67, 68, 69, 70, 71, 72, 73, 81/7501, 82, and 240.

Existing Conditions

Land Use Study Area
As stated in the project description, Nostrand Avenue is a significant corridor in this area of Brooklyn and developed with a wider range of uses than the surrounding area. Kings Highway is also a major corridor in this area and developed with medium-density residential uses; the two streets intersect just north of the affected area. Land uses within the 400-foot study are predominantly low-density residential uses outside of those uses located along these corridors. Medium-density residential uses, commercial uses, and community facility uses are developed along Nostrand Avenue and Kings Highway in this area.

Development along Nostrand Avenue varies widely, including medium-density mid-block multifamily buildings and non-conforming and/or non-complying mixed residential and commercial buildings at the intersection of Avenue P and Nostrand Avenue and along Nostrand Avenue. One school and two synagogues are on the eastern side of Nostrand Avenue, and there is an industrial building that appears to be vacant at the intersection of Madison Place and Nostrand Avenue. Several buildings have been developed pursuant to BSA action, as described in the project description, contributing to the varied character of the area.

Affected Area
A full breakdown of each site within the Affected Area can be found in **Section 1.4**, **Description of Affected Area** or **Table 2.1-1** below**.**

Table 2.1-1: Land Use in the Affected Area

Address	Lot (Block 7690)	Lot Area	Built SF	Existing FAR	Use
2872 Nostrand Avenue	65	2,100	2,540	1.21	Residential/Commercial
2874 Nostrand Avenue	66	2,100	2,540	1.21	Residential/Commercial
2876 Nostrand Avenue	67	2,100	3,040	1.45	Institution
2880 Nostrand Avenue	68	2,100	3,000	1.43	Residential/Commercial
2882 Nostrand Avenue	69	2,100	3,000	1.43	Residential/Commercial
2884 Nostrand Avenue	70	2,100	3,840	1.83	Institution--School
2886 Nostrand Avenue	71	2,100	2,560	1.22	Commercial/Office
2890 Nostrand Avenue	72	1,910	2,540	1.33	Residential/Commercial
2892 Nostrand Avenue	73	11,031	5,016	0.46	Commercial
2910 Nostrand Avenue	81/7501	8,800	22,805	2.37	Multi-family Residential
2922 Nostrand Avenue	82	17,600	50,000	2.84	Multi-family Residential
Nostrand Avenue	240	370	0	0	Vacant

Analysis

Future No-Action Condition

Land Use Study Area
Existing land use patterns are expected to continue in the surrounding area in the future without the proposed action. There are no known major land use changes anticipated in the foreseeable future within the land use study area. Any new residential development in surrounding areas would be governed by the underlying low-density, non-contextual R3-2 zoning district and the medium-density, contextual R7A zoning district to the north along Kings Highway.

There is one recently completed project within the Study Area located at 2881 Nostrand Avenue constructed in 2019. The new building is approximately 27,000 GSF with 19 dwelling units and 4 stories in height. Currently, no active construction project exists within the Study Area.

Affected Area
Conditions are expected to remain as they currently exist within the Affected Area.

Future With-Action Condition

Land Use Study Area
Land use and development patterns in the Land Use Study Area are anticipated to remain unchanged in the future with the proposed actions with the exception of the development at 2881 Nostrand. Any new residential development in the surrounding area would be consistent with the medium-density R7A contextual zoning along Kings Highway or low-density, non-contextual R3-2 zoning in the areas south of Kings Highway.

Affected Area
In the future with-action condition projected development site 1 would be developed with a new medium-density mixed use building with ground floor retail, second floor community facility use, and residential above. Parking would be provided in the cellar.

The density and uses permitted by the proposed actions would be consistent with the goals of the Homecrest Rezoning from 2006. The portion of the Affected Area proposed to be rezoned R6B/C2-4 would bring the existing non-conforming buildings on Lots 65-69 into conformance with the underlying zoning. No other changes to land use within the Affected Area or within the 400-foot Study Area are foreseen as a result of the Proposed Actions. The Proposed Actions would be consistent with existing land use patterns within the surrounding area and permit medium-density mixed use on a wide street that is appropriate for such development and use. Therefore, the Proposed Actions would not result in any significant adverse impacts to land use.

2.1.2 Zoning

The *CEQR Technical Manual* suggests that a zoning study area should extend 400 feet from the affected area. Existing zoning districts within approximately 400 feet of the Project Site are presented in **Figure 2.1-2.** The proposed zoning map amendment would affect the following lots: Block 7690, Lots 65, 66, 67, 68, 69, 70, 71, 72, 73, 81/7501, 82, and 240.

Existing Conditions

Zoning Study Area

The zoning districts within 400 feet of the Affected Area are R3-2, R4, R7A, and R3-2/C2-2. The Affected Area is zoned R3-2. **Figure 5** shows existing zoning in the Surrounding Area.

Several BSA actions have been approved in the surrounding area to permit uses and density not compliant with the underlying zoning district regulations as described in the Section 1.0, Project Description.

Table 2.1-2: Summary of Existing Zoning Regulations

Zoning District	Type and Use Group (UG)	Floor Area Ratio (FAR)	Parking (Required Spaces)
R3-2	Non-Contextual Residential UGs 1-4	.50 FAR – Residential 1.00 FAR – Community Facility	1 per DU; 50% of IRHU
R4	Non-Contextual Residential UGs 1-4	.75 FAR – Residential 2.00 FAR – Community Facility	1 per DU; 50% of IRHU
R7A	Contextual Residential UGs 1-4	4.60 FAR – Residential (Inclusionary) 4.00 FAR – Community Facility	50 percent of dwelling units and 15 percent of IRHUs (waived if 15 or fewer spaces required)
C2-2	Commercial UGs 1-9, 14	1.00 FAR – Commercial (within R3-2)	1 per 300 SF

Source: Zoning Handbook, New York City Department of City Planning, January 2006

Existing zoning districts in the surrounding area include:

R3-2
R3-2 zoning districts allow all housing types with a minimum lot width of 40 feet for detached residences and 18 feet for all others. Maximum lot coverage is 35 percent and the maximum FAR is 0.5 (plus 0.1 attic allowance). The perimeter wall maximum is 21 feet and the building height maximum is 35 feet. A front yard of at least fifteen feet is required. For detached homes, two side yards are required with a minimum width of five feet each and a minimum total width of 13 feet. For semi-detached one- and two-family homes, one eight-foot side yard is required. For all other dwellings, two eight-foot side yards are required for buildings, or abutting buildings on the same zoning lot with aggregate width of street walls not more than 80 feet. For buildings or abutting buildings where the aggregate width of the street walls exceeds 80 feet, two side yards equal to at least 10 percent of the aggregate width of the street wall shall be provided. One parking space is required for each dwelling unit. Community facilities are permitted at a FAR of 1.0.

R4
R4 zoning districts allow all housing types with a minimum lot width of 40 feet for detached residences and 18 feet for all others. Maximum lot coverage is 45 percent and the maximum FAR is 0.75 (plus 0.2 attic allowance). The perimeter wall maximum is 25 feet, and the building height maximum is 35 feet. A front yard of at least ten feet is required, and if the front yard exceeds ten feet then a front yard depth of 18 feet is required. For detached homes, two side yards are required with a minimum width of five feet each and a minimum total width of 13 feet. For semi-detached one- and two-family homes, one eight-foot side yard is required. For all other dwellings, two eight-foot side yards are required for buildings, or abutting buildings on the same zoning lot with aggregate width of street walls not more than 80 feet, or for buildings or abutting buildings where the aggregate width of the street walls exceeds 80 feet, two side yards equal to at least 10 percent of the aggregate width of the street wall shall be provided. One parking space is required for each dwelling unit. In addition, for sites within predominantly built-up areas within R4 zoning districts, buildings may optionally use the infill zoning provisions at a maximum FAR of 1.35, provided at least 45 percent of the lot area is open space.

R7A
R7A zoning districts are medium density contextual residential zoning districts where the Quality Housing bulk regulations are mandatory. An R7A zoning district is mapped along Kings Highway. Several blocks outside of the Surrounding Area, an R7A zoning district is also mapped along

Ocean Avenue. The maximum residential FAR in an R7A zoning district is 4.0, or 4.6 with inclusionary housing. R7A zoning districts also allow up to 4.0 FAR of community facility use. Above a maximum base height of 65 feet, a 10-foot setback is required on a wide street and a 15-foot setback is required on a narrow street, before rising to a maximum height of 80 feet, or 90 feet with inclusionary housing. Off-street parking is required for 50 percent of all dwelling units, with an exemption from parking for income-restricted units within the Transit Zone, or can be waived if fifteen or fewer spaces are required.

C2-2 Overlay

C2-2 zoning districts are commercial overlay districts mapped within residential zoning districts along streets that serve local retail needs. Typical retail uses include neighborhood grocery stores, restaurants and beauty parlors. C2 zoning districts permit a slightly wider range of uses, such as funeral homes and repair services. In mixed buildings, commercial uses are limited to one or two floors and must always be located below the residential use. When commercial overlays are mapped in R1 through R5 zoning districts, the maximum commercial FAR is 1.0; when mapped in R6 through R10 zoning districts, the maximum commercial FAR is 2.0.

Affected Area

The Affected Area is zoned R3-2 which permits non-contextual residential development at .50 FAR and community facility development at 1.00 FAR.

Analysis

Future No-Action Condition

Zoning Study Area

No changes to zoning are anticipated in the future without the proposed action in the surrounding area. Existing zoning patterns would generally remain.

Affected Area

No changes to zoning are anticipated in the future without the proposed action within the affected area. The affected area would continue to be subject to R3-2 zoning. Lots 65-72 would remain non-compliant and/or non-conforming with existing zoning regulations.

Future With-Action Condition

Zoning Study Area

No changes to zoning would occur in the surrounding area in the future with the proposed action. The surrounding area would continue to be subject to the underlying R3-2 and R7A zoning districts.

Affected Area – R6B/C2-4, R7A/C2-4, and R7A

The Proposed Actions would rezone an R3-2 district to an R7A, R7A/C2-4 and an R6B/C2-4 district as shown in **Figure 5** and would establish the Affected Area as a Mandatory Inclusionary Housing area.

The proposed zoning is consistent with the R7A districts mapped along Kings Highway through the Homecrest Rezoning. The R7A/C2-4 designation would permit medium-density residential development at a maximum FAR of 4.60 for developments with permanent affordable housing set aside pursuant to the MIH program and a maximum FAR of 2.00 for commercial development.

The maximum building height is 95 feet after a setback from the base height of up to 75 feet. Off-street parking is required for 50 percent of the residential dwelling units. Per ZR 23-693, a maximum building height of 65 feet is permitted within 25 feet of an R6B zoning district.

The proposed R6B/C2-4 zoning would permit medium-density residential development at a maximum FAR of 2.20 for developments with a permanent affordable housing set aside pursuant to the MIH program, and a maximum FAR of 2.00 for commercial development. The maximum building height is 55 feet with a qualifying ground floor after a setback from the base height of up to 45 feet. Off street parking is required for 50 percent of the residential dwelling units.

The rezoning of Lots 65-72 would bring these sites into compliance and/or conformance with zoning.

It is the applicant's opinion that the R6B designation is appropriate for the smaller lots north of the applicant-owned development site, due to the lot size, but Lots 70, 71, 72, and part of 240 are proposed to be mapped with the R7A district in order to facilitate the proposed project. Rezoning Lots 70, 71, 72, and part of 240 to R6B would not meet the purpose and need for the Proposed Actions as the transition rule as per ZR 23-693 described above would limit the development potential of Projected Development Site 1.

The Proposed Actions would establish medium-density mixed-use residential districts consistent with the medium-density R7A zoning districts that were created by the Homecrest Rezoning approved in February 2006. It is the applicant's opinion that the proposed zoning district is on a wide street appropriate for such use and density, which is already developed with medium-density residential uses. Therefore, the Proposed Actions would not result in significant adverse impacts to land use and zoning.

2.1.3 Public Policy

The project site is not part of, or subject to, an Urban Renewal Plan (URP), adopted community 197-a Plan, Solid Waste Management Plan, Coastal Zone Boundary, Business Improvement District (BID), Industrial Business Zone (IBZ), or the New York City Landmarks Law. The proposed action is also not a large publicly sponsored project, and as such, consistency with the City's PlaNYC 2030 for sustainability is not warranted.

The project is within the Jamaica Bay Watershed, requiring the completion and submittal of the Jamaica Bay Watershed Protection Plan Project Tracking Form. The completed form can be found in Appendix E. The form was submitted for recording on April 4, 2019.

There are no applicable public policies in place for the Affected Area that require further analysis and the proposed actions would not result in significant adverse impacts related to public policies.

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.

Pursuant to Chapter 7, Section 100 of the 2014 CEQR Technical Manual, Open Space Resources are defined as active and/or passive, and may include, but is not limited to, the following:

- Parks operated or managed by the City, State, or Federal governments and include neighborhood and regional parks, beaches, pools, golf courses, boardwalks, playgrounds, ballfields, and recreation centers that are available to the public at no cost or through a nominal fee, as in the case of recreation centers and golf courses;
- Open space designated through regulatory approvals (such as zoning), including large-scale permits that prescribe publicly accessible open space, such as public plazas;
- Outdoor schoolyards if available to the public during non-school hours;
- Publicly-accessible institutional campuses;
- Esplanades;
- Designated greenways, as shown on the City's Bike Map, and defined as multi-use pathways for non-motorized recreation and transportation along natural and manmade linear spaces such as rail and highway rights-of-way, river corridors, and waterfront spaces;
- Landscaped medians with seating;
- Housing complex grounds, if publicly accessible;
- Nature preserves, if publicly accessible;
- Gardens, if publicly accessible.

The CEQR Technical Manual defines the need for an open space assessment if the proposed action would have a direct or indirect effect on open space resources. Direct effects would occur if the proposed action would result in the physical loss of a public open space; change of use of an open space so that it no longer serves the same user population; limit public access to an open space; or cause increased noise or air pollutant emissions, odors, or shadows on public open space that would affect its usefulness, whether temporary or permanent. Indirect effects would occur if the proposed action would result in an increase of population sufficiently large enough to noticeably diminish the ability of an area's open space to serve future population.

Direct effects to open space are addressed in the sections for those specific technical areas where warranted. Construction impacts to open space are not anticipated as there would be no physical loss of public open space, no change in existing open space so that it no longer serves the same user population, would not limit public access and would not increase noise or air pollutant emissions, odors, or shadows on public open space that would affect its usefulness. An assessment of the effects of the Proposed Actions related to shadows on open space resources is provided in **Section 2.3**.

Methodology

According to the guidelines of the City's CEQR Technical Manual for analysis of residential development, census tracts with at least half of their geographic area within a one-half mile radius of the development site comprise the open space study area. Using current population figures, an open space ratio is calculated for both the future no-action and future with-action scenarios, expressed as the amount of open space acreage per 1,000 user population. Typically, a comparison is made to the median open space ratio, which is 1.50 acres per 1,000 residents, and

the city's planning goal of 2.50 acres per 1,000 residents. A reduction in the open space ratio increment of more than 5 percent over future no-action conditions generally warrants a more detailed analysis, unless the open space ratio is below the citywide average, in which case even a small reduction could be considered significant.

In addition to field surveys, information from the NYC Department of City Planning's Community District Needs Statements, NYC Parks Department website, and U.S. Census data were utilized in preparing the open space analysis.

Preliminary Open Space Assessment

The Proposed Action would result in a net increment of 49,420 GSF of development, including an increase of 44,969 GSF of residential floor area, a decrease of 331 GSF of commercial floor area, and an increase of 4,782 GSF of community facility floor area. The Proposed Action is projected to result in the development of 59 dwelling units within the Affected Area. Assuming an average occupancy of 2.57 persons based on the average household size within Brooklyn Community District 15, population introduced as a result of the Proposed Action would be approximately 152 residents. Adding together the reduction in commercial floor area and the increase in community facility floor area, there would be approximately 30 additional workers as a result of the Proposed Actions. The Affected Area is within an area that is identified as underserved by open space, and therefore the threshold for assessment of the potential for indirect impacts is 50 new residents or 125 additional employees. Therefore, an assessment of indirect effects on public open space resources is warranted. The Proposed Actions would introduce fewer than 125 additional employees, as such the preliminary assessment addresses the residential population introduced by the Proposed Actions.

Study Area Definition

In accordance with the guidelines established in the City's 2014 CEQR Technical Manual, the open space study area is defined to analyze both the nearby open spaces and the population using those open space resources. It is generally defined by a reasonable walking distance that users would travel to reach local open spaces and recreational areas. Pursuant to the 2014 CEQR Technical Manual, the open space study area includes all U.S. Census Tracts that have 50 percent or more of their area within a half-mile radius of the Affected Area for residential users. As shown in **Figure 2.2-1** and summarized in **Table 2.2-1** below, the following Census Tracts that have 50% or more of their area within the ½ mile study area are 546, 548, 550, 564, 636, 638, 640, 644, 646, 648, 656, 746, 756, 758, and 642 (contains Affected Area).

Figure 2.2-1: Open Space Study Area Census Tracts



Table 2.2-1: Study Area Population 2018

Census Tract	Population
546	4,730
548	2,046
550	3,330
564	2,519
636	1,464
640	1,794
644	3,021
646	2,297
648	2,191
656	1,774
746	2,637
756	1,996
758	1,633
642	2,276
Total	**33,708**

Shaded row indicates Census Tract of the Affected Area

Study Area Population

Secondary sources were used to determine the residential and non-residential populations served by the existing open space resources in the study area. Total residential population for the Study area was established using data from the 2014-2018 American Community Survey.

As of 2018, the Study Area had a residential population of 33,708 persons.

Future No-Action

In the future without the Proposed Actions no redevelopment would occur in the Affected Area. There are 29 major projects identified in the half-mile Study Area, with a total of 636 proposed dwelling units. Therefore, the Study Area No-Action population is assumed to be the 2018 population plus the additional 636 additional dwelling units. Assuming 2.67 residents per dwelling unit per Brooklyn Community District 15 2018 ACS data, an additional 1,698 residents would be added to the Study Area. The Future No-Action population would be 35,406.

Future With-Action

In the future with the Proposed Actions a net increment of 59 dwelling units, resulting in an additional 158 residents, would be introduced to the Study Area. The Study Area With-Action population is the No-Action population of 35,406 plus the 158 incremental residents resulting from the Proposed Actions for a total 2023 With-Action population of 35,564.

Open Space Resources

There are 5 open space resources within the Study Area identified in **Table 2.3-3.** There are 1.96 acres of open spaces resources in the Study Area—.85 are considered active and 1.11 are considered passive based on field visits and a review of open space site plans.

Table 2.2-3: Open Space Resources

Name	Address	Ownership	Acreage	% Active	% Passive	Total Active	Total Passive	Features
Pfc Norton Playground	Nostrand Ave, between Kings Hwy and Ave. P	NYC DPR	.55	75	25	.41	.14	Ba, HC, Pg
Aimee Triangle	Ave. P, Madison Pl. Nostrand Ave	NYC DPR	.11	0	100	0	.11	Be
Corporal Wiltshire Square	Ave. P, Kings Hwy, Ocean Ave.	NYC DPR	.05	0	100	0	.05	Be
Fraser Square	Kings Hwy, Ave. M, E. 34 St. to E 35 St.	NYC DPR	.67	0	100	0	.67	Be, Wa
Sarsfield Playground	E. 38 St., Ave. M, Flatlands Ave	NYC DPR	.58	75	25	.44	.14	Ba, Pg, SS
Total			1.96			.85	1.11	

Features: Ba = Bathrooms; HC = Handball Courts; Pg = Playground; Be = Benches; Wa = Walking Paths; SS = Spray Showers

Analysis

Existing Condition

The Study Area has 1.96 acres of open space and an existing residential population of 33,708. The open space ratio (OSR) under existing conditions is .0581 acres per thousand residents.

Future No-Action

In the future without the Proposed Actions, the population for the Study Area in the 2023 build year is forecasted to be 35,406 and is projected to be served by the same 1.96 acres of open space as in the existing condition. With this population, the OSR would be .0554. The OSR is well below the citywide average of 1.5 acres per thousand people and reflects the area's high population density and lack of large park facilities within a ½-mile radius.

Future With-Action

The Proposed Actions would result in an increase in the No-Action population by 158 residents by the 2023 build year. The total 2023 build year With-Action population would be 35,564. With this increase in population, the OSR would be .0551 acres per 1,000 residents, or a 0.5 percent reduction from the No-Action OSR.

Conclusion

Under the existing, No-Action, and With-Action conditions, the OSR in the area would be well below 1.5 acres per thousand residents, which is the citywide average. In the event that a Study Area has a low open space ratio (e.g., below the citywide average of 1.5 acres per 1,000 residents), the *CEQR Technical Manual* recommends preparing a detailed analysis if the Proposed Action would reduce the OSR by as little as 1 percent—or less, depending on how low the OSR is.

The Proposed Actions would reduce the OSR by 0.5 percent to 0.0551 acres per 1,000 residents. While the open space ratio in the With-Action Condition is substantially below the city guidelines for residents, the ratio would not substantially decrease as a result of the proposed actions. Additionally, Marine Park, a 798-acre park located within the ½-mile Study Area buffer, is an 18-minute walk from the Affected Area, but is not included in the OSR calculations because its Census Tract does not fall within the threshold for inclusion. As the entrance to Marine Park is within the ½-mile buffer, it is reasonable to assume that project-generated residents would utilize the open space.

Therefore, based on the minimal change to the open space ratio as a result of the proposed actions and the availability of Marine Park as an open space resource, the Proposed Actions would not result in significant adverse impacts to open space resources.

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 action would cast on a sunlight-sensitive resource during the year. The sunlight-sensitive resources of concern are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, 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.

The duration and dimensions of shadows are determined by the geographic location of the area from which the shadow is cast and the 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. In summer, the high arc of the sun casts shorter shadows than at any other time of year, and early and late shadows during the summer are cast farther towards the south than shadows cast in early and late winter months.

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.

