# 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*** 506 Third Avenue Rezoning

**3. *Reference Numbers***

| CEQR REFERENCE NUMBER (to be assigned by lead agency) | BSA REFERENCE NUMBER (if applicable) |
|---|---|
| 20DCP129K | |
| ULURP REFERENCE NUMBER (if applicable) | OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA) |
| 210119ZMK N210120ZRK | |

| **4a. *Lead Agency Information*** | | | **4b. *Applicant Information*** | | |
|---|---|---|---|---|---|
| NAME OF LEAD AGENCY | | | NAME OF APPLICANT | | |
| NYC Department of City Planning | | | PAB 3rd Avenue Holdings LLC | | |
| NAME OF LEAD AGENCY CONTACT PERSON | | | NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON | | |
| Olga Abinader | | | Hiram A. Rothkrug, Environmental Studies Corp. | | |
| ADDRESS 120 Broadway, 31st Floor | | | ADDRESS 55 Water Mill Road | | |
| CITY New York | STATE NY | ZIP 10271 | CITY Great Neck | STATE NY | ZIP 10021 |
| TELEPHONE 212-720-3493 | EMAIL oabinad@planning.nyc.gov | | TELEPHONE 718-343-0026 | EMAIL hrothkrug@environmentalstudiescorp.com | |

**5. *Project Description***

The Applicant, PAB 3rd Avenue Holdings LLC, seeks a zoning map amendment and zoning text amendment (the "Proposed Actions") to facilitate the development of a five-story commercial office building at 506 Third Avenue ("Projected Development Site 1," also identified as Block 1020, Lot 36) in the Gowanus section of Brooklyn Community District 6. In addition to Projected Development Site 1, the Applicant controls 530 Third Avenue (Block 1026, Lot 32, anticipated for expansion under the proposed actions) and 156 11th Street (Block 1020, Lot 34, anticipated for redevelopment under the proposed actions). In total, the proposed zoning map amendment affects 82,951 square feet of lot area, of which 57,471 sf (10 tax lots) are anticipated to be redeveloped in the future with the Proposed Actions. The Proposed Actions would affect the following tax blocks and lots:

- Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45;
- Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, 42.

The Proposed Actions consist of a zoning map amendment from M2-1 to C4-4A and a zoning text amendment to designate the Project Area as a Mandatory Inclusionary Housing (MIH) Area, pursuant to an amendment of Appendix F of the New York City Zoning Resolution (ZR).

Two scenarios are considered in this EAS:

Scenario A would result in a total of 128,202 gsf of residential space, a net increase of 110,292 over no-action conditions (115 DU's, of which 39 would be permanently affordable under MIH).

Scenario B would result in a net increase of 139,036 gsf of commercial space, a net decrease of 17,910 gsf of residential space, and a net decrease of 18,246 gsf of manufacturing space as compared to the no-action scenario.

***Project Location***

| BOROUGH | COMMUNITY DISTRICT(S) | STREET ADDRESS |
|---|---|---|
| Brooklyn | 6 | 506 Third Avenue |
| TAX BLOCK(S) AND LOT(S) Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45; and Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, 42. | | ZIP CODE 11215 |
| DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS West side of Third Avenue between 11th and 13th | | |
| EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY M2-1 | | ZONING SECTIONAL MAP NUMBER 16d |

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

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

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

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

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION Appendix F

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

☐ VARIANCE (use)

☐ VARIANCE (bulk)

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

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

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

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

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

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

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

**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.): 43,799 | Waterbody area (sq. ft) and type: |
| Roads, buildings, and other paved surfaces (sq. ft.): 43,799 | 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):

Scenario A: 159,890

Scenario B: 139,036

NUMBER OF BUILDINGS: 7 (both scenarios)

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

Scenario A: 24,288; 15,180; 15,180; 21,191; 50,149; 10,120; and 23,782 gsf

Scenario B: 21,120; 13,200; 13,200; 18,427; 43,608; 8,800; and 20,680 gsf

HEIGHT OF EACH BUILDING (ft.): Scenario A: 95 ft.