The sunlight-sensitive resources of concern are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity, including public open space, architectural resources and natural resources. In general, shadows on city streets and sidewalks or on other buildings are not considered significant. Some open spaces also contain facilities that are not sensitive to sunlight. These are usually paved such as handball or basketball courts, contain no seating areas and no vegetation, no unusual or historic plantings, or contain only unusual or historic plantings that are shade tolerant. These types of facilities do not need to be analyzed for shadow impacts. Additionally, it is generally not necessary to assess resources located to the south of projected development sites, as shadows cast by the action-generated development would not be cast in the direction of these resources. Furthermore, shadows occurring within one and one-half hour of sunrise or sunset generally are not considered significant in accordance with the CEQR Technical Manual.

Methodology

This preliminary analysis of shadows follows the guidelines set forth in the 2014 CEQR Technical Manual for a preliminary assessment (Section 310). According to the 2014 CEQR Technical Manual, a preliminary shadow assessment includes the development of a base map showing the site location in relationship to any sunlight-sensitive resources as per guidelines provided in the 2014 CEQR Technical Manual. Following these guidelines, the longest shadow study area is determined, and a Tier 1 screening assessment is conducted to determine if any sunlight-

sensitive resources fall within the study area. If no resources are identified, no further analysis would be required. If sunlight-sensitive resources lay within the longest shadow study area, the next tier of screening assessment should be conducted. This preliminary assessment includes a basic description of the proposed project that would be facilitated by the Proposed Action in order to determine whether a more detailed assessment would be appropriate.

Analysis

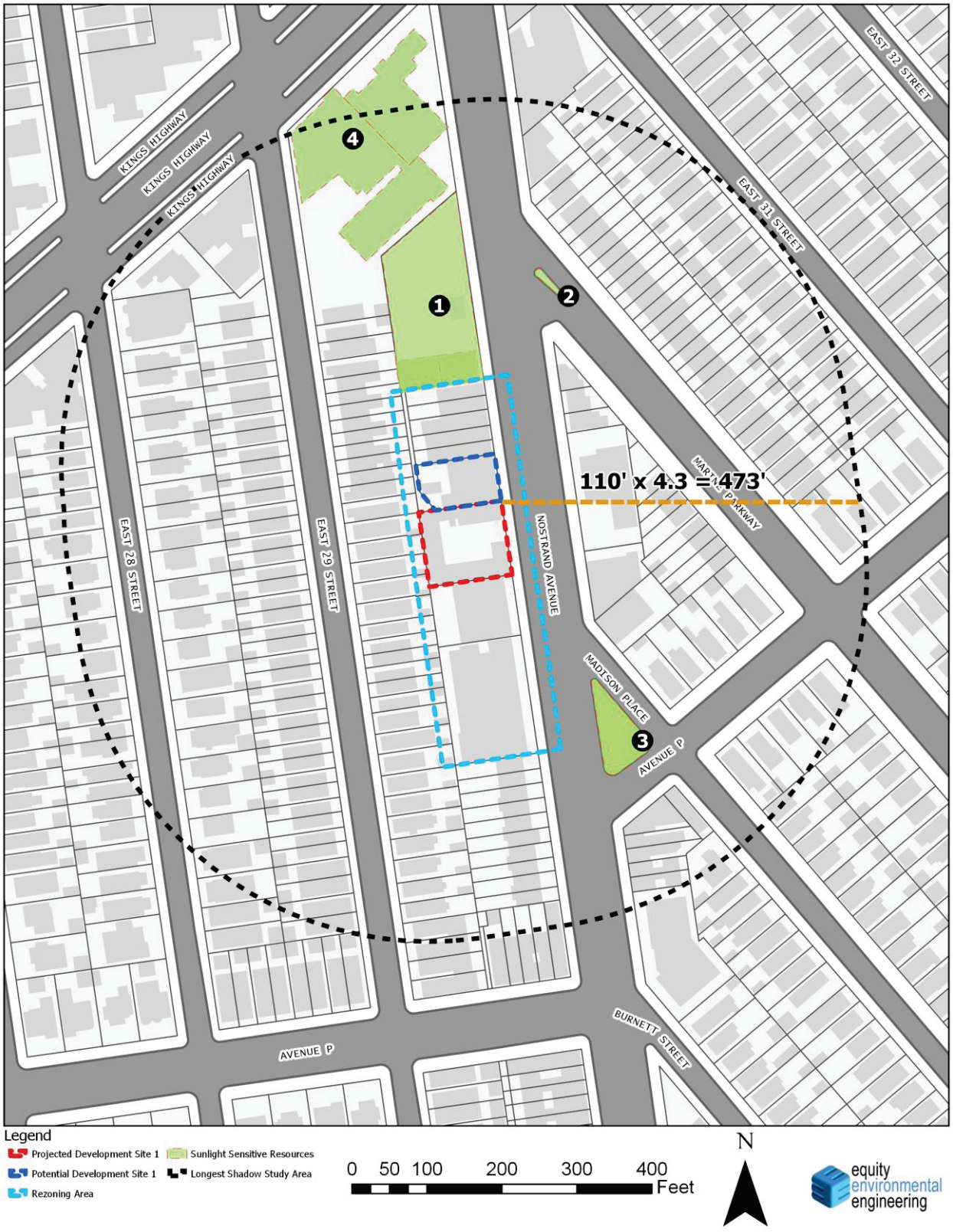
Under the Future With-Action condition, Projected Development Site 1 and Potential Development Site 1 would each be developed with a building 110 feet in height (95-foot building plus an additional 15 feet for mechanical bulkheads, which is the typical mechanical bulkhead height in general) in the proximity of sunlight sensitive resources. Accordingly, a preliminary assessment of shadows is warranted.

2.3.1 Tier 1 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 may be warranted to determine the extent and duration of the net incremental shadow resulting from the project. The effects of shadows on a sunlight-sensitive resource are site-specific; therefore, as directed in the CEQR Technical Manual, the screening assessment was performed for the relevant Projected Development Sites to determine whether they fall within the range of maximum possible shadow cast on potential sunlight sensitive resources as described above. To determine this, a Tier 1 Screening Assessment was performed in accordance with the CEQR Technical Manual. A base map is developed that illustrates the proposed site location in relationship to any sunlight-sensitive resources. The longest shadow study area is then determined, which encompasses the site of the proposed project(s) and a perimeter around the site's boundary with a radius equal to the longest shadow that could be cast by the proposed structure, which is 4.3 times the height of the structure that occurs on December 21st, the winter solstice. A map as shown in **Figure 2.3-1** was prepared depicting NYC Department of Parks Resources as well as Selected Facilities and Program Sites provided on NYC.gov Department of City Planning GIS portal, as well as a list of park and public spaces provided from NYC.gov DOITT- GIS and Mapping Portal, as well as a screen of SHPO and NYC Landmark Listed Properties. After this a buffer map was prepared to display the maximum possible shadow of 451.5 feet, which could be cast from each Development Site in the proposed rezoning area. This shadow cast was derived by multiplying the height of 110 feet (the maximum possible height under the proposed rezoning of 95 feet plus a 15-foot bulkhead) by 4.3 (the CEQR Technical Manual multiplier representing the maximum shadow cast from any object as being 4.3 times its height). The area potentially effected by shadow was then compared to those resources identified above to see if any fell within the shadow cast area.

Based on the Tier 1 analysis in **Figure 2.3-1**, it was determined that three open space resources and one historic resource are within reach of the longest possible shadow that could be cast from the Projected Development buildings associated with the requested rezoning within the Affected Area: 1) the Private First Class Thomas Norton Memorial Playground (Block 7690, Lot 104); 2) a green street at the intersection of Marine Parkway and Nostrand Avenue; 3) Aimee Triangle, which is bounded by Madison Place, Nostrand Avenue, and Avenue P; and 4) Kingsway Jewish Center, which is a S/NR Listed community center at the northern end of the block adjacent to PFC Thomas Norton Memorial Playground. A Tier 2 Assessment is required.

Figure 2.3-1: Tier 1 Screening Assessment

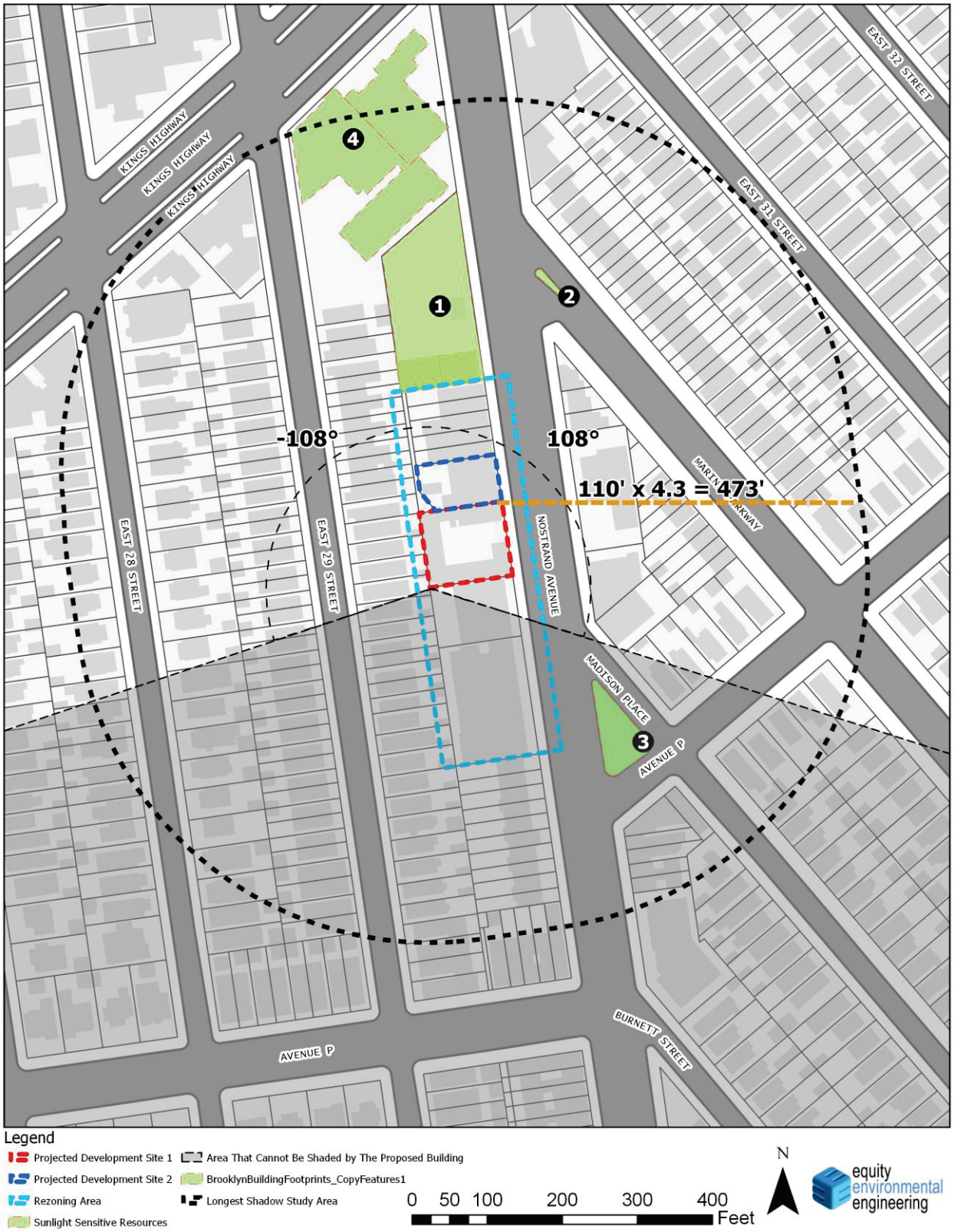


2.3.2 Tier 2 Shadow Screening Assessment

The *CEQR Technical Manual* states that 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 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 cannot be shaded by new development sites, and are screened out. The complementing portion to the north within the longest shadow study area is the area that can be shaded by the proposed project.

As shown in **Figure 2.3-2,** the Tier 2 screening assessment showed that the Private First Class Thomas Norton Memorial Playground (Block 7690, Lot 104; Resource 1), the green street at the intersection of Marine Parkway and Nostrand Avenue (Resource 2), and the Kingsway Jewish Center (Block 7690, Lot 51; Resource 4) are all inside of the -108/+108 area, and therefore a Tier 3 screening would be required. The Aimee Triangle (Resource 3) cannot be reached by a potential shadow cast by the Developments Sites, and will not be included in the Tier 3 analysis.

Figure 2.3-2: Tier 2 Screening Assessment



2.3.3 Tier 3 Shadow Screening Assessment

The CEQR Technical Manual states that if any portion of a sunlight-sensitive resource is within the area that could be shaded by the Proposed Project a Tier 3 screening assessment should be performed. Because the sun rises in the east and travels across the southern part of the sky to set in the west, a project's earliest shadows would be cast almost directly westward. Throughout the day, they would shift clockwise (moving northwest, then north, then northeast) until sunset, when they would fall east. Therefore, a project's earliest shadow on a sunlight-sensitive resource would occur in a similar pattern, depending in the location of the resource in relation to the project site. For a Tier 3 screening assessment, if the assessment determines that no shadows from the development would reach any of the sunlight-sensitive resources on any of the representative analysis days then no further assessment for those days is needed. If, however, in the absence of intervening buildings shadows from the proposed buildings would reach sunlight-sensitive resources on any of the representative analysis days then a detailed shadow analysis would be warranted for those days.

As shown in **Figures 2.3-3 to 2.3-6** below, shadows from the projected and potential buildings would reach Private First Class Thomas Norton Memorial Playground and the green street on the December 21st analysis day, and would reach the Private First Class Thomas Norton Memorial Playground on the March 21/September 21 analysis day. Sunlight Sensitive Resource 4, the Kingsway Jewish Center, would not be reached by shadows from the projected and potential buildings. A detailed shadow analysis for Sunlight Sensitive Resources 1 and 2 is required.

Figure 2.3-3: Tier 3 Screening December



Figure 2.3-4: Tier 3 Screening June

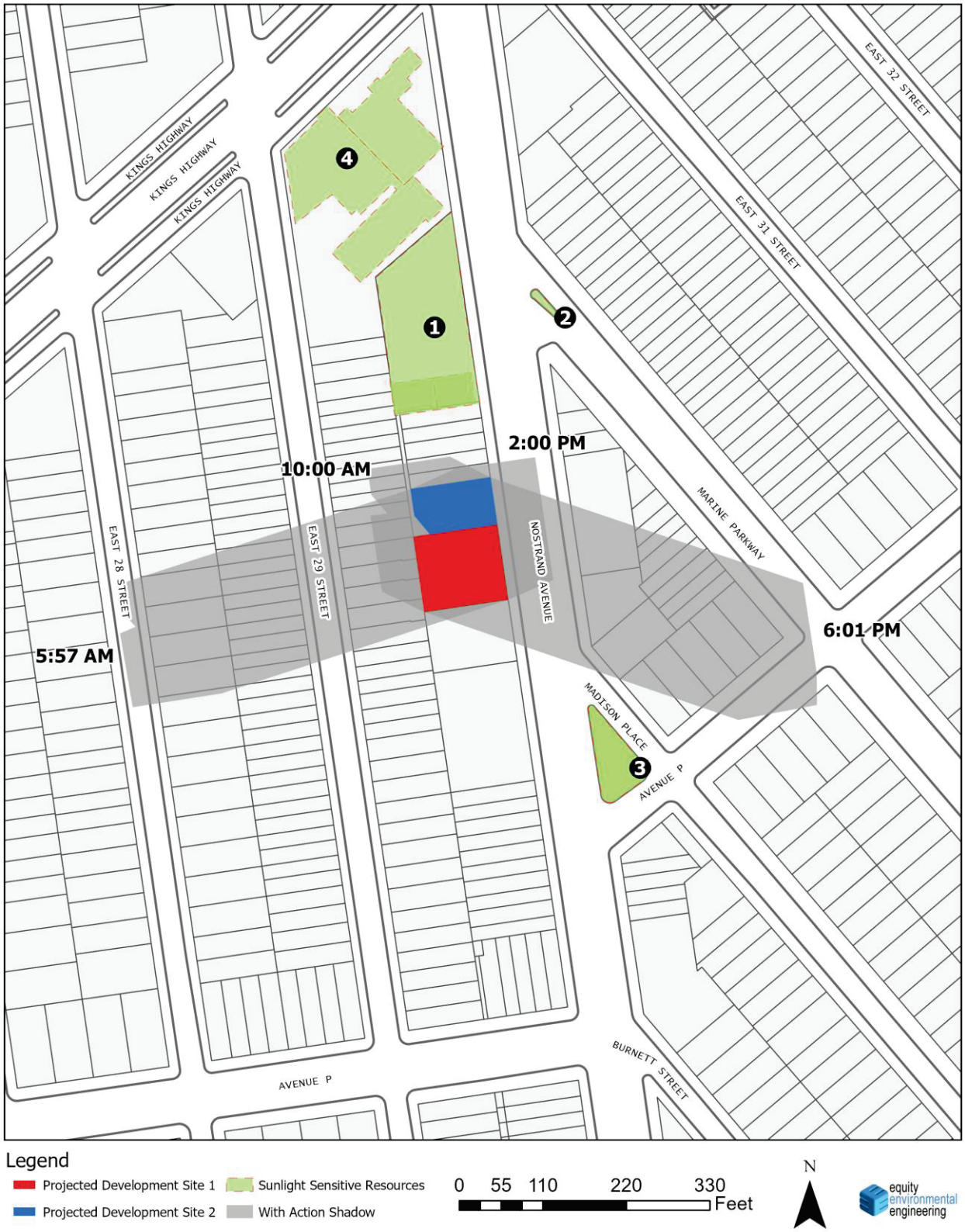


Figure 2.3-5: Tier 3 Screening March/September



Figure 2.3-6: Tier 3 Screening May/August



2.3.4 Detailed Shadow Analysis

The CEQR Technical Manual states that a detailed shadow analysis is warranted when the screening analyses do not rule out the possibility that project-generated shadows would reach any sunlight-sensitive resources. The purpose of the detailed analysis is to determine the extent and duration of shadows that fall on a sunlight-sensitive resource as a result of the proposed project. The results of the detailed shadow analyses on the identified resources of concern is summarized in **Table 2.3-1**, and the incremental shadows cast by the Development Sites are shown above in **Figures 2.3-3** through **2.3-6**. The shadows of intervening buildings are included in the detailed shadow analysis in order to identify the incremental shadows cast by the Projected and Potential Developments, and are shown below in **Figures 2.3-7** through **2.3-15** (Incremental shadows are shown as red).

Based on the Findings of the Detailed Shadow Analysis, the Proposed Actions would cast shadows on the Private First Class Thomas Norton Memorial Playground (Block 7690, Lot 104; Resource 1) and the green street at the intersection of Marine Parkway and Nostrand Avenue (Resource 2).

Table 2.3-1: Tier 3 Shadows Table

Analysis Day	21-Dec	March 21 / September 21	May 6 / August 6	21-Jun
Timeframe Window	8:51 a.m. - 2:53 p.m.	7:36 a.m. - 4:29 p.m.	6:27 a.m. - 5:18 p.m.	5:57 a.m. - 6:01 p.m.
Sunlight Sensitive Resource 1	Private First Class Thomas Norton Memorial Playground			
Shadow enter - exit times	8:51 am - 1:35 pm	8:07 am - 10:15 am	-	-
Incremental Shadow Duration	4 hours 44 minutes	2 hours 7 minutes	-	-
Sunlight Sensitive Resource 2	Green Street			
Shadow enter - exit times	11:53 am - 2:00 pm	-	-	-
Incremental Shadow Duration	2 hours 7 minutes	-	-	-
Sunlight Sensitive Resource 4	Kingsway Jewish Center			
Shadow enter - exit times	-	-	-	-
Incremental Shadow Duration	-	-	-	-

Note: Daylight savings time not used

Figure 2.3-7: Detailed Analysis December (8:51am)

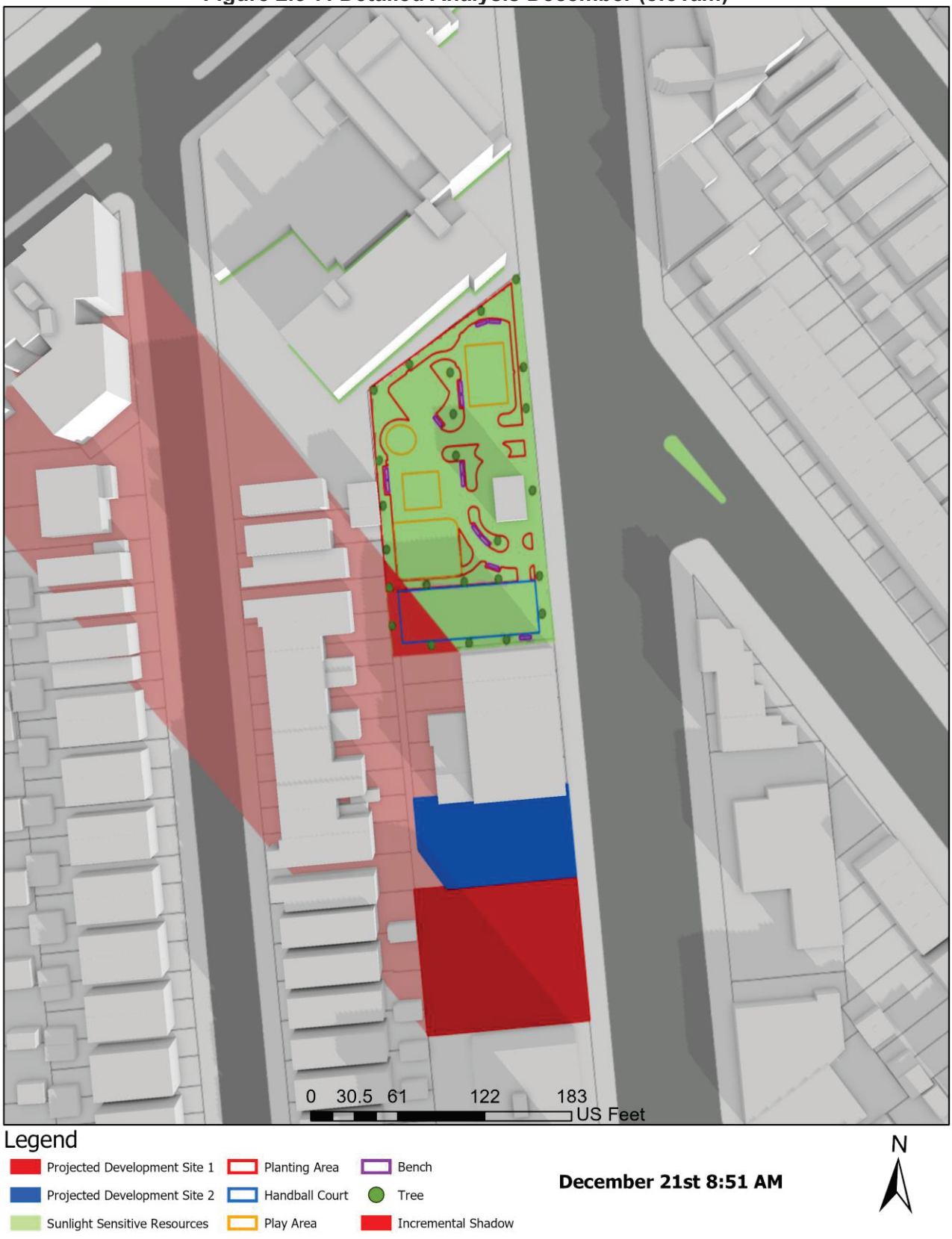


Figure 2.3-8: Detailed Analysis December (11:15am)



Figure 2.3-9: Detailed Analysis December (12:53pm)



Figure 2.3-10: Detailed Analysis December (2:53pm)



Figure 2.3-11: Detailed Analysis March/September (7:36am)



Figure 2.3-12: Detailed Analysis March/September (9:00am)



Figure 2.3-13: Detailed Analysis March/September (10:00am)



Figure 2.3-14: Detailed Analysis March/September (11:00am)



Figure 2.3-15: Detailed Analysis March/September (4:29pm)



Sunlight Sensitive Resource 1: Private First Class Thomas Norton Memorial Playground
PFC Norton Playground is .55-acre playground featuring handball courts, a playground, 12 benches, and bathrooms. The playground is home to 16 northern red oaks that were planted more than 50 years ago, the northern bayberry, the red chokeberry, and wintercreeper. A site plan for the park is included as an appendix.

Photo 2.3-1: PFC Norton Playground



Sunlight Sensitive Resource 2: Green Street between Marine Parkway and Nostrand Avenue

The greenstreet located at the intersection of Nostrand Avenue and Marine Parkway is an approximately 60-foot-long converted traffic island planted with shrubs in an effort to capture stormwater. The greenstreet is overseen by the NYC Department of Parks and Recreation. There are no benches or bike paths provided on the greenstreet, and it is not used for active or passive recreation.

Photo 2.3-2: Greenstreet



2.3.5 Determination of Shadow Impact Significance

The *CEQR Technical Manual* states that the determination of significance of shadow on a sunlight-sensitive resource is based on: (1) the information resulting from the detailed shadow analysis describing the extent and duration of incremental shadows; and (2) an analysis of the resource's sensitivity to reduced sunlight. 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 space 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, for example, generally do not affect the growing season of outdoor vegetation. This sensitivity is assessed for warm-weather-dependent features such as 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. Generally, four to six hours a day of sunlight, particularly in the growing season, is often a minimum requirement. Where the incremental shadows from the project fall on sunlight-sensitive features or uses, the analysis assesses the loss of sunlight relative to sunlight that would be available without the project.

As stated in the *CEQR Technical Manual*, to determine impact significance, an incremental shadow is generally not considered significant when its duration is no longer than 10 minutes at any time of year and the resource continues to receive substantial direct sunlight. A significant

shadow impact generally occurs when an incremental shadow of 10 minutes or longer falls on a sunlight-sensitive resource and results in one of the following:

- *Vegetation* - A substantial reduction in sunlight available to a sunlight-sensitive feature of the resource to less than the minimum time necessary for its survival (when there was sufficient sunlight in the future without the project). Or, a reduction in direct sunlight exposure where the sunlight-sensitive feature of the resource is already subject to substandard sunlight (i.e., less than minimum time necessary for its survival).
- *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.

Conclusion

Sunlight Sensitive Resource 1 (Private First Class Thomas Norton Memorial Playground)
Sunlight Sensitive Resource 1, Private First Class Thomas Norton Memorial Playground, is a .55 acre playground with .41 acres of active space and .14 acres of passive space. The playground features bathrooms, handball courts, benches, playground equipment, and shade trees.

Shadows cast from the Projected and Potential Buildings in December for a 4-hour-and-44-minute period would leave approximately 1 hour and 18 minutes of direct sunlight on the entire playground. The incremental shadows cast by the Projected and Proposed Buildings would enter the playground from its southwest corner at 8:51 AM in the morning and exit the playground from the southeast corner at 1:35 PM in the early afternoon, moving across the southern part of the playground and affecting the handball court, two benches, and the building housing the park's bathrooms. The handball court is an active resource utilized all year round, which heavily relies on the sunlight in the cold-weather months. As the shadows cast from the Projected and Potential Buildings would move constantly, not a significant portion of the handball court would be affected by the shadows for more than 1 hour. Furthermore, the playground includes an additional 10 benches that would not be covered in shadows. Therefore, the Open Space Utilization of this resource would not be significantly impacted for the December analysis period. As for the impacts of the shadows induced by the Proposed Actions on the shade trees planted in the playground, December 21st is outside the growing season, and there would be no impacts on vegetation.

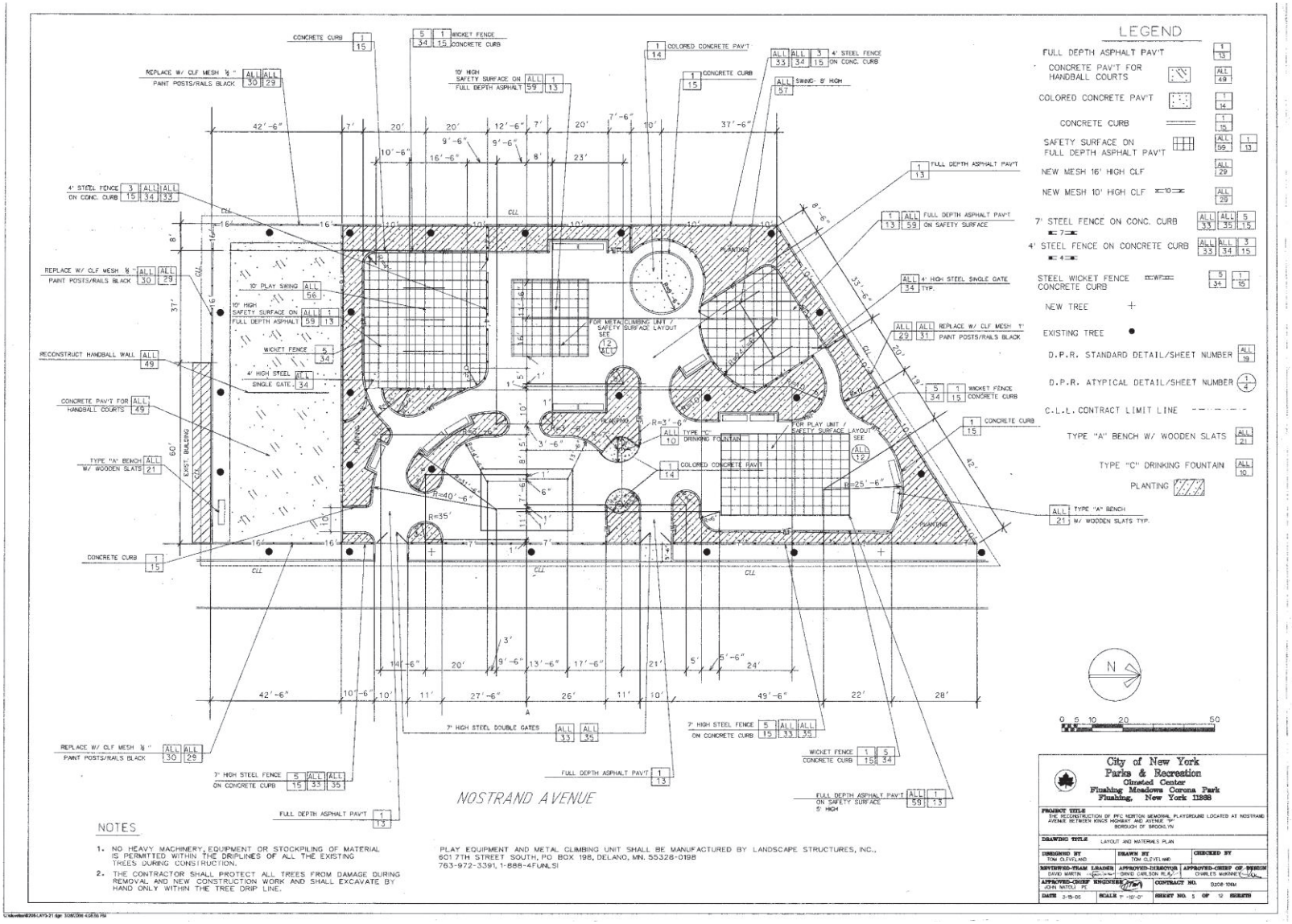
For the March 21st/September 21st analysis period of Sunlight Sensitive Resource 1, there would be 2 hours and 7 minutes of incremental shadows cast, leaving 6 hours and 46 minutes of sunlight. As shown in **Figures 2.3-10** through **2.3-15**, the shadows cast on the playground intersect a small portion of the southernmost edge of the park where the handball court is located. The extent of shadows cast on the park is shown to be minimal, and there would be no adverse impacts for the March 21st/September 21st analysis period on the Open Space Utilization or on vegetation.

While incremental shadows would reduce direct sunlight to active and passive open space features of PFC Thomas Norton Memorial Playground during winter-months, during the remainder of the year shadows would be approximately two hours or less and the resource would receive sufficient direct sunlight. Given the duration of incremental shadows and the availability of other

features within the open space that would continue to receive direct sunlight during the time of incremental shadows, the Proposed Actions would not result in a significant adverse impact to this resource due to incremental shadows.

The site plan of the Private First Class Thomas Norton Memorial Playground is shown in **Figure 2.3-16** below.

Figure 2.3-16: Private First Class Thomas Norton Memorial Playground Site Plan



Sunlight Sensitive Resource 2 (Greenstreet)
Sunlight Sensitive Resource 2, the Greenstreet at the intersection of Marine Parkway and Nostrand Avenue, does not contain any active or passive resources, and therefore, any incremental shadows would not impact the Open Space Utilization of this resource, nor would the shadows cast by the Projected or Potential Developments result in the complete elimination of all direct sunlight on the sunlight-sensitive feature of the resource. The shadows cast on the Greenstreet in December for a 2-hour-and-7-minute period, allowing for 3-hour-and-55-minute direct sunlight for the vegetation. In addition, since the analysis period is outside the growing season, it eliminates any potential impacts on the vegetation in the Greenstreet.

Therefore, the Proposed Actions would not affect the vitality or usage of the sunlight sensitive resources identified in the Study Area.

2.4 Historic and Cultural Resources

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, according to the *CEQR Technical Manual*.

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.

2.4.1 Architectural Resources

Per CEQR Technical Manual guidelines, impacts on historic resources are considered on those sites affected by the proposed action and in the area surrounding identified development sites. The historic resources study area is therefore defined as the project site plus an approximately 400-foot radius around the Proposed Action area.

To determine whether the projected and/or potential development has the potential to affect nearby off-site historic or architectural resources, the study area was screened for historic and architectural resources. No architectural resources were found in the project area that were considered historic or significant.

The LPC was contacted for their initial review of the project's potential to impact nearby historic and cultural resources, and by letter dated November 28, 2018 indicating that the Study Area does not contain any sites of buildings of known architectural or archeological significance (see Appendix A). However, the Kingsway Jewish Center, located at 2810 Nostrand Avenue (Block 7690, Lot 51), approximately 250 feet from the Affected Area, is a State Register (11/2009) and National Register (2/2010) listed historic property. LPC was contacted for a review of the Kingsway Jewish Center and responded on November 18, 2019 (Appendix A) indicating that the Kingsway Jewish Center does not appear LPC eligible and that no impacts to the property are anticipated as a result of the Proposed Actions.

Kingsway Jewish Center



The Kingsway Jewish Center meets the eligibility criteria for S/NR listing under Criterion A because of its collection of stained-glass windows by artist Adolph Gottlieb, and under Criterion C for embodying the elements of the "synagogue-center" movement of the 20th century which combines a Jewish house of worship with a center for community, educational, recreational, and social needs.

Conclusion

According to the *CEQR Technical Manual*, significant adverse impacts to historic and cultural resources could potentially result if a proposed action affects those characteristics that make a resource eligible for LPC designation or S/NR listing. The Future With-Action Scenario's potential for significant adverse impacts on historic resources were assessed in accordance with Table 8-1 of the CEQR Technical Manual to determine (a) whether there would be a physical change to any designated resource or its setting, and (b) if so, is the change likely to diminish the qualities of the resource that make it important (including non-physical changes such as context or visual prominence). The assessment of the potential for impacts on significant resources are described below.

The Proposed Actions would not result in any types of visual and contextual impacts to the Kingsway Jewish Center. As all of the new buildings that could be developed under the Proposed Actions would be residential, commercial, or community facility structures of heights and bulk consistent with those urban design features of the area. The Proposed Actions would not introduce any incompatible visual, audible, or atmospheric elements to the settings of historic resources. Additionally, the significant views of the Kingsway Jewish Center will not be adversely affected by the Proposed Actions as development resulting from the proposed actions would be at a distance from the resource that the heights permitted would not encroach on views.

Publicly accessible views of resources would not be blocked, because all new development would occur on existing blocks and lots, and maximum building heights would be limited and capped according to the zoning district regulations. In addition, as more fully described in the Shadows section (See **Section 2.4, *Shadows***) there would be no significant adverse impacts to the stained-glass window feature of the Kingsway Jewish Center because the incremental shadows cast by the Proposed Action would not reach the building or stained-glass windows.

Because the Projected Development Site and Potential Development Site do not contain, nor are adjacent to, nor are within 90 feet of the identified historic architectural resource, no direct or construction-related effects via ground-borne construction activities will occur as a result of the Proposed Action.

Therefore, the Proposed Actions would not result in significant adverse impacts to architectural resources.

2.4.2 Cultural and Archaeological Resources

Unlike the architectural evaluation of a study area that extends beyond the footprint of a project's block and lot lines, the analysis of potential and/or projected 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. The CEQR Technical Manual requires a detailed evaluation of a project's potential effect on the archeological resources if it would potentially result in an in-ground disturbance to an area not previously excavated.

The Proposed Actions would result in new in-ground construction on the Projected Development Site and the Potential Development Site. As noted, the LPC was contacted for their initial review of the project's potential to impact nearby historic and cultural resources, and a response was received on November 28, 2018 (see Appendix A). The LPC has indicated that no cultural resource of archaeological significance is associated with the Study Area. Therefore, significant adverse impacts to archaeological resources are not expected because of the Proposed Actions, and further analysis is not warranted.

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. Pursuant to the 2014 CEQR Technical Manual, an assessment of Urban Design may be warranted when a Proposed Action may affect one or more of the elements that contribute to the pedestrian experience of an area, specifically the arrangement, appearance, and functionality of the built environment. 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 sites). For visual resources, existing publicly accessible view corridors within the Study Area should be identified. The purpose of the preliminary assessment is to determine whether any physical changes proposed by a project may raise the potential to significantly and adversely affect elements of urban design, which would warrant the need for a detailed urban design and visual resources assessment.

Within the Study Area there are two potential visual resources: the S/NR listed Kingsway Jewish Center at 2810 Nostrand Avenue (Block 7690, Lot 51), and PFC Thomas Norton Playground located at 2860 Nostrand Avenue (Block 7690, Lot 104). The projected and potential buildings would be located approximately 100 feet from PFC Thomas North Playground and approximately 320 feet from the Kingsway Jewish Center. The buildings could be a maximum of 95 feet tall and would be restricted to a maximum of 65 percent lot coverage. As discussed in the historic and cultural resources section the Proposed Actions would not encroach on views of the Kingsway Jewish Center. Additionally, PFC Thomas North Playground is not considered to be a visual resource, as it is not considered to be a significant natural or built feature. Therefore, there would be no significant adverse effects to visual resources as a result of the Proposed Actions.

Preliminary Assessment

Table 2.5-1: No-Action and With-Action Zoning

	No-Action	With-Action		
Zoning	R3-2	R6B/C2-4	R7A/C2-4	R7A
Permitted Uses	Res. and CF	Res., Com., CF	Res., Com., CF	Res. and CF
Maximum FAR	Res.: .6 (with attic allowance) CF: 1.00	Res.: 2.20 (w/MIH) Com.: 2.00 CF: 2.00	Res.: 4.60 (w/MIH) Com.: 2.00 CF: 4.00	Res.: 4.60 (w/MIH) CF: 4.00
Maximum Height	Perimeter Wall: 21 feet Building Height: 35 feet	*Base Height: 45 feet *Building Height: 55 feet	*Base Height: 75 feet *Building Height: 95 feet	*Base Height: 75 feet *Building Height: 95 feet
Lot Coverage	35%	60% (Non-corner lot)	65% (Non-corner lot)	65% (Non-corner lot)

* With qualifying ground floor
Res. = Residential; Com. = Commercial; CF = Community Facility

The Project Area consists of 11 midblock lots along Nostrand Avenue and is described in detail in **Section 1.4** and **2.1.1.**

As stated in the project description, the surrounding area is generally developed with low-rise one- and two-family homes outside of along or near Kings Highway and Nostrand Avenue which are developed with a mix of low-rise and mid-rise residential buildings, low-rise mixed residential and commercial buildings, and low-rise public facilities and institutions. Larger buildings, ranging from six- to-nine stories in height, are typically located along Kings Highway at the end of each block, while mid-block buildings range from one- to four-stories. Building facades are mostly brick, and residential buildings feature landscaping and plantings along the sidewalk.

The traffic grid is irregular. The streets east of Nostrand Avenue and those to the west are disjoint which results in several irregular blocks and intersections east of the affected area. Kings Highway, bounding the Affected Area to the north, is a principal arterial roadway running northeast-southwest with two moving lanes in each direction and curbside parking along separate local service roads. Nostrand Avenue bounds the Affected Area to the east and is also a principal arterial roadway running north-south with two moving lanes in each direction and curbside parking. Both Kings Highway and Nostrand Avenue are wide streets. Avenue P bounds the Affected Area to the south. It is a minor arterial roadway running east-west, with two moving lanes in each direction and curbside parking. Bounding the Affected Area to the west, East 29th Street is a one-way, south to north narrow road with a single moving lane of traffic and curbside parking. The street network east of Nostrand Avenue is disjointed with Nostrand and the streets to the west. The orientation creates irregular block forms at the intersection of Nostrand and streets to the east. Kings Highway also creates irregular block fronts.

South of the Affected Area, along Nostrand Avenue, there are wide sidewalks with occasional street plantings, and most buildings are built out to their lot lines. Further north along Nostrand Avenue street plantings become more regular along PFC Thomas Norton Playground, and more residential buildings feature small front yards, garages with driveways, and stoops.

Figure 2.5.1 below shows an aerial view of the Affected Area and the Study Area (400' buffer around the Affected Area).

Figure 2.5-1: Aerial Map

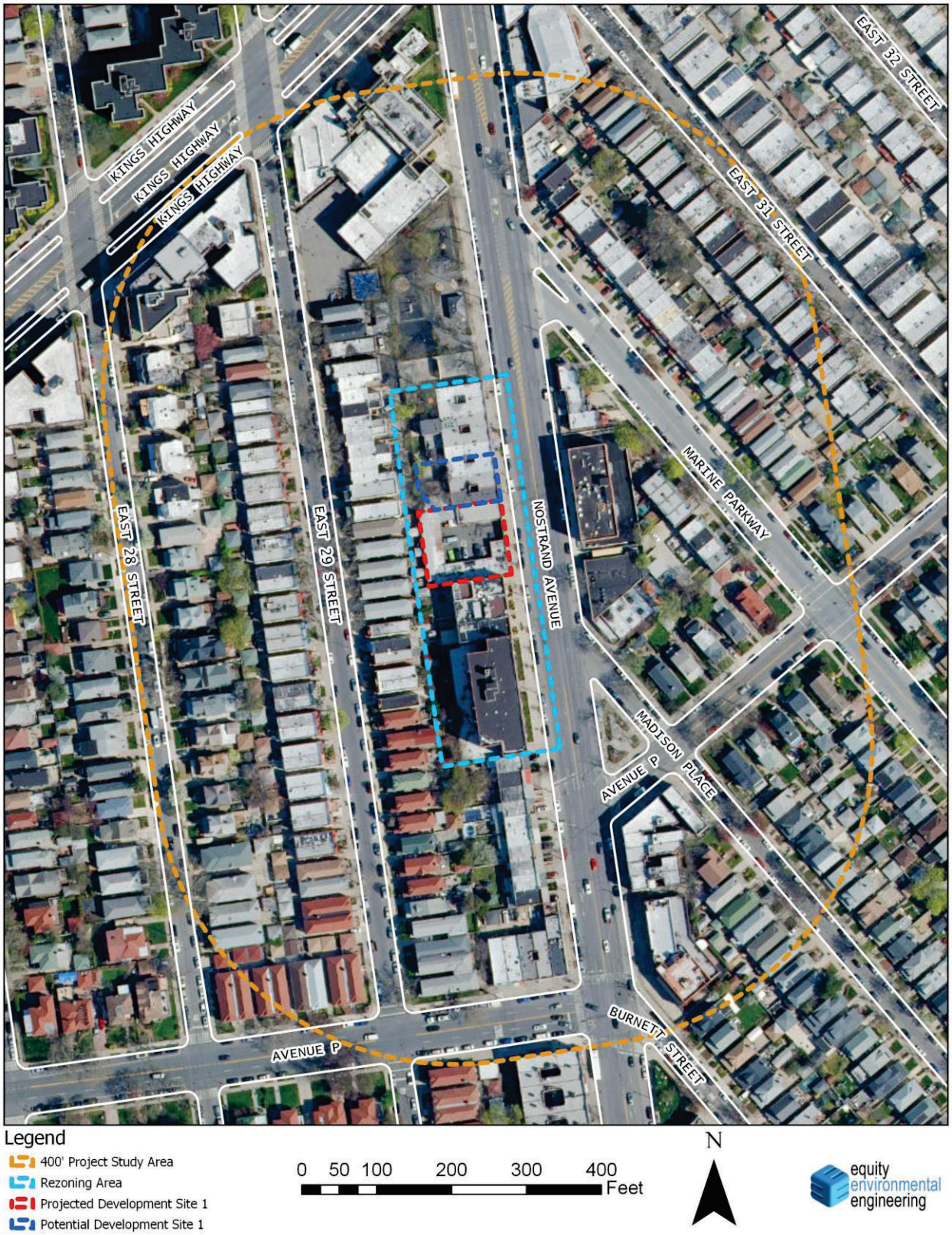
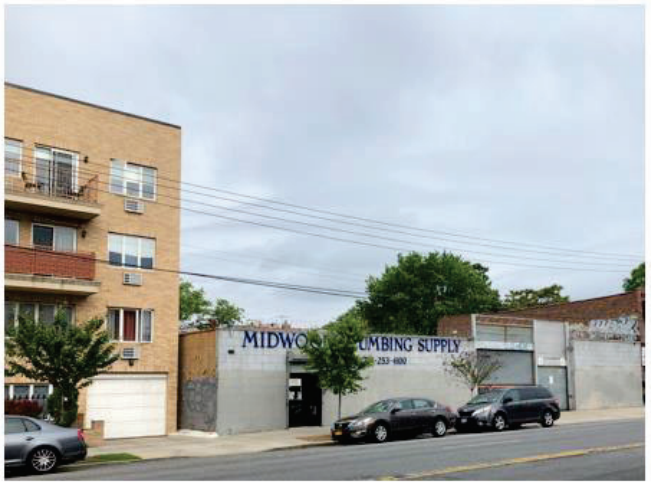


Figure 2.5-2: Photo Key



01 VIEW SOUTH ON NOSTRAND AVE. AT THE REZONING AREA



02 VIEW OF PROJECT SITE FROM EAST SIDE OF NOSTRAND AVE.





03 VIEW NW TOWARDS PROJECT SITE FROM MADISON PLACE

The following figures depict the permitted building envelope massing on the projected and potential development sites (as described in **Section 1.9**) and compares these massings to existing conditions. The massings do not take into account the required 30-foot rear yard requirement for R7A buildings.