Scenario B: 85 ft

NUMBER OF STORIES OF EACH BUILDING: Scenario A: 9 stories

Scenario B: 8 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: 14,711

The total square feet not owned or controlled by the applicant: 29,088

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: 31,599 sq. ft. (width x length) VOLUME OF DISTURBANCE: 315,990 cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 31,599 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.) | Scenario A: 120,037<br>Scenario B: N/A | Scenario A: 39,853<br>Scenario B: 139,036 | | |
| ***Type*** (*e.g.,* retail, office, school) | 141 units | Office and retail | | |

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

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: Scenario A only: 330 (net change: +297) NUMBER OF ADDITIONAL WORKERS: Scenario A: 159 (net change: -15) Scenario B: 556 (net change: +397)

Provide a brief explanation of how these numbers were determined: 2.34 (avg. HH size for Brooklyn CD 4) x 141 units

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: In the future without the proposed actions, it is anticipated that the vacant 900 gsf retail space on Block 1020, Lot 43, will be converted to active use. Additionally, it is assumed that the vacant lot on Block 1020, Lot 34, will be developed as-of-right for commercial use to an FAR of 2.0, the maximum permitted under the underlying zoning, for a floor area of 4,000 gsf. In total, 4,900 gsf of commercial space is anticipated to be added under the no-action scenario.

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

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

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 18-23 months

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE:

**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 report and letter from LPC | | |
| **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. | | |
| **9. *HAZARDOUS MATERIALS***: CEQR Technical Manual Chapter 12 | | |
| **(a)** Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials? | ☐ | ☒ |
| **(b)** Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts? | ☐ | ☒ |
| **(c)** Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)? | ☒ | ☐ |
| **(d)** Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin? | ☐ | ☒ |
| **(e)** Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (*e.g.*, gas stations, oil storage facilities, heating oil storage)? | ☐ | ☒ |
| **(f)** Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint? | ☐ | ☒ |
| **(g)** Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators? | ☐ | ☒ |
| **(h)** Has a Phase I Environmental Site Assessment been performed for the site? | ☒ | ☐ |
| ○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: See attached | ☐ | ☐ |
| **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): | | |
| ○ 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):<br>Scenario A: 23,828,892 annual BTUs<br>Scenario B: 30,073,487 annual BTUs | | |
| **(b)** Would the proposed project affect the transmission or generation of energy? | ☐ | ☒ |
| **13. *TRANSPORTATION***: CEQR Technical Manual Chapter 16 | | |
| **(a)** Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16? | ☐ | ☒ |
| **(b)** If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions: | | |
| ○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour? | ☐ | ☒ |
| If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.* | ☐ | ☐ |
| ○ Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour? | ☐ | ☒ |
| If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line? | ☐ | ☐ |
| ○ Would the proposed project result in more than 200 pedestrian trips per project peak hour? | ☐ | ☒ |
| If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop? | ☐ | ☐ |
| **14. *AIR QUALITY***: CEQR Technical Manual Chapter 17 | | |
| **(a)** *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17? | ☐ | ☒ |
| **(b)** *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17? | ☒ | ☐ |
| ○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed) See attached | ☐ | ☐ |
| **(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. | | |
| **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. | | |
| **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. | | |

## 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 |
|---|---|
| DeeDee Browne, Environmental Studies Corp. | May 14, 2021 |

SIGNATURE *DeeDee Browne*

***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:

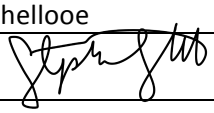
☐ **Positive Declaration**: If the lead agency has determined that the project may have a significant impact on the environment, and if a Conditional Negative Declaration is not appropriate, then the lead agency issues a *Positive Declaration* and prepares a draft Scope of Work for the Environmental 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 |
|---|---|
| Deputy Director, Environmental Assessment and Review Division | Department of City Planning on behalf of the City Planning Commission |
| NAME: Stephanie Shellooe | DATE: May 14, 2021 |