Figure 2.5-3: Existing Conditions (View north from across Nostrand Ave)



Figure 2.5-4: With-Action (View north from across Nostrand Ave)

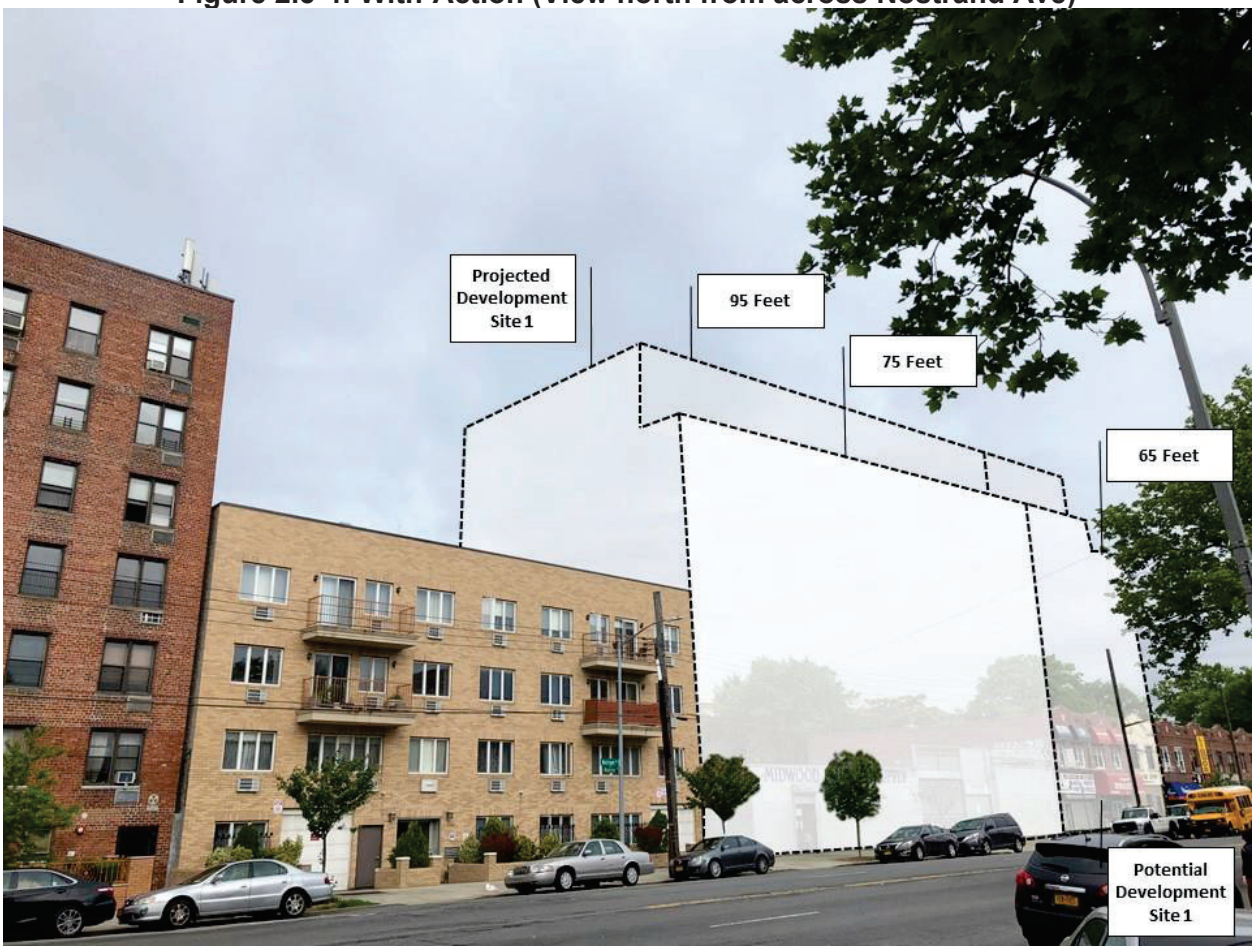
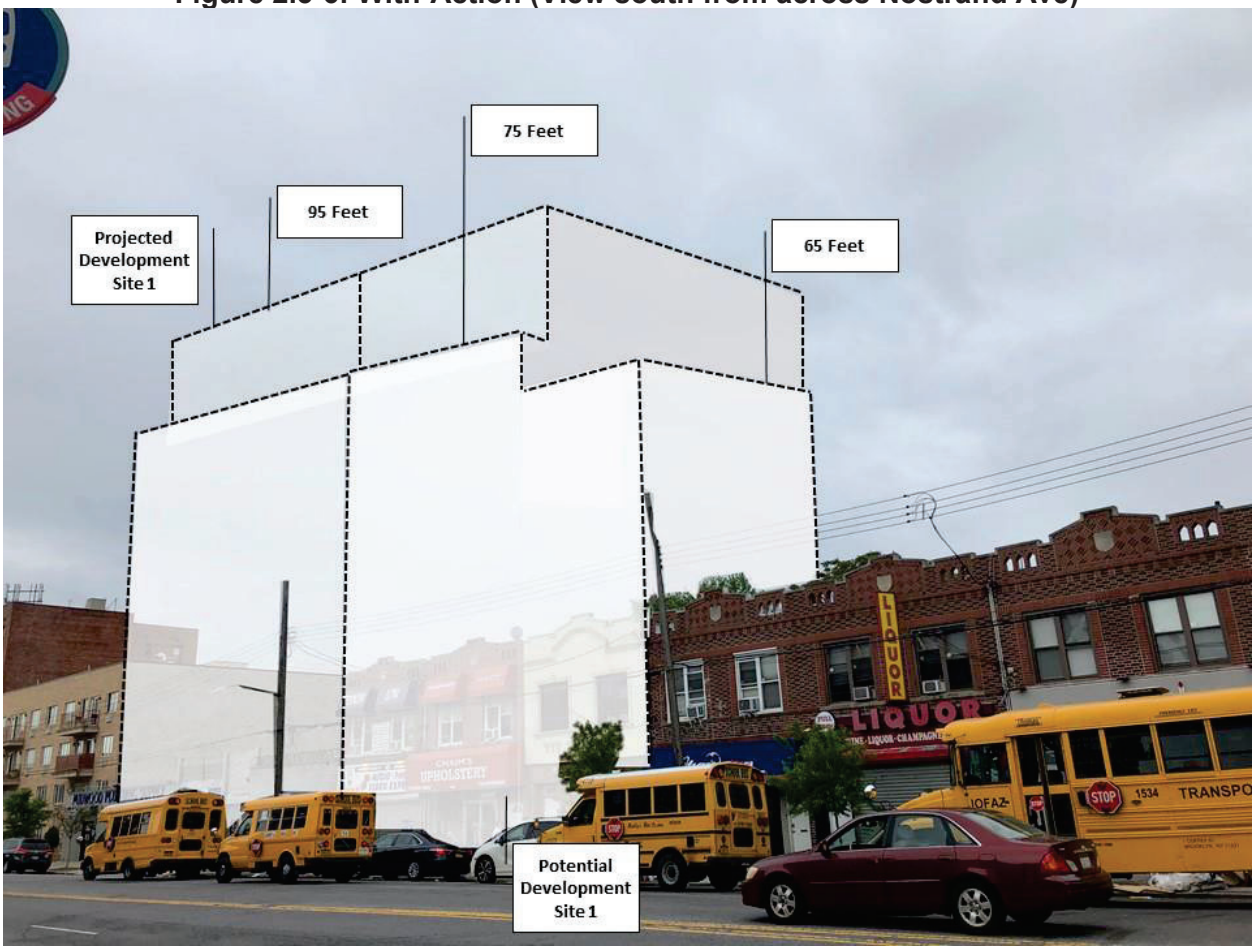


Figure 2.5-5: Existing Conditions (View south from across Nostrand Ave)



Figure 2.5-6: With-Action (View south from across Nostrand Ave)



Analysis

Future No-Action Scenario

Under no-action conditions it is presumed that no additional floor area or changes in use would occur at any site within the Affected Area and existing conditions would prevail. As discussed in **Section 2.1**, there is one recently completed project within the 400-foot study area: a new, 4-story, 27,000 GSF, 19 dwelling unit structure. No active construction project exists in the area.

Future With-Action Scenario

The Projected and Potential Development Sites on Block 7690, Lot 73 (Projected Site 1) and Lots 70-72 (Potential Site 1), could be developed with buildings of up to 9 stories and 95 feet in height. It is expected that Lot 73 would be developed at a FAR of 4.60 to maximize available bulk and floor area and 65% lot coverage. Lot 73 would provide 44,969 GSF of residential floor area, 4,685 GSF of commercial space, and 4,782 GSF of community facility space while providing 59 total dwelling units. Lots 70-72 could assemble and be developed with a 4.60 FAR building to maximize bulk and floor area with a lot coverage of 65%. Both sites are interior lots, and could be developed within 10 feet of the lot line, with a 30-foot minimum rear yard, and 65% lot coverage. A transition rule pursuant to ZR 23-693 would also apply to both the Projected and Potential Development Sites: within 25 feet of the existing R3-2 zoning district the maximum height shall not exceed 55

feet within the R7A zoning district, and within 25 feet of the proposed R6B zoning district the maximum height shall not exceed 65 feet within the R7A zoning district.

It is the applicant's opinion that the Proposed Actions would be consistent with the goals of the Homecrest Rezoning along the southern portion of Kings Highway, to the north, and would also be appropriate in context with the existing buildings immediately to the south, on Lots 81/7501 and 82, and across the street, Block 7691, Lot 19. The permitted density as a result of the Proposed Actions would be lower at the northern portion of the Affected Area, adjacent to PFC Norton playground, and higher at the southern portion of the Affected Area near Kenneth E. Aimee Triangle where three wide roads, Madison Place, Avenue P, and Nostrand Avenue, converge.

As shown in **Figures 2.5-3** through **Figure 2.5-6**, it is the Applicant's opinion that Projected and Potential Developments would provide a transition to the adjacent R7A district mapped along Kings Highway to the north. The Proposed Actions would also introduce commercial uses to enliven the pedestrian realm.

Conclusion

The development facilitated by the Proposed Actions would not adversely impact any of the constituent urban design elements or impact the overall character of the neighborhood. It would not significantly change the pedestrian experience, nor would it disturb the vitality, walkability, or the visual character of the area. Therefore, the Proposed Actions would not result in any significant adverse impact to the constituent elements of Urban Design, and a detailed analysis is not warranted.

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). Per 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.

Pursuant to *CEQR Technical Manual* methodology, actions that would result in ground disturbance in an area where current or past uses on or near the site raise the potential for the presence of hazardous materials should be assessed for hazardous materials. Accordingly, a Phase I Environmental Site Assessments (Phase I) was conducted for Projected Development Site 1. Site access was not granted for Potential Development Site 1, but field observations and database reports were used to assess the site.

Summary of Phase I ESA

The purpose of the Phase I ESA was to evaluate the current and historical conditions of the subject property in an effort to identify recognized environmental conditions (RECs) in connection with the subject property. A recognized environmental condition is defined by ASTM as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property due to release to the environment; under conditions indicative of a release to the environment; or conditions that pose a material threat of a future release to the environment. Recognized Environmental Conditions (RECs) are defined as the presence or likely presence of any hazardous substances or petroleum products under conditions that indicate an existing release, past release, or a material threat of a release into structures on the property or into the ground, groundwater or surface waters of the property. De minimis RECs are those that do not present a threat to health or the environment, and would not be the subject of an enforcement action by a government agency. All RECs, excluding de minimus RECs were considered in the Phase I.

The identification of RECs in connection with the subject property may impose an environmental liability on owners or operators of the site, reduce the value of the site, or restrict the use or marketability of the site, and therefore, further investigation may be warranted to evaluate the scope and extent of potential environmental liabilities. No RECs were identified in association with the subject property.

Phase I ESA Findings

Vapor Encroachment Condition (VECs)

Equity conducted an analysis of the various properties listed in the Phase I database search with respect to the Vapor Encroachment Screening (VES) in accordance with the requirements of the American Society for Testing and Materials (ASTM) 2600-10. A Tier I screen was done within the required database search distances from the subject property boundary for the items listed in Section 8 of the standard.

Based on the evidence provided by the database report, observations made during the site reconnaissance, and professional judgement, it is Equity's conclusion that a Vapor Encroachment

Condition (VEC) cannot be ruled out for the subject property due to records of a historic cleaner and a reported spill within 1/10th of a mile of the site.

Phase I ESA Recommendations

Prior to any future development of the property that involves subsurface disturbance further hazardous materials assessment may be warranted based on the Phase I review. A subsurface (Phase II) investigation is recommended prior to such activities to determine if vapor mitigation and/or additional remediation is warranted for the future use of the property.

E-Designation

The text for the E-579 designations related to hazardous materials on Projected Development Site 1 (Block 7690, Lot 73) and Potential Development Site 1 (Block 7690, Lots 70, 71, and 72) is as follows:

Task 1-Sampling Protocol

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

Task 2-Remediation Determination and Protocol

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

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

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

With this E-579 designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted.

2.7 Transportation

Pursuant to *CEQR Technical Manual* methodology, a transportation assessment may be necessary when a proposed action would alter the transportation network by closing, opening, or realigning an element of the transportation system such as a roadway, pedestrian way, or transit route, or if it would generate new trips on the transportation network. The objective of the transportation analyses is to determine whether a proposed project may have a potential significant adverse impact on traffic operations and mobility, public transportation facilities and services, pedestrian elements and flow, safety of all roadway users (pedestrians, bicyclists and vehicles), on- and off-street parking, or goods movement.

Methodology

The *CEQR Technical Manual* states that if an analysis is warranted, 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.

The *CEQR Technical Manual* also states that if the threshold for traffic is surpassed, a parking assessment may also be warranted. This chapter assesses the potential for project-generated vehicle, transit, and pedestrian trips to affect the local transportation network, as well as an assessment of transportation safety in the study area.

Preliminary Assessment

The Affected Area is located in CEQR traffic zone four. Pursuant to Table 16-1 of the *2014 CEQR Technical Manual*, a development that exceeds 200 dwelling units, 15,000 GSF of additional local retail space, 60 parking spaces, or 15,000 GSF of community facilities, or a weighted average exceeding 1.00 of any of the above, would exceed the threshold for warranting further analysis of potential transportation impacts.

The Incremental Development, as assessed under the RWCDS, that could be effectuated by the Proposed Actions is as follows:

Community Facility: +4,782 GSF
Residential Dwelling Units: +59 dwelling units
Local Retail: +4,685 GSF
Light Industrial/Retail (UG 7 Retail): -5,016 GSF

The weighted average for the Proposed Actions is 1.05, and a Tier 1 Trip Generation Assessment is required.

Table 2.7-1: Increment of Analysis

Use	No-Action Condition	With-Action Condition	Increment
Residential[1]	0 DUs	59 DUs	59 DUs
	0 gsf	44,969 gsf	44,969 gsf
Market Rate (DUs)	0	47	47
Affordable (DUs)[2]	0	12	12
Comm. Facility (gsf)	0	4,782	4,782
Commercial (gsf)	5,016	4,685	-331

Notes: 'DUs' indicates Dwelling Units; 'gsf' indicates gross square feet

[1] Average Unit Size assumed to be 760 gsf

[2] Assumed 20 percent of residential floor area is reserved as affordable to households with incomes at or below 80 percent of the AMI

[3] Assumes 2.67 persons per residential dwelling unit per 2018 Brooklyn Community District 15 Census Data

[4] Assumes 1 employee per 250 SF community facility medical office space; 3 employees per 1,000 SF retail/community facility

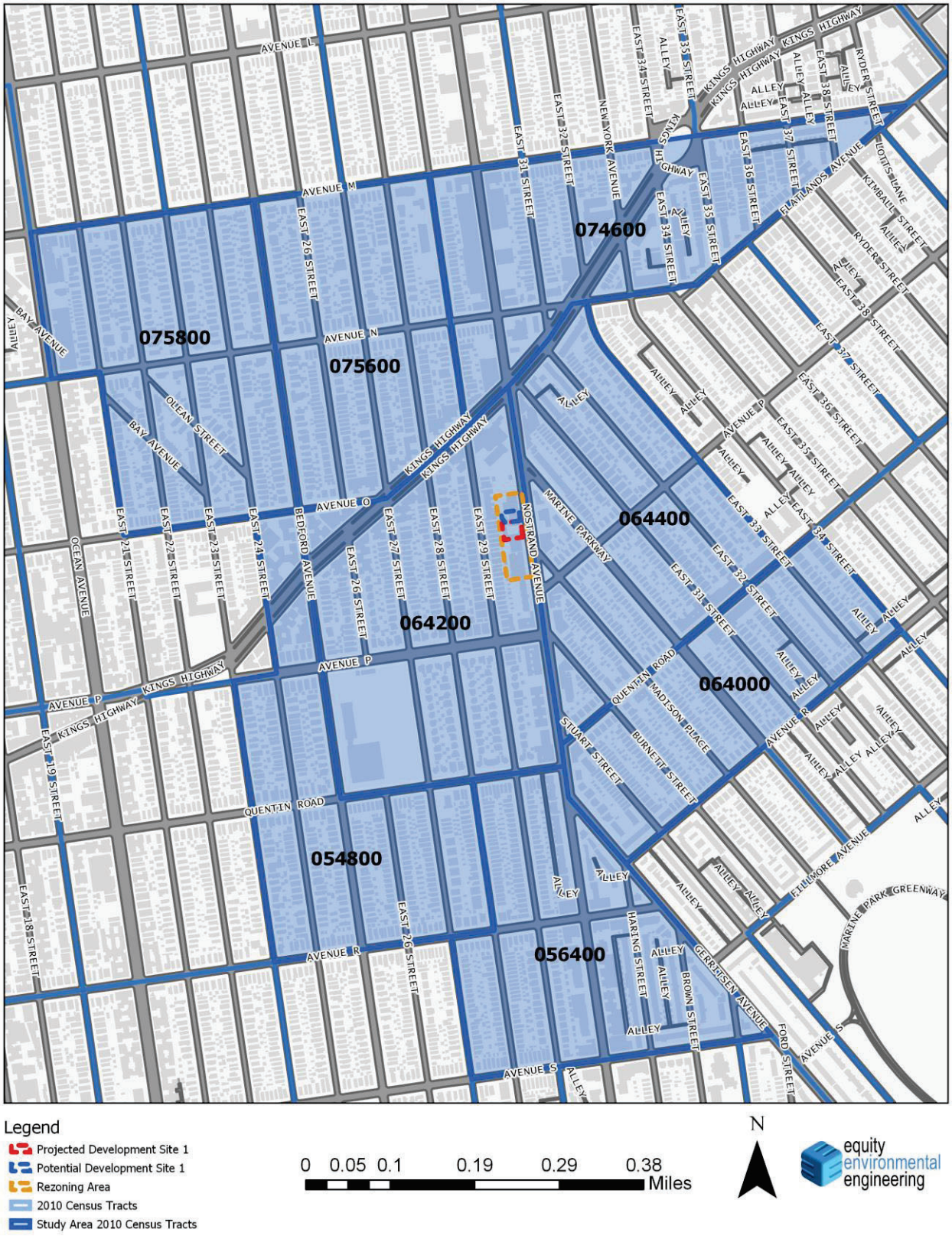
Tier 1 Trip Generation Screening Assessment

The following Transportation Study assesses the incremental difference between the With-Action and the No-Action Scenarios in order to determine the potential effects of the Proposed Action on traffic conditions. Data sources include field observations, information provided by the project sponsor, the 2014 CEQR Technical Manual, U.S. Census data, factors developed for recent environmental reviews, and other references as described below. These factors form the basis for the travel demand forecast (*Tier 1: Trip Generation Screening Assessment*) which analyzes peak hours and projected mode of travel, as well as person, pedestrian and vehicular trip-ends.

The trip generation analysis provides the estimated number of person trip-ends expected to be generated by the proposed project over the course of the entire day, as well as during the peak analysis hours. The classification of a proposed project's daily trip-ends by hour of the day is also referred to as its temporal distribution. Modal split refers to the travel modes likely to be used by persons going to and from the proposed project, including autos, taxis and delivery services, subways, buses, ferries, commuter rail, bicycles, and walking. These modes are considered in terms of percentages—i.e., what percent of the total number of people traveling to and from the site would travel by that particular mode. The modal split percentages are then applied to the hourly trip generation estimates to determine the number of persons traveling to and from the site by each mode for each of the analysis peak hours.

All Trip Generation Planning Factors are described below and shown in Table 2.7-2. Census tracts used for journey to work and reverse journey to work are shown below in Figure 2.7-1.

Figure 2.7-1: Transportation Census Tracts



Legend
- Projected Development Site 1
- Potential Development Site 1
- Rezoning Area
- 2010 Census Tracts
- Study Area 2010 Census Tracts

0 0.05 0.1 0.19 0.29 0.38 Miles

N

equity environmental engineering

Transportation Planning Factors:
Residential Assumptions

To assess the trip generation characteristics of the residential use that would occur under both with-action and no-action conditions, a combination of Chapter 16 of the 2014 *CEQR Technical Manual*, American Community Survey 5-year Journey to Work Data, and the East New York Environmental Impact Statement (EIS) were consulted.

Community Facility (Medical Office) Assumptions

To assess the trip generation characteristics of the 4,598 GSF community facility space, as the space does not have a specified tenant, medical office assumptions were used. A trip generation rate of 76 daily person trips per 1,000 sf for weekdays and 62.1 daily person trips per 1,000 sf for Saturdays was obtained from New York City Department of Transportation (NYCDOT) data for medical office use, based on 24-hour video survey data at 14 sites within five boroughs. The East New York EIS was also consulted for modal splits and in/out splits.

Commercial (Local Retail and Plumbing Supply) Assumptions

To assess the trip generation increment for retail, the with-action ground floor retail was assumed to be local retail. Factors from the CEQR TM, NYCDOT local retail data for Brooklyn, and the East New York EIS were used. For the existing and no-action plumbing supply business located at the Applicant's Site, the East New York EIS and American Community Survey 5-year Reversed Journey to Work Data were consulted.

Table 2.7-2: Transportation Planning Factors

	Local Retail		Residential		Medical Office		Light Industrial (Plumbing Supply)	
Trip Generation	(1)		(1)		(6)		(2)	
Weekday	205		8.075		76		14.7	
Saturday	240		9.6		62.1		2.2	
	per 1,000 sf		per DU		per 1,000 sf		per 1,000 sf	
Linked-trip	25%							
Temporal Distribution	(1)		(1)		(6)		(2)	
AM	3.00%		10.00%		11.00%		13.20%	
MD	19.00%		5.00%		13.00%		11.00%	
PM	10.00%		11.00%		9.00%		14.20%	
Sat MD	10.00%		8.00%		17.00%		10.70%	
Modal Splits	(5)		(3)		(6)		(4)	
Auto	11.00%		46.00%		58.00%		49.70%	
Taxi	0.00%		0.20%		15.00%		0.01%	
Bus	2.00%		8.00%		8.00%		14.18%	
Subway	3.00%		31.00%		7.00%		18.03%	
Walk/Other	84.00%		14.80%		12.00%		18.08%	
In/Out Splits	In (2)	Out (2)	In (2)	Out (2)	In (6)	Out (6)	In (2)	Out (2)
AM	50%	50%	15%	85%	62%	38%	88.00%	12.00%
MD	50%	50%	50%	50%	47%	53%	50.00%	50.00%
PM	50%	50%	70%	30%	35%	65%	12.00%	88.00%
Sat MD	50%	50%	50%	50%	49%	51%	47.00%	53.00%
Vehicle Occupancy	(2)		(2)		Weekday (6)	Sat (6)	(2)	
Auto	2.00		1.10		1.50	1.50	1.20	
Taxi	2.00		1.30		1.50	1.50	1.20	
Truck Trip Generation	(1)		(1)		(1)		(2)	
Weekday	0.35		0.06		0.29		0.67	
Saturday	0.04		0.02		0.29		0.67	
Temporal Distribution	(1)		(1)		(1)		(2)	
AM	8.00%		12.00%		3.00%		14.00%	
MD	11.00%		9.00%		11.00%		9.00%	
PM	2.00%		2.00%		1.00%		1.00%	
Saturday	11.00%		9.00%		0%		0.00%	
In/Out Splits	In (1)	Out (1)	In (1)	Out (1)	In (2)	Out (2)	In (2)	Out (2)
AM/MD/PM/Sat	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%	50.00%

Sources: 1 = 2014 CEQR Technical Manual; 2 = East New York EIS; 3 = ACS 5yr JTW 2013-2017, Census Tracts 548, 564, 640, 642, 644, 746, 756, 758; 4 = ACS 5yr Reversed JTW 2012-2016, Census Tracts 548, 564, 640, 642, 644, 746, 756, 758; 5 = NYCDOT Local Retail Data for Brooklyn; 6 = DOT Provided Data for Medical Office Use

Table 2.7-3: Estimated Trips

	Local Retail		Residential		Medical Office		Light Industrial (Plumbing Supply)				
Size/Units	4,685 gsf		59 DU		4,782 gsf		-5,016 gsf				
Peak Hour Trips									Total		
AM	22		48		40		-10		99		
MD	137		24		47		-8		200		
PM	72		52		33		-10		147		
Sat MD	72		45		50		-1		167		
Person Trips											
AM	In	Out	In	Out	In	Out	In	Out	Total In	Total Out	Total In/Out
Auto	1	1	3	19	14	9	-4	-1	15	28	43
Taxi	0	0	0	0	4	2	0	0	4	2	6
Bus	0	0	1	3	2	1	-1	0	1	4	6
Subway	0	0	2	13	2	1	-2	0	2	14	16
Walk/Other	9	9	1	6	3	2	-1	0	12	17	29
Total	11	11	7	40	25	15	-9	-1	34	65	99
MD	In	Out	In	Out	In	Out	In	Out	Total In	Total Out	Total In/Out
Auto	8	8	5	5	13	15	-2	-2	24	26	50
Taxi	0	0	0	0	3	4	0	0	3	4	7
Bus	1	1	1	1	2	2	-1	-1	3	4	7
Subway	2	2	4	4	2	2	-1	-1	6	6	13
Walk/Other	57	57	2	2	3	3	0	0	61	62	123
Total	68	68	12	12	22	25	-4	-4	98	101	200
PM	In	Out	In	Out	In	Out	In	Out	Total In	Total Out	Total In/Out
Auto	4	4	17	7	7	12	-1	-4	27	19	46
Taxi	0	0	0	0	2	3	0	0	2	3	5
Bus	1	1	3	1	1	2	0	-1	4	2	7
Subway	1	1	11	5	1	1	0	-2	13	5	18
Walk/Other	30	30	5	2	1	3	0	-1	37	34	71
Total	36	36	37	16	11	21	-1	-9	83	64	147
Saturday	In	Out	In	Out	In	Out	In	Out	Total In	Total Out	Total In/Out

Auto	4	4	10	10	14	15	0	0	28	29	58
Taxi	0	0	0	0	4	4	0	0	4	4	8
Bus	1	1	2	2	2	2	0	0	4	4	9
Subway	1	1	7	7	2	2	0	0	10	10	19
Walk/Other	30	30	3	3	3	3	0	0	37	37	73
Total	36	36	23	23	25	26	-1	-1	83	84	167
Vehicle Trips											
AM	In	Out	In	Out	In	Out	In	Out	Total In	Total Out	Total In/Out
Auto	1	1	3	17	10	6	-3	0	10	23	33
Taxi	0	0	0	0	2	3	0	0	2	3	5
Taxi Balanced	0	0	0	0	4	5	0	0	4	5	10
Truck	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	3	17	14	11	-4	-1	14	28	43
MD	In	Out	In	Out	In	Out	In	Out	Total In	Total Out	Total In/Out
Auto	4	4	5	5	9	10	-2	-2	16	17	33
Taxi	0	0	0	0	2	3	0	0	2	3	5
Taxi Balanced	0	0	0	0	4	5	0	0	4	5	9
Truck	0	0	0	0	0	0	0	0	0	0	0
Total	4	4	5	5	13	15	-2	-2	20	22	42
PM	In	Out	In	Out	In	Out	In	Out	Total In	Total Out	Total In/Out
Auto	2	2	15	7	4	8	0	-3	21	13	35
Taxi	0	0	0	0	1	2	0	0	1	2	3
Taxi Balanced	0	0	0	0	2	4	0	0	2	4	7
Truck	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	16	7	7	12	-1	-4	24	18	41
Saturday	In	Out	In	Out	In	Out	In	Out	Total In	Total Out	Total In/Out
Auto	2	2	9	9	10	10	0	0	21	21	42
Taxi	0	0	0	0	2	3	0	0	3	3	5
Taxi Balanced	0	0	0	0	5	5	0	0	5	5	10
Truck	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	10	10	15	15	0	0	26	26	52

Table 2.7-4: Tier 1 Trip Generation Findings

Peak Hour	AM Peak Hour	Midday Peak Hour	PM Peak Hour	Saturday Peak Hour
Total Walk Only Trip-Ends	29	123	71	73
Total Subway Trip-Ends	16	13	18	19
Subway Threshold	**200**	**200**	**200**	**200**
Total MTA Bus Trip-Ends	6	7	7	9
MTA Bus Threshold	**200**	**200**	**200**	**200**
Total Pedestrian Trip-Ends	50	143	95	101
Pedestrian Threshold	**200**	**200**	**200**	**200**
Vehicular Trip-Ends	43	42	41	**52**
Vehicular Threshold	**50**	**50**	**50**	**50**

Based on the findings shown in **Table 2.7-4** above, the Proposed Actions would not exceed the 200-trip subway threshold, the 200-trip MTA bus threshold, or the 200-trip pedestrian threshold for the AM, Midday, PM, or Saturday peak hours. However, the Proposed Actions would exceed the 50-trip vehicular threshold during the Saturday peak hour while the same vehicular threshold for AM, Midday, and PM would not be exceeded. Therefore, a Tier 2 Screening Assessment is required for vehicular trips during Saturday peak hours.

Tier 2 Trip Assignment Screening Assessment

Pursuant to Section 320 of the *CEQR Technical Manual*, when a proposed project exceeds 50 peak hour vehicular trips or 200 peak hour pedestrian trips as determined by the Level 1 Trip Generation Screening Assessment, a Level 2 Project Generated Trip Assignment should be prepared to determine whether a detailed assessment of any technical areas is warranted. As shown in **Table 2.7-4**, the Proposed Actions would exceed the 50 peak hour vehicular trips threshold during Saturday peak hours. Accordingly, based on the Tier 1 Trip Generation Screening Assessment, project generated vehicular trips-ends were assigned to the traffic network for Saturday peak hours.

Level 2: Project Generated Trip Assignment Assumptions

The Level 2 Assignment assumptions are based on the population distribution derived from the 2014-2018 5-year American Community Survey Data for the subject census tracts and all bounding census tracts shown in **Figure 2.7-1** above. The population distribution for the selected census tracts is summarized in **Table 2.7-5** below.

Table 2.7-5: Transportation Census Tracts Population Distribution (ACS 2018)

Census Tract	Population	Percentage
548	2,046	11.42%
564	2,519	14.06%
640	1,794	10.01%
642	2,276	12.70%
644	3,021	16.86%
746	2,637	14.71%
756	1,996	11.14%
758	1,633	9.11%
Total	**17,922**	**100%**

Given the population data in **Table 2.7-5** above, the vehicular trips derived from the Proposed Actions during Saturday peak hour were assigned to the traffic network. The trip assignment is shown in **Figure 2.7-2** and **Figure 2.7-3** below.

Figure 2.7-2: Saturday Vehicular Assignment

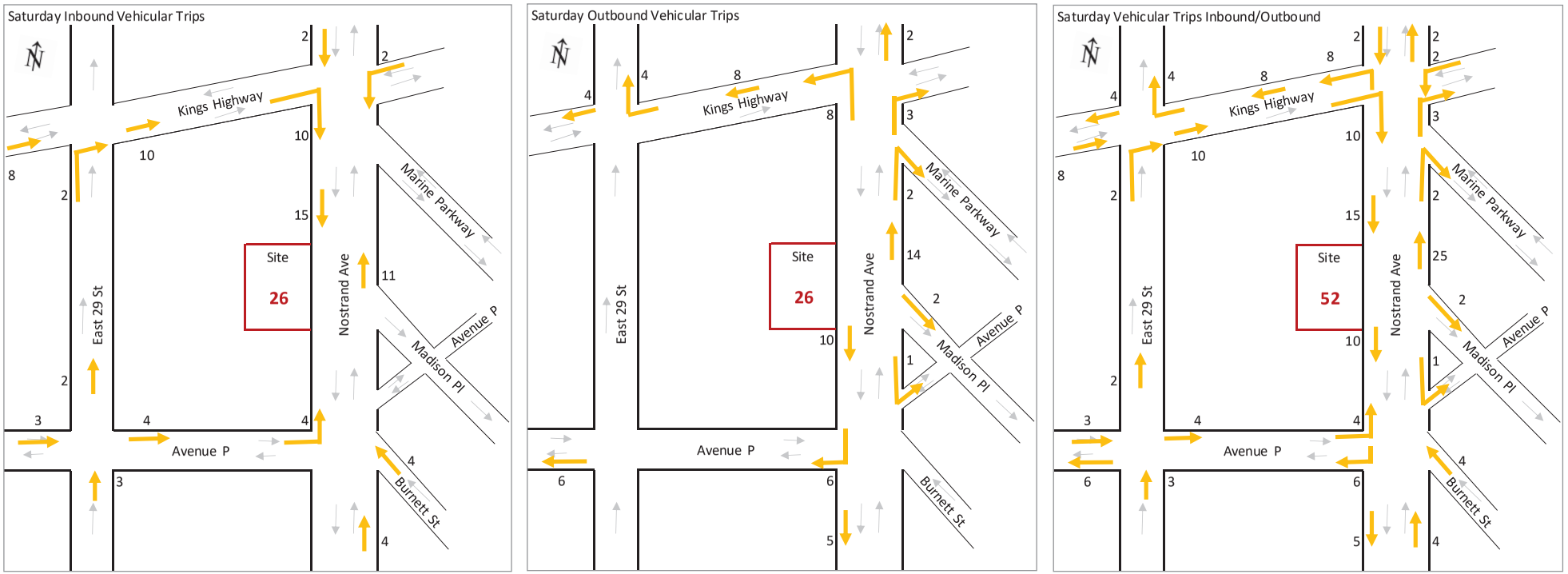
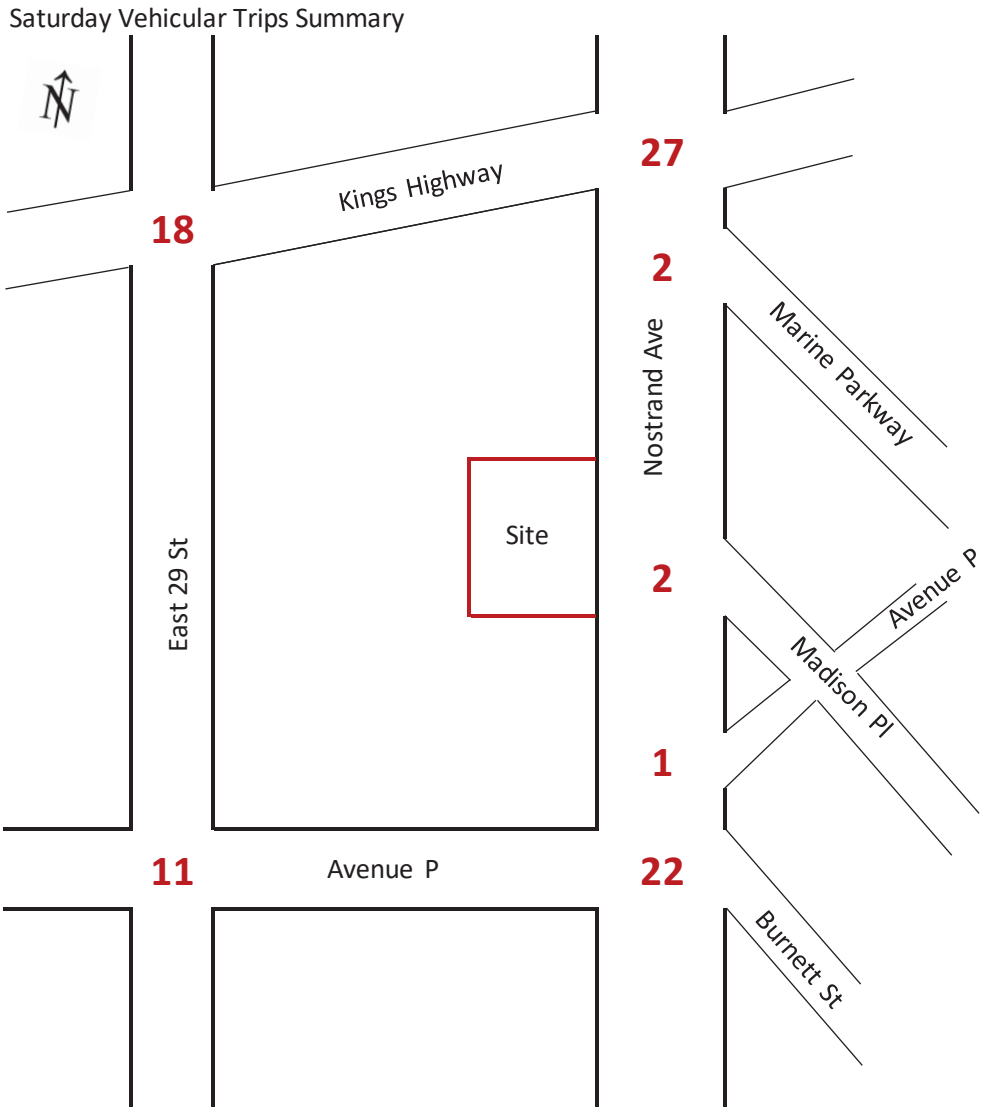


Figure 2.7-3: Saturday Vehicular Assignment Intersection Summary



Based on the *Tier 2 Project Generated Trip Assignment,* this section identifies where exceedances to the applicable *Level 2 CEQR thresholds* occur and concludes where further assessment or mitigation is warranted.

Level 2: Pedestrian Trip Assignment Findings

The March 2014 CEQR Technical Manual indicates that a detailed vehicular analysis be performed for projects that are likely to generate 50 or more incremental vehicular trips during any peak hour at any intersection.

Based upon the vehicular trip assignment shown above, all intersections would occur fewer than 50 vehicle trips during the Saturday peak hour. Therefore, all the intersections could be screened out, and no further analysis would be needed for those intersections.

2.8 Air Quality

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 (PM10), fine particulate matter (PM2.5), and sulfur dioxide. 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.

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 Action would not result in operable windows or air intakes within 200 feet of an atypical roadway. It would not result in creation of a covered roadway or affect any covered roadway. The project would not create a new sensitive receptor adjacent to large parking facilities.

The project would not result in creation of a new parking facility with sizable number of mobile sources of pollution. The project would not result in any other mobile sources of pollution, and would not significantly increase vehicle miles traveled in a large area.

Per *CEQR Technical Manual Section 311*, the threshold for detailed CO impact analysis is 170 vehicles per hour per intersection for the Affected Area and the threshold for detailed $PM_{2.5}$ impact analysis is 12 to 23 HDDV or its equivalent vehicular emissions based on the type of the road. Referring to NYS DOT Highway Functional Classification Map[1], the street that the Proposed Development would have curb cut on is Nostrand Avenue, which is a principal arterial in Brooklyn. The detailed $PM_{2.5}$ impact analysis threshold would be 23 HDDV or its equivalent vehicular emissions.

As shown in **Section 2.7**, the maximum trip generation presented in **Table 2.7-4** is 52 vehicle trips during Saturday peak hour. Accordingly, with the HDDV conversion (See **Appendix F**), the project would generate HDDV equivalent traffic volume of 2 per hour, which is less than 23 per hour. Therefore, no further assessment of the potential for mobile source air quality impacts is warranted.

Stationary Sources

According to the 2014 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, and 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 systems are used.
- 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 or result in new uses being located near them.
- 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.

[1] https://www.dot.ny.gov/gisapps/functional-class-maps

- New uses near an odor-producing facility are created.
- “Non-point” sources that could result in fugitive dust are created.
- New uses near nonpoint 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 station

Ambient air quality describes pollutant levels in the surrounding environment to which the public has access. To assess potential health hazards due to ambient air quality, the impact of air pollutants emitted by motor vehicles (mobile source) and by fixed facilities (stationary source) are analyzed, where the effects of both the proposed project on ambient air quality and the ambient air quality effect on the proposed project are considered. The analysis framework, as mandated by the State Environmental Review Act, follows the New York City Environmental Quality Review 2014 Technical Manual (CEQR TM). The potential air quality impacts of the following emissions are estimated following the procedures and methodologies prescribed in the CEQR TM:

- The potential for changes in vehicular travel associated with proposed development activities to result in significant mobile source (vehicular related) air quality impacts.
- The potential for emissions from the heating, ventilation and air conditioning (HVAC) systems of the proposed development to significantly impact nearby existing land uses.
- The potential for air toxic emissions released from existing industrial facilities to significantly impact the proposed development within 400 feet of the proposed development.
- The potential for significant air quality impacts from the emissions of existing HVAC systems with a 20 or more million Btu per hour (MMBtu/hr) design capacity to significantly impact the proposed development within 400 feet of the proposed development.
- The potential for significant air quality impacts from the emissions of facilities that require Prevention of Significant Deterioration permits (Title V), and facilities which require a state facility permit to significantly impact the proposed development within 1,000 feet of the proposed development.

Analysis Framework

Future No-Action

There are 11 lots affected by the Proposed Rezoning: Projected Development Site 1 (2892 Nostrand Avenue), Potential Development Site 1 (2884-2890 Nostrand Avenue), and Other Sites 1-7 (2872-2876, 2880-2882, 2910, and 2922 Nostrand Avenue). In the future without the Proposed Action existing conditions are expected to continue. Each of the lots are improved with a building ranging in height from 1 to 6 stories, and no changes are expected.

Future With-Action

Projected Development Site 1 (Block 7690, Lot 73)

Projected Development Site 1, the Applicant-owned property, would facilitate a mixed-use, predominantly residential, 9-story building. The proposed building would rise to a height of 93 feet and would contain 54,436 GSF of floor area containing 44,969 GSF of residential use,

4,685 GSF of commercial use, and 4,782 GSF of community facility use. The building RWCDS would facilitate a 110' tall building, containing 54,436 GSF of floor area. 26 parking spaces would be provided in the cellar level.

Potential Development Site 1 (Block 7690, Lots 70, 71, 72)
The Potential Development Site 1 RWCDS would facilitate a mixed-use, predominantly residential, 9-story, 95' tall building, containing 30,196 GSF of floor area.

AIR POLLUTANTS AND APPLICABLE STANDARDS/GUIDELINES

National Air Quality Standards

The U.S. Environmental Protection Agency (EPA) has identified six pollutants, known as criteria pollutants which are being of concern nationwide, and established threshold concentration based upon adverse effect on human health. The six pollutants and their characteristics are:

- Carbon Monoxide (CO) is mainly produced by motor vehicles from the incomplete combustion of gasoline. The impact of CO on the ambient air is analyzed next to roadways, intersections, parking lots, and parking garages vents as these locations are the most affected.
- Nitrogen Dioxide (NO_2) is a main concern related to the burning of natural gas. Emitted NOx from the burning of fossil fuel gradually convert to NO_2 in a chemical reaction that is affected by ozone concentration and the presence of sunlight. In a micro scale analysis, buildings HVAC systems are analyzed for NO_2 impact.
- Ozone (O_3) is formed by chemical reaction between hydrocarbons and nitrogen oxides and its impact is analyzed on a regional scale by monitoring stations.
- Lead (Pb) in the ambient air is monitored on a regional level. In a project scale analysis, impact due to Lead concentration levels are analyzed if a new source, such as lead smelters, is introduced into the environment or if a project is located next to a lead emitter.
- Particulate Matter emissions are associated with both stationary sources and mobile sources. Two sizes of particulate matters are analyzed: Inhalable Particles (PM_{10}) and Fine Particulate Matter ($PM_{2.5}$), where the subscript number refers to the diameter of the particulate matter in micrometers.
- Sulfur Dioxide (SO_2) emission is principally associated with stationary sources that burn oil or coal. These fuels contain sulfur that bond to oxygen atoms in the burning process.

As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for the criteria pollutants by EPA, and New York State has adopted the NAAQS as the State ambient air quality standards. The NO_2 and $PM_{2.5}$ standards together with their health-related averaging periods are presented in **Table 2.8-1.**

Table 2.8-1. National AND New York States Ambient Air Quality

Pollutant	Averaging Period	National and State Standards
NO_2	Maximum 1-Hour Concentration	0.10 ppm (188 µg/m^3)
	Annual Arithmetic Average	0.053 ppm (100 µg/m^3)
$PM_{2.5}$	24-Hour Concentration	35 µg/m^3
	Average of 3 Consecutive Annual Means	12 µg/m^3
SO_2	Maximum 1-Hour Concentration	75 ppb (196 µg/m^3)
	Annual Arithmetic Mean	30 ppb (80 µg/m^3)

NO_2 NAAQS

Nitrogen oxide (NO_x) emissions from gas combustion consist predominantly of nitric oxide (NO) at the source. The NO_x in these emissions are then gradually converted to NO_2, which is the pollutant of concern, in the atmosphere (in the presence of ozone and sunlight as these emissions travel downwind of a source).

The 1-hour NO_2 NAAQS standard of 0.100 ppm (188 ug/m^3) is the 3-year average of the 98th percentile (8th Highest) of daily maximum 1-hour average concentrations in a year. For determining compliance with this standard, the EPA has developed a modeling approach for estimating 1-hour NO_2 concentrations that is comprised of 3 tiers: Tier 1, the most conservative approach, assumes a full (100%) conversion of NO_x to NO_2; Tier 2 applies a conservative ambient NOx/NO_2 ratio of 80% to the NO_x estimated concentrations; and Tier 3, which is the most precise approach, employs AERMOD's PVMRM module. The PVMRM accounts for the chemical transformation of NO emitted from the stack to NO_2 within the source plume using hourly ozone background concentrations. When Tier 3 is utilized, AERMOD generates 8th highest daily maximum 1-hour NO_2 concentrations or total 1-hour NO_2 concentrations if hourly NO_2 background concentrations are added within the model.

Per the *CEQR TM*, a Tier 1 approach is initially applied, followed by a Tier 2 application of NOx/NO_2 ratio of 80% to the NOx modeled concentration to determine whether violation of the NAAQS is likely to occur. A less conservative Tier 3 approach is then applied if exceedances of the 1-hour NO_2 NAAQS were estimated.

The annual NO_2 standard is 0.053 ppm (100 ug/m^3). In order to conservatively estimate annual NO_2 impacts, a NO_2 to NOx ratio of 0.75 percent, which is recommended by the NYCDEP for an annual NO_2 analysis, was applied.

New York State Standards

As mentioned, New York State has adopted the national standard, NAAQS. In addition, the New York State Department of Environmental Conservation (NYSDEC) has established guidelines for maximum allowable concentration of "noncriteria pollutants," which are potentially toxic or carcinogenic pollutants. The maximum allowable guidelines set a maximum 1-hour and annual averaging time concentrations and are published in the DAR-1 AGC/SGC Table, where AGC/SGC refers to Annual and Short-term Guideline Concentrations. The most recent DAR-1 guidelines were created on July 14, 2016.

NYSDEC also regulates pollutants that produce discomfort due to odors, where significant discomfort is evaluated on quantity, characteristic or duration.

NYC Interim Guidelines

In addition to the NAAQS, the *CEQR TM* requires that projects subject to CEQR apply a $PM_{2.5}$ significant impact criteria (based on concentration increments). These criteria are called *de minimis* and they are more stringent than the NAAQS and the state standards as the criteria set a maximum increase of pollutant concentration that is below the national standard. If the estimated impacts of a proposed project are less than the *de minimis* criteria, the impacts are not considered to be significant. As outlined in the *CEQR TM,* $PM_{2.5}$ significant impacts are evaluated as follow:

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

Background Concentrations

Determination of significant impact criteria is evaluated by adding the background concentrations at the nearest NYSDEC monitoring station to the concentrations of criteria pollutants in the ambient air of the project area.

Background concentrations of NO_2, SO_2, and $PM_{2.5}$—the criteria pollutants relevant for HVAC system fueled by natural gas or fuel oil #2 analysis—were obtained from the NYSDEC's annual report for 2017 at the nearest monitoring stations (Project Area distances to JHS 45 and JHS 126 are equal). **Table 2.8-2** shows the background concentrations.

Table 2.8-2: Background Concentration at the Queens College Monitoring Station (NYSDEC 2017 Report)

Pollutant	Averaging Period	Background Concentration	Monitoring Station
NO_2	1-Hour Concentration	112.2 $\mu g/m^3$	Queens College s
	Annual Arithmetic Average	32.4 $\mu g/m^3$	
$PM_{2.5}$	24-Hour Concentration	19.4 $\mu g/m^3$	JHS 45
	Average of 3 Consecutive Annual Means	7.9 $\mu g/m^3$	
SO_2	1-Hour Concentration	6.93 ppb (18.1 $\mu g/m^3$)	Queens College s
	Annual Arithmetic Mean	0.75 ppb (2.00 µg/m3)	

The *de minimis* criteria for $PM_{2.5}$ was evaluated as described in the NYC Interim Guidelines. The concentration increments are presented below:

- 24-hour $PM_{2.5}$ 7.80 $\mu g/m^3$
- Annual $PM_{2.5}$ 0.3 $\mu g/m^3$

Project HVAC Systems Analysis

Per the *CEQR Technical Manual*, the HVAC analysis considers the potential for emissions from the HVAC systems of the projected and potential development to significantly impact existing land uses (project-on-existing), and the potential for projected and potential development HVAC systems to significantly impact each other (project-on-project).

Buildings' HVAC systems are defined as stationary sources. Based on CEQR guidelines, a preliminary screening analysis is to be conducted as a first step to predict whether the heat and

hot water system boiler emissions would result in a significant impact. This CEQR screening procedure is applicable to buildings that are not less than 30 feet from the nearest building of similar or greater height. Otherwise, a detailed dispersion analysis is required.

Projected Development Site 1 abuts Potential Development Site 1; hence the project-on-project screening analyses is not applicable. Therefore, dispersion modeling analyses were conducted for the project-on-project analysis. The building heights considered in the analysis were the Potential Development Site 1 RWCDS height of 95 feet, and the Projected Development Site 1 proposed and RWCDS heights of 93 and 95 feet, respectively.

Screening Analysis

As outlined in the *CEQR Technical Manual,* the potential for stationary source emissions from heat and hot water systems to have a significant adverse impact on nearby receptors depends on the type of fuel that would be used, the building's residential or non-residential use, the square footage of the development that would be served by the system, the height of the building served by the HVAC system and the distance to the nearest building whose height is at least as great as the building served by the HVAC system. The *CEQR Technical Manual* provides a screening analysis based on these factors, which was utilized to determine the potential for significant impacts from the projected building's HVAC system(s).

If the actual distance between a stack and the affected building is greater than the threshold distance for a building size, then that building passes the screening analysis (and no significant impact is predicted). However, if the actual distance is less than the threshold distance for a building, then there is a potential for a significant impact and a detailed analysis would be required.

Screening analysis is only applicable to a single smokestack. However, for purpose of a cumulative analysis, emissions from multiple stacks could be combined in a single stack situated as close as possible to the receiving building. As such, the stack (for the purpose of the cumulative screening analysis) was assumed to be located on top of the 93' tall building, which is the lower building scenario, and the floor areas of both Development Sites were combined. These inputs are shown here:

1. The Proposed Action (Projected Development Site 1 and Potential Development Site 1 combined): 93 feet tall building, containing 44,969 GSF of residential use. Impact on existing land uses that are at least 93 feet high. Fuel oil #2 would be the type of fuel used in the building's HVAC system.

Per the *CEQR Technical Manual*, the CEQR nomographs depicted on Figure 17-5 of the *CEQR Technical Manual Appendices* was used. This stationary source screen is a generic screen that considers the type of fuel oil used in HVAC systems of residential buildings. According to 15 RCNY 2-15, no new boiler or burner installations may use No. 6 or No. 4 fuel oils. Therefore, the highest-emitting fuel that could be used is No. 2 fuel oil. This nomograph depicts the size of the development versus distance below which the potential impact can occur and provides a conservative estimate of the threshold distance. In addition, the distance to nearest building of similar or greater height was assumed to be 400 feet if the actual distance is greater. **Figure 2.8-1** shows the screening analysis nomograph.

Figure 2.8-1: The Projected and Potential Development Sites – Cumulative HVAC Screen Nomograph

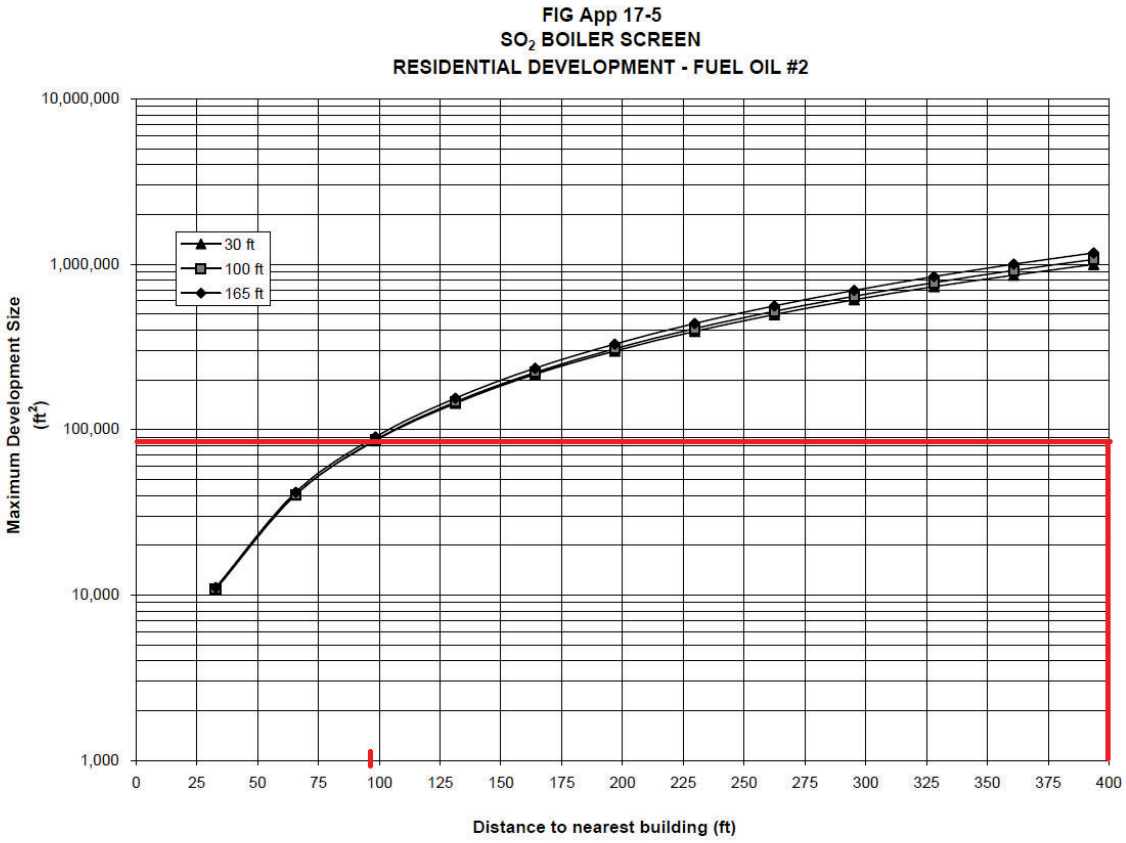


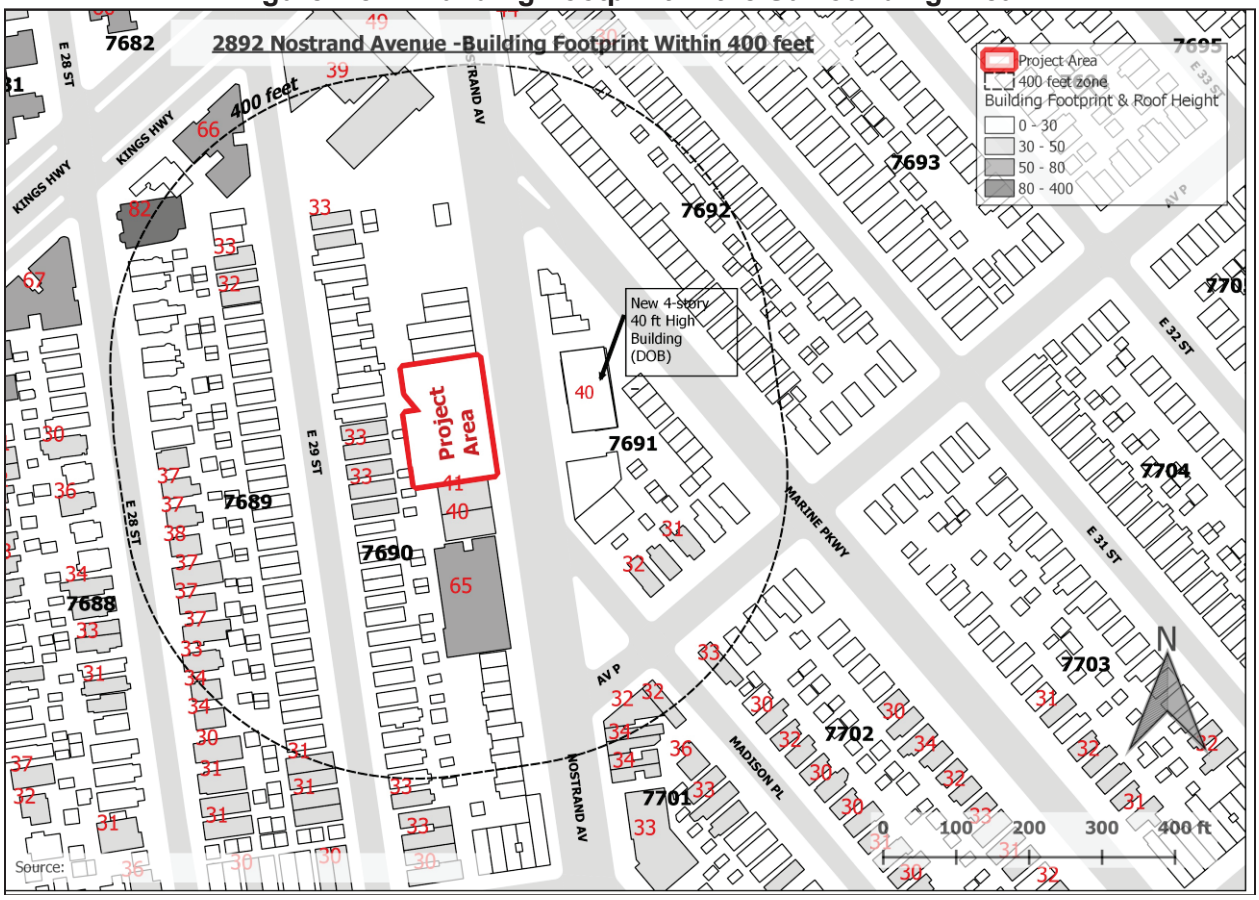
Table 2.8-3 shows the building heights and the screening analyses results, where "Use AERMOD" indicates that a detailed analysis using AERMOD dispersion analysis is required.

Table 2.8-3: Screening Analysis Results

Projected Development Site ID	Lot	Building Height (ft.)	Heated Area (sq. ft.)	Screen Distance (ft.)	Receptor Building (Site ID or Block/Lot)	Receiving Building Distance (ft.)	Pass/ Fail
Project-on-Project							
Projected Development Site 1	73	93 (proposed height)	54,436	N.A.	Potential Development Site 1	0	Use AERMOD
Potential Development Site 1	70, 71, 72	95	30,196	N.A.	Projected Development Site 1 RWCDS	0	Use AERMOD
Project-on-Existing							
Cumulative	70-73	93	84,632	97	Existing > 93 ft. high	No Result Within 400 ft.	Screens Out

Figure 2.8-2 shows the Projected Development Sites plotted on the NYC Building Footprint map, where the block numbers and roof heights greater or equal to 30 feet are labeled. The building footprint geo metadata was obtained from the NYC Open Data Building Footprints shapefile[2].

Figure 2.8-2: Building Footprint in the Surrounding Area



[2] https://data.cityofnewyork.us/Housing-Development/Building-Footprints/nqwf-w8eh/data.

Figure 2.8-1 screening analysis shows that a detailed analysis would be required for any existing or planned land uses that are 93 feet or higher and at a distance of less than 97 feet from the Development Sites. As seen in **Figure 2.8-2**, there are no buildings similar or greater in height in the 400-foot study area, nor within 97 feet of the Project Area.

As presented in **Table 2.8-4**, the Projected and Potential Development Sites are adjacent, hence the screening analyses fail for the project-on-project scenario and a detailed analysis using AERMOD was required; the proposed project's potential impact on existing land uses screened out.

Detailed Analysis

Two dispersion modeling analyses were conducted to estimate the impacts from the building stack emissions: The Proposed Development Site 1 actual design dimensions on the Potential Development Site 1, and the Potential Development Site 1 impact on the Projected Development Site 1 RWCDS. These analyses were conducted using the latest version of EPA's AERMOD dispersion model. In accordance with CEQR guidance, these analyses were conducted assuming stack tip downwash, urban dispersion surface roughness length of 1.0 meter, elimination of calms, and with and without downwash effect on plume dispersion.

Per the *CEQR Technical Manual*, the pollutants of concern for oil #2 fueled boilers are SO_2 and $PM_{2.5}$. However, NO_2 was analyzed too as a conservative measure. The Potential Development Site 1 boiler's energy intensity was calculated from the annual fuel usage, the development's gross floor area, and the assumption that the development's fuel use would resemble that of a residential building. Pertinent values were obtained from the *CEQR Technical Manual Appendix* for residential buildings, and the assumption that all fuel would be consumed during the 100-day (or 2,400 hour) heating season. Per the guidance from DCP for a similar project, SO_2 emission was assumed to be 30 ppm. **Table 2.8-4** shows the calculated emission rates, both short-term and annual.

Table 2.8-4: Estimated Short-Term and Annual Emission Rates of Each Building

Site ID	Fuel	Pollutant	Averaging Time	Emission Rate (g/s)
Projected Development Site 1	Fuel Oil #2	NO_2	1-hour	2.55E-02
			Annual	6.98E-03
		$PM_{2.5}$	24-hour	2.71E-03
			Annual	7.43E-04
		SO_2	1-hour	9.44E-03
			Annual	2.59E-03
Potential Development Site 1	Fuel Oil #2	NO_2	1-hour	2.55E-02
			Annual	3.78E-03
		$PM_{2.5}$	24-hour	1.47E-03
			Annual	4.02E-04
		SO_2	1-hour	5.11E-03
			Annual	1.40E-03

The diameters of the stacks were estimated based on values obtained from the New York City Department of Environmental Protection (DEP) "CA Permit" database for the corresponding boiler size (i.e., rated heat input or million Btu per hour). The stacks exit temperatures were assumed to

be 300°F (423K), which is appropriate for boilers. The stack exit velocity of Projected Development Site 1 was estimated based on values from the DEP "CA Permit." The stack exit velocity of Potential Development Site 1 was calculated according to the EPA Method 19 and adjusted to exit temperature of 423 K. The New York City Building Code (Building Code) requires that a rooftop stack should be at least 10 feet away from the edge of the roof and at least 3 feet higher than the roofline. These parameters were specified in the AERMOD models. In addition, the stack of the source building was situated as close as possible to the receiving building.

The Development Sites were modeled as rectangular prisms. Numerus buildings in the surrounding area were input into the models to account for the downwash effect on plum dispersion. The building footprint geo metadata were obtained from the NYC Open Data Building Footprints shapefile[3], except one new building the height of which was obtained from the NYC Department of Buildings.

Receptors on the receiving building were placed all around the receiving building envelope, at 10-foot increments and at all floor levels. Ground floor receptors were placed at a height of 6 feet above grade and 2nd floor receptors at 21 feet (assuming 15-foot high ground floor). Floors above the 2nd floor were assumed to be 10 feet high, and receptors were placed 6 feet above each of these floor levels. Receptors were also placed 3 feet below the roof line of the receiving building.

All analyses were run with a generic emission of 1 gram per second emission rate for the 1-hour, 24-hour, and annual averaging times, and maximum output concentrations.

The NO_2 1-hour with no downwash effect on plum dispersion of Potential Development Site 1 impact on Projected Development Site 1 utilized a Tier 2 approach, applying an ambient NOx/NO_2 ratio of 80% to the NO_x estimated concentrations.

All analyses were conducted using the latest five consecutive years of meteorological data (2013-2017). Surface data was obtained from JFK Airport and upper air data from Brookhaven station, New York. These meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevations over the 5-year period. Meteorological data were combined to develop a 5-year set of meteorological conditions, which was used for the AERMOD modeling runs and Anemometer height of 6.7 meters was specified per Lakes Environmental Software Inc.

Results of Dispersion Analyses

Both NO_2 1-hour and annual averaging times modeled concentrations were added to the background concentrations at the NYSDEC Queens College monitoring station. A Tier 2 approached followed if exceedance of the NAAQS were predicted. The reported concentrations are the maximum predicted concentrations of the building wake effects abled/disabled scenarios. The $PM_{2.5}$ 24-hour and annual averaging times modeled concentrations were compared with the NYC Guidelines threshold criterions. Result of the HVAC dispersion NO_2, $PM_{2.5}$, and SO_2 analyses are shown in **Table 2.8-5**.

[3] https://data.cityofnewyork.us/Housing-Development/Building-Footprints/nqwf-w8eh/data.

Table 2.8-5. The Proposed Project HVAC Dispersion Analysis Results

Pollutant and Averaging Time	Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Evaluated Concentration ($\mu g/m^3$)	Threshold Concentration ($\mu g/m^3$)	Threshold Standard
Projected Development Site 1 on Potential Development Site 1					
1-hour NO_2	54.2	112.2	166	188	NAAQS
Annual NO_2	0.65	32.4	33.0	100	NAAQS
24-hour $PM_{2.5}$	2.72	N.A.	2.72	7.80	*de minimis*
Annual $PM_{2.5}$	0.07	N.A.	0.1	0.3	*de minimis*
1-hour SO_2	20.1	18.1	38	196	NAAQS
Annual SO_2	0.24	2.0	2.2	80	NAAQS
Potential Development Site 1 on Projected Development Site 1					
1-hour NO_2	67.1[4]	112.2	179	188	NAAQS
Annual NO_2	0.39	32.4	32.8	100	NAAQS
24-hour $PM_{2.5}$	1.34	N.A.	1.34	7.80	*de minimis*
Annual $PM_{2.5}$	0.04	N.A.	0.1	0.3	*de minimis*
1-hour SO_2	16.8	18.1	35	196	NAAQS
Annual SO_2	0.14	2.00	2.1	80	NAAQS

As seen in **Table 2.8-5**, the NO_2 and SO_2 predicted concentrations are less than the NAAQS and the $PM_{2.5}$ concentrations are less than the *de minimis*. Therefore, with the following E-579 Designations restricting stack height and fuel type in place, the emissions of the Potential and Projected Development would not significantly impact the other site.

E-579 Designation

Block 7690, Lot 73 (Projected Development Site 1): Any new residential, commercial, and/or community facility development on the above-referenced property must ensure that the heating, ventilating, air conditioning (HVAC), and hot water system(s) stack is located at the building's highest level, and at a minimum of 96 feet above grade to avoid any potential significant adverse air quality impacts.

Block 7690, Lots 70, 71, 72 (Potential Development Site 1): Any new residential and/or commercial development on the above-referenced property must ensure that the heating, ventilating, air conditioning (HVAC), and hot water system(s) stack is located at the building's highest level, and at a minimum of 98 feet above grade to avoid any potential significant adverse air quality impacts.

Conclusion

The air quality analysis addressed the stationary HVAC systems. The result of the analysis is shown below:

- Emissions from project-related heating, ventilation, and air conditioning systems (HVACs) would not cause significant air quality impacts to receptors at the local scale with E-579 designation in place.

[4] Concentration predicted with a Tier 2 approach.

Industrial Emissions

The Proposed Action would introduce a sensitive land use into the area. Accordingly, a preliminary screening was conducted to determine if there are any potential sources of industrial process emissions that could affect project occupants. Industrial sources were identified through a site visit within a 400-foot study area and the DEP CATS search.

400 Foot Study Area

The Affected Area is located within a R3-2 zoning district. The surrounding area within a radius of 400 feet consists primarily of residential, commercial, and institutional uses. The 400-foot radius was screened for potential sources of industrial emissions. One industrial use, 2901 Nostrand Avenue, was located, and is shown below in **Table 2.8-6.**

Table 2.8-6: Industrial/Manufacturing within 400 feet of the Affected Area

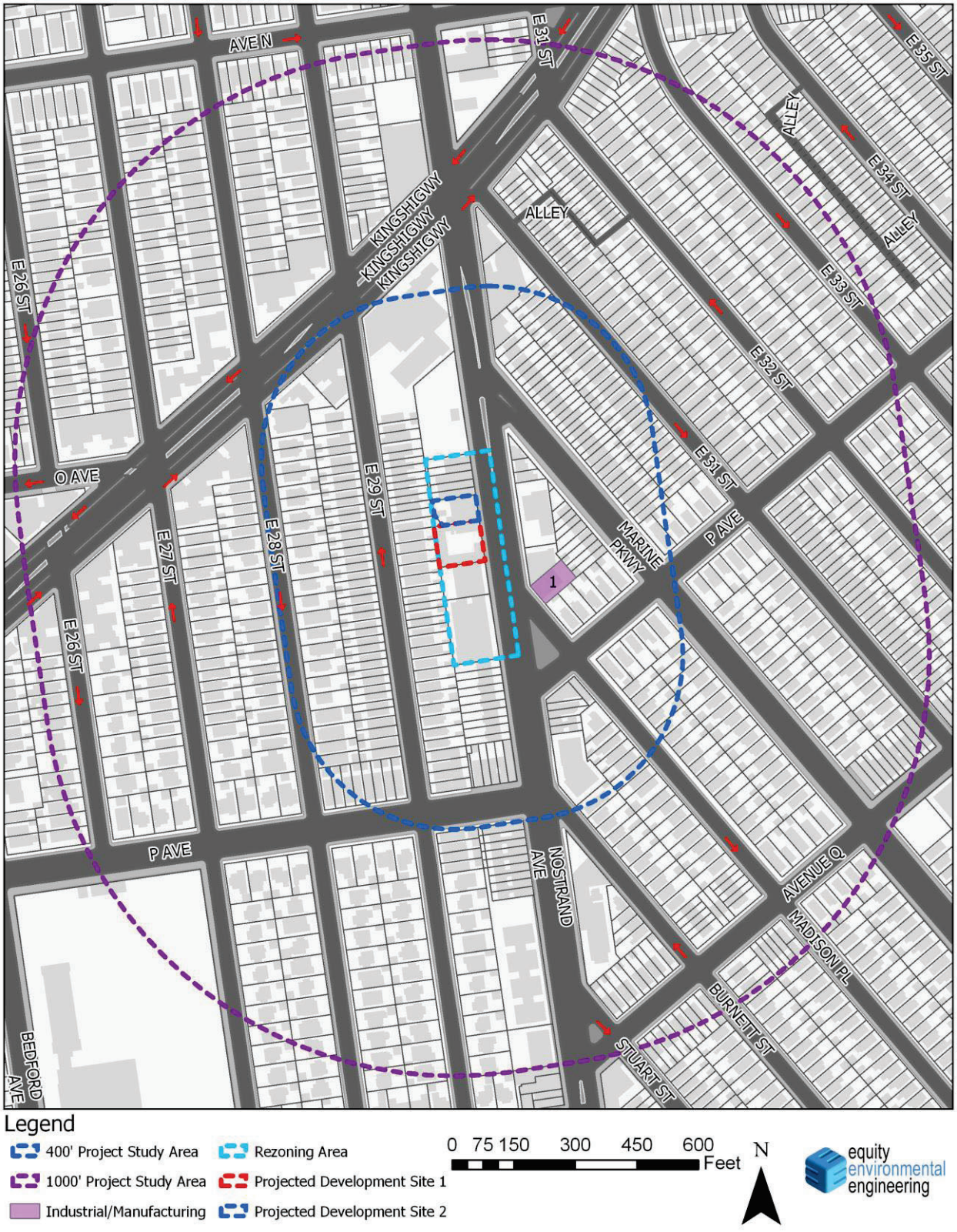
Industrial/Manufacturing within 400 feet of the Affected Area					
Key	**Block**	**Lot**	**Address**	**Current Use**	**Permit Search Results**
1	7691	11	2901 Nostrand Avenue	Industrial/Manufacturing	No Results Found

1,000 Foot Study Area

The surrounding area within a radius of 1,000 feet of the Affected Area was screened for potential large source industrial emissions.

Based on field observations and reviews of DCP land use maps, no such sources were identified. See **Figure 2.8-3** below.

Figure 2.8-3: Industrial Emissions Sources



Conclusion

As indicated above, there are no active industrial emissions permits or large industrial emission sources within the 400- or 1,000-foot study areas. Additionally, there is no evidence present to conclude that there are illegal unpermitted air emissions present in the study area. Therefore, there does not appear to be any potentially significant impact in terms of air toxics to project occupants.

2.9 Noise

Introduction

Equity Environmental Engineering, LLC (Equity) conducted Noise Monitoring in support of the Proposed Actions. Vehicular traffic is the predominant source of noise in the area, and elevated ambient noise levels have the potential to affect development resulting from the proposed actions. Therefore, the Proposed Action warrants an assessment of the potential for adverse effects on project occupants from ambient noise.

The Proposed Actions would not create a significant noise generator. Additionally, project-generated traffic would not double vehicular traffic on nearby roadways, and therefore would not result in a perceptible increase in vehicular noise. This noise assessment is limited to an assessment of ambient noise that could adversely affect occupants of the development.

The purpose of the noise assessment under CEQR is to determine: (1) if new noise receptors that would be introduced by the proposed actions would be in an acceptable ambient sound level environment; and (2) if the proposed actions would significantly increase sound levels from mobile and stationary sources at existing noise receptors adjacent to the proposed development including residential, commercial, and institutional land uses.

According to the 2014 CEQR Technical Manual a noise analysis is appropriate if an action would generate mobile or stationary sources of noise or would be located in an area with high ambient noise levels. Mobile sources include vehicular traffic generated by the proposed action and stationary sources include rooftop equipment such as emergency generators, cooling towers, and other mechanical equipment.

Methodology

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 those 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 2.9-2** 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.

The *CEQR Technical Manual* recommends an analysis of two principal types of noise sources: mobile sources; and stationary sources. Both types of noise sources are examined in the following sections.

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 Action.

Per the *CEQR Technical Manual*, if existing passenger car equivalent (PCE) values are increased by 100 percent or more due to a Proposed Actions, a detailed analysis is generally performed.

Pursuant to Section 332.1 of the *2014 CEQR Technical Manual*, to calculate vehicular noise using projections:

- Each Automobile or Light Truck: 1 Noise PCE
- Each Medium Truck: 13 Noise PCEs
- Each Bus: 18 Noise PCEs
- Each Heavy Truck: 47 Noise PCEs

As shown in **Table 2.7-4**, the highest peak hour increment generated by the Proposed Actions for vehicular trips would be 52 vehicular trip ends occurring during the Saturday peak hour. All projected vehicular trips are private cars for a total PCE value of 52. As indicated below in **Table 2.9-6** through **2.9-8**, the lowest average existing traffic values during the noon 20-minute monitoring period was 214 vehicles (when extrapolated to one hour, the total is 642 vehicles for a total noise PCE of 2,148). Therefore, no significant adverse mobile source noise impacts to existing receptors are anticipated because of the Proposed Actions as it does not increase existing passenger equivalent values by more than 100 percent.

As discussed in the *CEQR Technical Manual*, if the proposed project is located in areas with high ambient noise levels, which typically include those near heavily-traveled thoroughfares, airports, exposed rail, or other loud activities, further noise analysis may be warranted. Accordingly, ambient noise levels were measured at the proposed development site to provide an assessment of the potential for ambient noise to have a significant adverse effect on future residents of the proposed development.

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 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.

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 a stationary noise source is near a sensitive receptor, and is unenclosed. No unenclosed specific stationary noise sources of concern were observed during field inspection. As the project site is not subject to high ambient noise levels from any nearby stationary source, no stationary source noise impacts from surrounding uses are anticipated. Additionally, as the proposed project would not introduce a new stationary noise source, no significant adverse stationary source impacts are anticipated because of the Proposed Action, and no further analysis is warranted.

In 1983, the New York City Department of Environmental Protection (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: Acceptable, Marginally Acceptable, Marginally Unacceptable and Clearly Unacceptable. As noted in the *CEQR Technical Manual*, these standards are the basis for classifying noise exposure into the following categories based on the L_{10} measured directly outside the projected development site:

Table 2.9-1 Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly
Noise Level with Proposed Project	70 < L10 ≤ 73	73 < L10 ≤ 76	76 < L10 ≤ 78	78 < L10 ≤ 80	80 < L10
Attenuation[5]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	36 + (L10 – 80) dB(A)[6]

Source: *CEQR Technical Manual*

Table 2.9-2: Noise Levels of Common Sources

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

Notes: A change in 3dB(A) is a just noticeable change in SPL.
A change in 10 dB(A) is perceived as a doubling or halving in SPL.
Source: 2014 CEQR Technical Manual

Sound is often measured and described in terms of its overall energy, taking all frequencies into account. However, the human hearing process is not the same at all frequencies. Humans are less sensitive to low frequencies (less than 250 Hz) than mid-frequencies (500 Hz to 1,000 Hz) and are most sensitive to frequencies in the 1,000- to 5,000-Hz range. Therefore, noise measurements are often adjusted, or weighted, as a function of frequency to account for human perception and sensitivities. The most common weighting networks used are the A- and C-weighting networks. These weight scales were developed to allow sound level meters, which use filter networks to approximate the characteristic of the human hearing mechanism, to simulate the frequency sensitivity of human hearing. The A-weighted network is the most commonly used, and sound levels measured using this weighting are denoted as dBA. The letter "A" indicates that the

[5] The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial office spaces and 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.

[6] Required attenuation values increase by 1 dB(A) increments for L10 values greater than 80 dBA.

sound has been filtered to reduce the strength of very low and very high frequency sounds, much as the human ear does. C-weighting gives nearly equal emphasis to sounds of most frequencies. Mid-range frequencies approximate the actual (unweighted) sound level, while the very low and very high frequency bands are significantly affected by C-weighting.

The following is typical of human response to relative changes in noise level:
- 3-dBA change is the threshold of change detectable by the human ear;
- 5-dBA change is readily noticeable; and
- 10-dBA change is perceived as a doubling or halving of the noise level.

The SPL that humans experience typically varies from moment to moment. Therefore, various descriptors are used to evaluate noise levels over time. Some typical descriptors are defined below.

- L_{eq} is the continuous equivalent sound level. The sound energy from the fluctuating 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 a greater effect on the L_{eq} than low noise levels. L_{eq} has an advantage over other descriptors because L_{eq} values from various noise sources can be added and subtracted to determine cumulative noise levels.
- $L_{eq\ (24)}$ is the continuous equivalent sound level over a 24-hour time period.

The sound level exceeded during a given percentage of a measurement period is the percentile-exceeded sound level (L_X). Examples include L_{10}, L_{50}, and L_{90}. L_{10} is the A-weighted sound level that is exceeded 10% of the measurement period.

The decrease in sound level caused by the distance from any single noise source normally follows the inverse square law (i.e., the SPL changes in inverse proportion to the square of the distance from the sound source). In a large open area with no obstructive or reflective surfaces, it is a general rule that at distances greater than 50 feet, the SPL from a point source of noise drops off at a rate of 6 dB with each doubling of distance away from the source. For “line” sources, such as vehicles on a street, the SPL drops off at a rate of 3 dBA with each doubling of the distance from the source. Sound energy is absorbed in the air as a function of temperature, humidity, and the frequency of the sound. This attenuation can be up to 2 dB over 1,000 feet. The drop-off rate also will vary with both terrain conditions and the presence of obstructions in the sound propagation path.

Measurement Location and Equipment

Because the predominant noise sources in the area of the proposed project are vehicular movements, noise monitoring was conducted during peak vehicular travel periods, 07:30 am-09:00 am, 12:00 pm-1:30 pm, and 4:30 pm-6:00 pm. Pursuant to CEQR Technical Manual methodology, readings on all frontages were conducted for 20-minute periods during three peak periods of vehicular travel. Noise monitoring was conducted using a Type 1 Casella CEL-633 sound meter with wind screen. The monitor was placed on a tripod at a height of approximately three feet above the ground, away from any other noise-reflective surfaces. The monitor was calibrated prior to and following each monitoring session. Periods of peak vehicular around the subject site constitute a worst-case condition for noise at the project site.

Figure 2.9-1 Noise Monitoring Locations

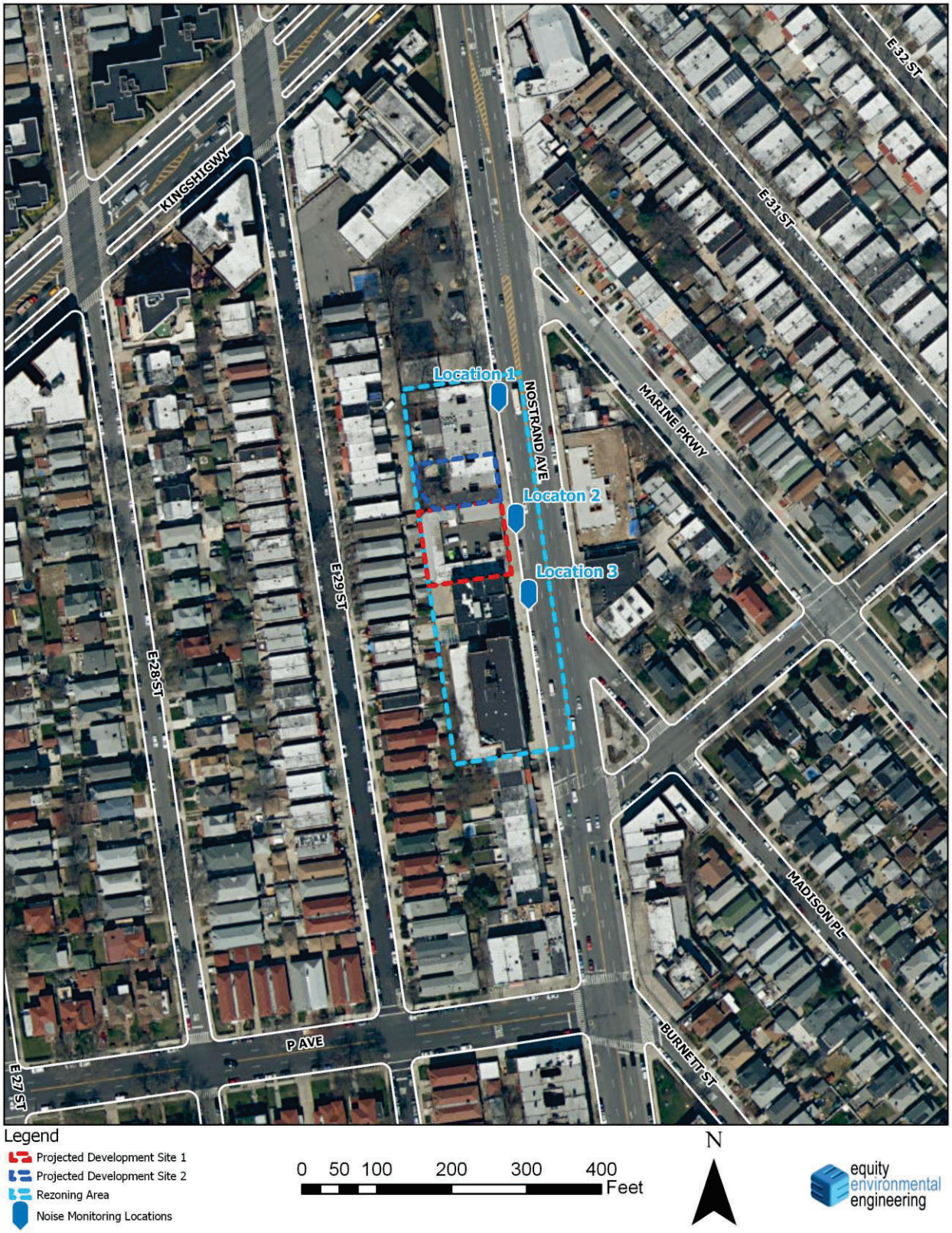


Figure 2.9-2: Location 1 Facing Nostrand Avenue at Northern End of Affected Area

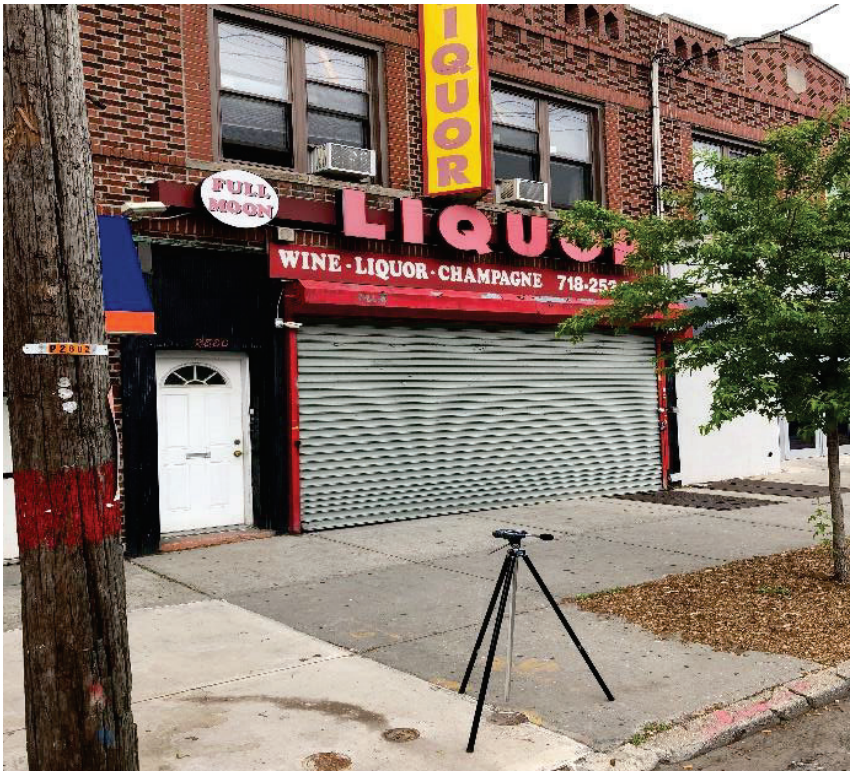


Figure 2.9-3: Location 2 Facing Nostrand Avenue Center of Affected Area



Figure 2.9-4: Location 3 Facing Nostrand Avenue Southern End of Affected Area



Measurement Conditions

Monitoring was conducted during typical midweek conditions, on Tuesday May 1, 2018. The weather was approximately 50^0-60^0 Fahrenheit and wind speeds were mild during monitoring. Traffic volumes and vehicle classification were documented during the noise monitoring.

Existing Conditions

The predominant source of noise at the site is vehicular traffic. The volume of traffic and its corresponding level of noise is moderate at each of the three monitoring sites.

Table 2.9-3: Noise (dB) Levels at Location 1

Thursday, May 31, 2018			
Time	7:36 am – 7:56 am	12:00 pm– 12:20 pm	4:31 pm – 4:51 pm
L_{max}	90	87.8	88.9
L_{10}	**74.5**	72	73.5
L_{eq}	70.9	68.5	70.3
L_{50}	66.5	64.5	66
L_{90}	54	55	56.5
L_{min}	47.3	44.6	53.6

Table 2.9-4: Noise (dB) Levels at Location 2

Thursday, May 31, 2018			
Time	8:00 am – 8:20 am	12:21 pm– 12:41 pm	4:52 pm – 5:12 pm
L_{max}	89.2	85	86.9
L_{10}	72.5	72	**73**
L_{eq}	69.5	68.8	69.4
L_{50}	65	64.5	65
L_{90}	53	55.5	51.5
L_{min}	47.5	47.4	46.5

Table 2.9-5: Noise (dB) Levels at Location 3

Thursday, May 31, 2018			
Time	8:21 am – 8:41 am	12:42 pm – 1:02 pm	5:13 pm – 5:33 pm
L_{max}	90.2	86.8	92.6
L_{10}	**74**	72.5	73
L_{eq}	70.7	68.8	70.1
L_{50}	66	65.5	66
L_{90}	56.5	55.5	51.5
L_{min}	51	47.9	45.9

Tables 2.8-6 through **Table 2.8-8** contains the traffic volumes and vehicle classifications for the morning, noon, and evening monitoring sessions.

Table 2.9-6: Traffic Volume Morning

	Location 1	Location 2	Location 3
Car/ Taxi	147	115	129
Van/Light Truck/SUV	176	168	183
Train	0	0	0
Heavy Truck	15	9	7
Bus	25	31	38

Table 2.9-7: Traffic Volume Noon

	Location 1	Location 2	Location 3
Car/ Taxi	69	101	97
Van/Light Truck/SUV	124	110	147
Train	0	0	0
Heavy Truck	5	14	12
Bus	16	12	16

Table 2.9-8: Traffic Volume Evening

	Location 1	Location 2	Location 3
Car/ Taxi	123	138	131
Van/Light Truck/SUV	180	154	164
Train	0	0	0
Heavy Truck	8	8	5
Bus	27	26	18

The 2014 *CEQR Technical Manual* Table 19-2 contains noise exposure guidelines. For a residential use such as would occur under the Proposed Action, an L_{10} of between 65 and 70 dB(A) is identified as marginally acceptable general external exposure. An L_{10} of between 70 and 80 dB(A) is identified as marginally unacceptable general external exposure. The highest recorded L_{10} at the northern portion of Nostrand Avenue (Location 1) was 74.5 dB(A) during the morning period. The highest recorded L_{10} at the central portion of Nostrand Avenue (Location 2) was 73.0 dB(A) during the evening period. The highest recorded L_{10} at the southern portion of Nostrand Avenue (Location 3) was 74.0 dB(A) during the morning period.

Based on the results of the noise monitoring as summarized above, a composite window-wall noise attenuation of 31 dB(A) would be required for all building facades.

The text for E-579 Designation would be as follows:

Block 7690, Lot 73 (Projected Development Site 1): In order to ensure an acceptable interior noise environment, future residential/community facility uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades in order to maintain an interior noise level not greater than 45 dBA for residential and community facility uses. 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.

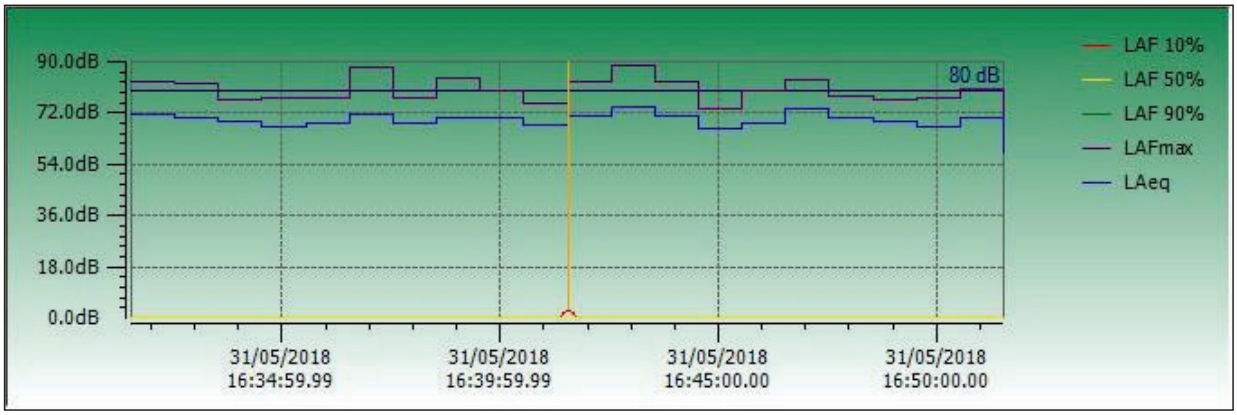
Block 7690, Lots 70, 71, and 72 (Potential Development Site 1): In order to ensure an acceptable interior noise environment, future residential uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades in order to maintain an interior noise level not greater than 45 dBA for residential uses. 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.

Conclusion

With this E-579 designation in place, no significant adverse impacts related to noise are expected, and no further analysis is warranted.

Appendix A: Agency Correspondence

Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	70.3 dB
Start Date & Time	5/31/2018 4:31:32 PM	LAFmax	88.9 dB
LAF 10%	73.5 dB	LAFmin	53.6 dB
LAF 50%	66 dB	End Date & Time	5/31/2018 4:51:34 PM
LAF 90%	56.5 dB	Duration	00:20:02 HH:MM:SS



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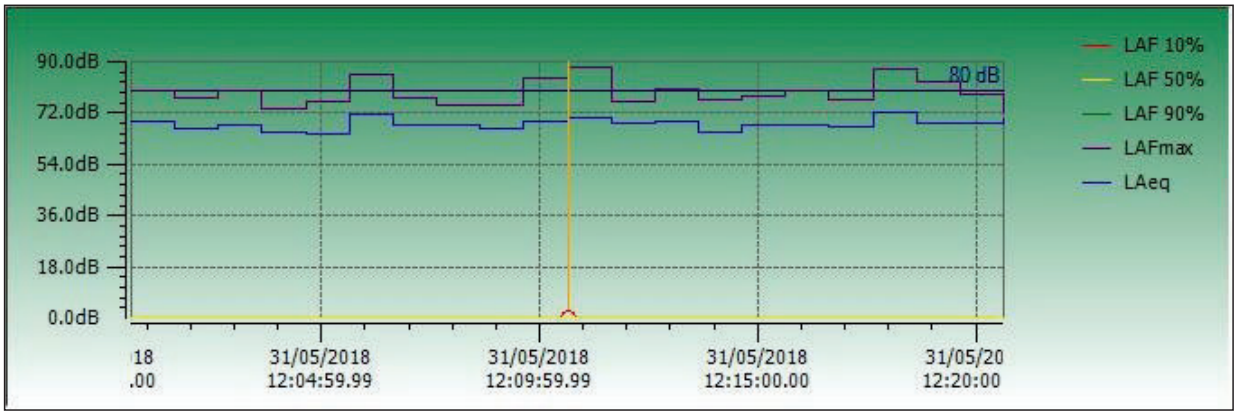
Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	68.5 dB
Start Date & Time	5/31/2018 12:00:38 PM	LAFmax	87.8 dB
LAF 10%	72 dB	LAFmin	44.6 dB
LAF 50%	64.5 dB	End Date & Time	5/31/2018 12:20:40 PM
LAF 90%	55 dB	Duration	00:20:02 HH:MM:SS



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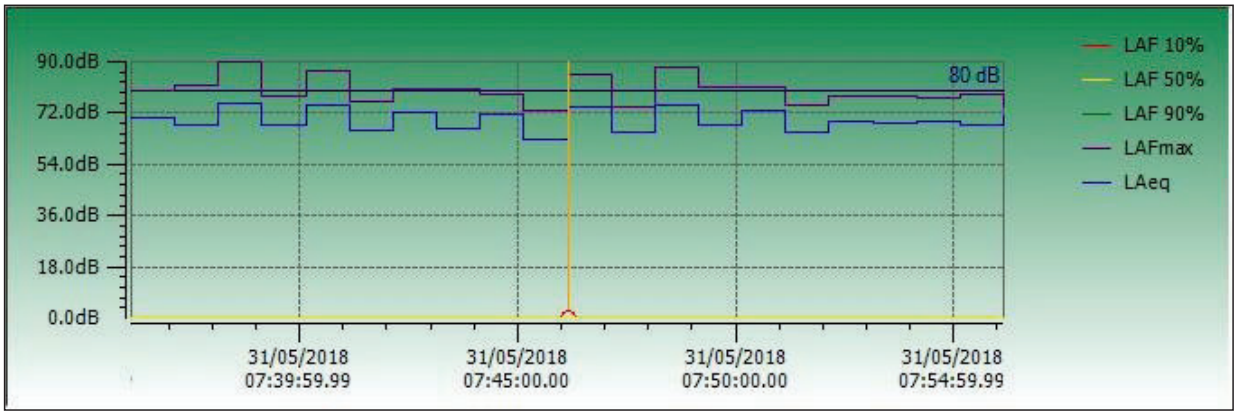
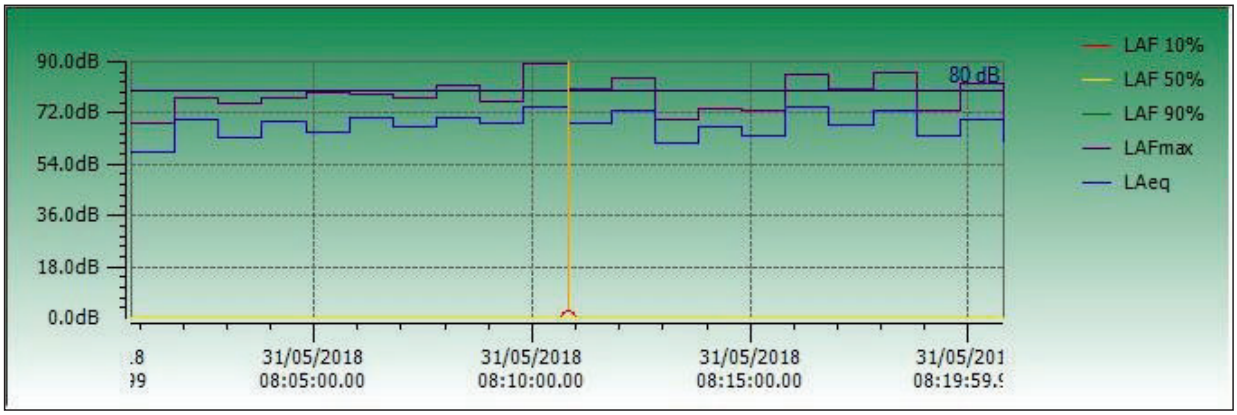
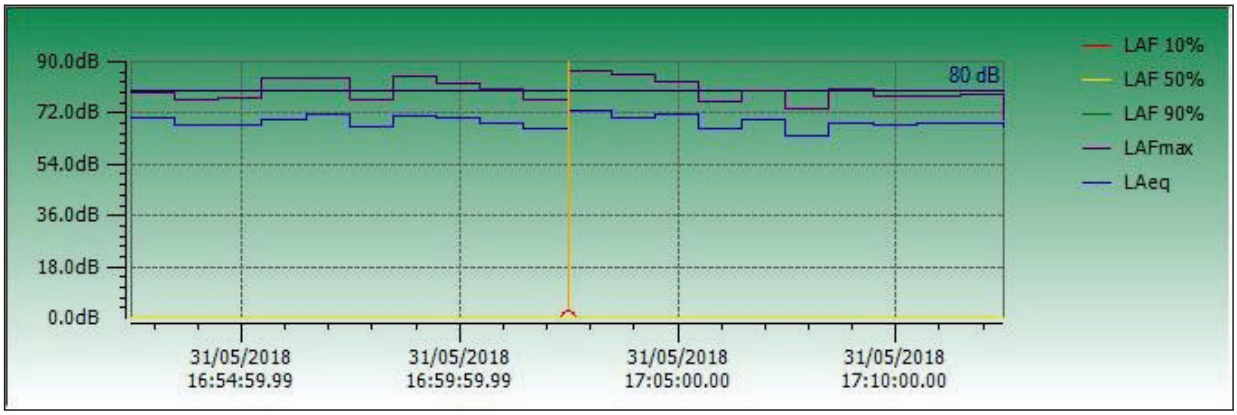
Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	70.9 dB
Start Date & Time	5/31/2018 7:36:08 AM	LAFmax	90 dB
LAF 10%	74.5 dB	LAFmin	47.3 dB
LAF 50%	66.5 dB	End Date & Time	5/31/2018 7:56:13 AM
LAF 90%	54 dB	Duration	00:20:05 HH:MM:SS



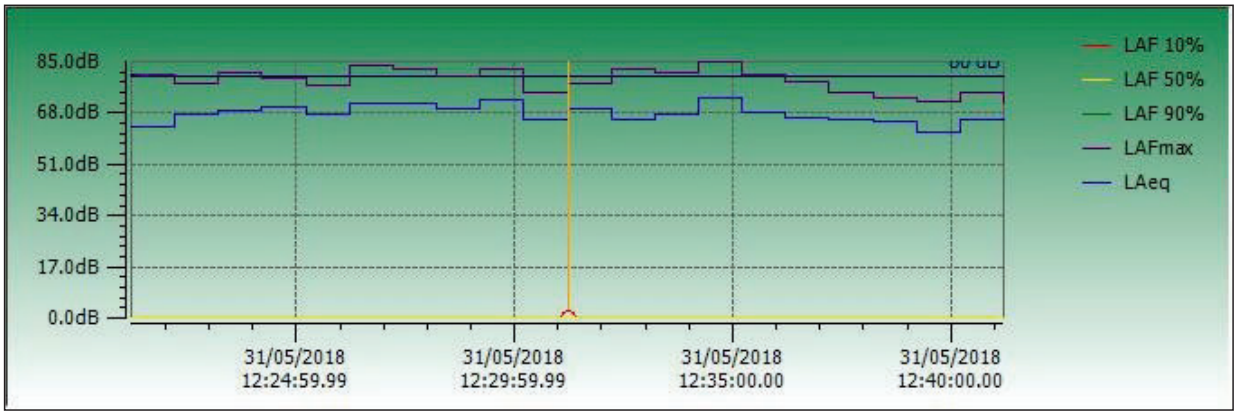
Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	69.5 dB
Start Date & Time	5/31/2018 8:00:48 AM	LAFmax	89.2 dB
LAF 10%	72.5 dB	LAFmin	47.5 dB
LAF 50%	65 dB	End Date & Time	5/31/2018 8:20:52 AM
LAF 90%	53 dB	Duration	00:20:04 HH:MM:SS



Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	69.4 dB
Start Date & Time	5/31/2018 4:52:28 PM	LAFmax	86.9 dB
LAF 10%	73 dB	LAFmin	46.5 dB
LAF 50%	65 dB	End Date & Time	5/31/2018 5:12:31 PM
LAF 90%	51.5 dB	Duration	00:20:03 HH:MM:SS



Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	68.8 dB
Start Date & Time	5/31/2018 12:21:12 PM	LAFmax	85 dB
LAF 10%	72 dB	LAFmin	47.4 dB
LAF 50%	64.5 dB	End Date & Time	5/31/2018 12:41:15 PM
LAF 90%	55.5 dB	Duration	00:20:03 HH:MM:SS



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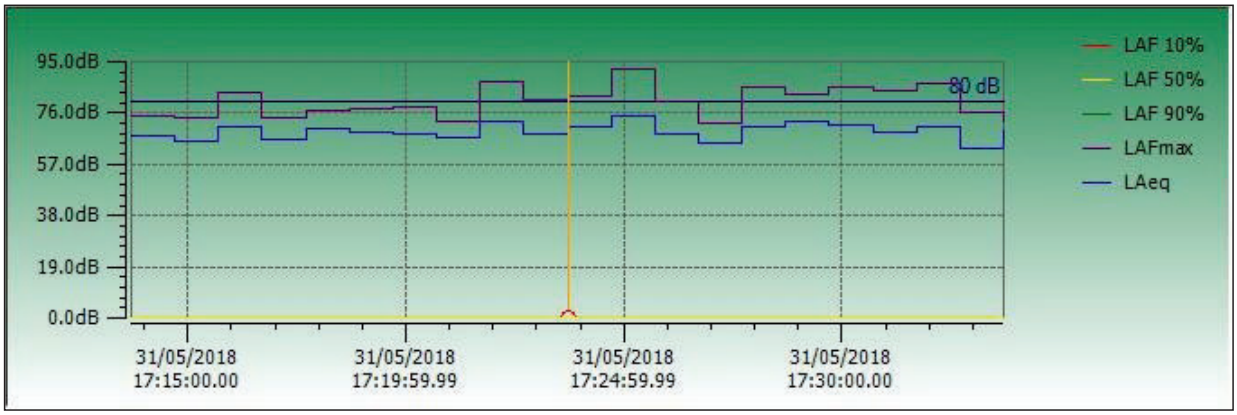
Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	70.1 dB
Start Date & Time	5/31/2018 5:13:42 PM	LAFmax	92.6 dB
LAF 10%	73 dB	LAFmin	45.9 dB
LAF 50%	66 dB	End Date & Time	5/31/2018 5:33:46 PM
LAF 90%	51.5 dB	Duration	00:20:04 HH:MM:SS



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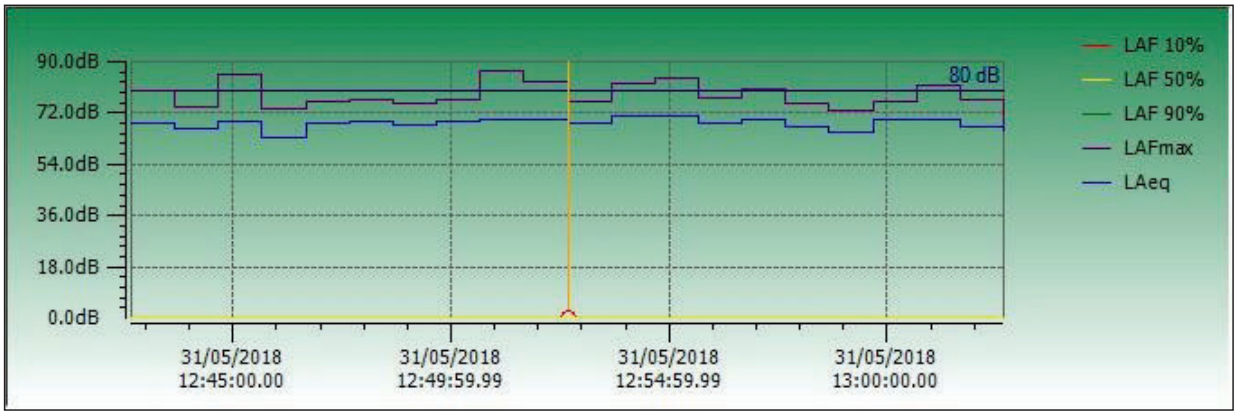
Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	68.8 dB
Start Date & Time	5/31/2018 12:42:40 PM	LAFmax	86.8 dB
LAF 10%	72.5 dB	LAFmin	47.9 dB
LAF 50%	65.5 dB	End Date & Time	5/31/2018 1:02:42 PM
LAF 90%	55.5 dB	Duration	00:20:02 HH:MM:SS



Instrument Model	**CEL-633C**		
Serial Number	4278006	LAeq	70.7 dB
Start Date & Time	5/31/2018 8:22:06 AM	LAFmax	90.2 dB
LAF 10%	74 dB	LAFmin	51 dB
LAF 50%	66 dB	End Date & Time	5/31/2018 8:42:08 AM
LAF 90%	56.5 dB	Duration	00:20:02 HH:MM:SS