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, PAB 3rd Avenue Holdings LLC, seeks a zoning map amendment and zoning text amendment to facilitate the development of a five-story commercial office building at 506 Third Avenue (Block 1020, Lot 36) in the Gowanus neighborhood of Brooklyn Community District 6. In addition to 506 Third Avenue, the Applicant controls 530 Third Avenue (Block 1026, Lot 32, anticipated for expansion under the proposed actions) and 156 11th Street (Block 1020, Lot 34, anticipated for redevelopment under the proposed actions). In total, the proposed zoning map amendment affects 82,951 square feet of lot area, of which 57,471 sf are anticipated to be redeveloped in the future with the Proposed Actions. The Proposed Actions would affect the following tax blocks and lots: Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45; Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, 42.The Proposed Actions consist of a zoning map amendment from M2-1 to C4-4A and a zoning text amendment to designate the Project Area as a Mandatory Inclusionary Housing (MIH) Area, pursuant to an amendment of Appendix F of the New York City Zoning Resolution. Two scenarios are considered in the EAS: Scenario A would result in a total of 128,202 gsf of residential space, a net increase of 110,292 over no-action conditions (115 DU's, of which 39 would be permanently affordable under MIH). Scenario B would result in a net increase of 139,036 gsf of commercial space, a net decrease of 17,910 gsf of residential space, and a net decrease of 18,246 gsf of manufacturing space as compared to the no-action scenario. The proposed actions would not affect the existing character of the area, nor affect public policy, which represent the thresholds of impact significance in the 2020 CEQR Technical Manual. The analysis concludes that no significant adverse impacts related to Land Use, Zoning, and Public Policy would result from the proposed action.

**Shadows**

A detailed analysis related to shadows is included in this EAS. The detailed analysis showed that incremental shadows introduced by the proposed actions would affect one sunlight-sensitive resource: the Ennis Playground. The proposed building on Projected Site 1 would cast incremental shadow on portions Ennis Playground for up to 1 hour and 9 minutes in the morning hours of the December 21 analysis period on southern and northern portions of the Ennis Playground, areas that feature basketball courts and playground equipment with minimal landscaping features. Projected Site 1 would also cast incremental shadow for 2 minutes in the morning of the March 21 analysis period on sunlight. These incremental shadows cast by Projected Site 1 would be limited in extent and have little to no effect on amenities or vegetation in the spaces due to their location and the time of the year that incremental shadows would occur. No other open space sensitive resource would be affected by shadows generated by the proposed actions. Therefore, the proposed actions would not result in significant shadow impacts, and no further analysis is necessary.

**Hazardous Materials, Air Quality, and Noise**

An (E) designation (E-617) 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<br>Deputy Director, Environmental Assessment and Review Division | LEAD AGENCY<br>Department of City Planning on behalf of the City Planning Commission<br>120 Broadway, 31st Fl. New York, NY 10271 \| 212.720.3493 |
| NAME<br>Stephanie Shellooe | DATE<br>May 14, 2021 |
| SIGNATURE | |
| TITLE<br>Chair, City Planning Commission | |
| NAME<br>Marisa Lago | DATE<br>May 17, 2021 |
| SIGNATURE | |

**Project Name: 506 Third Avenue**
**CEQR # 20DCP129K**
**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 | Lot |
|---|---|---|---|
| Projected Development Site 1 | Bk | 1020 | 36 |
| Projected Development Site 2 | Bk | 1020 | 43, 44 |
| Projected Development Site 3 | Bk | 1026 | 35, 36 |
| Projected Development Site 4 | Bk | 1026 | 40, 42 |
| Projected Development Site 5 | Bk | 1026 | 32 |
| Projected Development Site 6 | Bk | 1020 | 34 |
| Projected Development Site 7 | Bk | 1020 | 45 |

(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-617**) would be established as part of approval of the proposed actions on **Projected Development Sites 1-7** as described below:

| Development Site | Hazardous Materials | Air Quality | Noise |
|---|---|---|---|
| Projected Development Site 1 | X | X | X |
| Projected Development Site 2 | X | X | X |
| Projected Development Site 3 | X | X | X |
| Projected Development Site 4 | X | X | X |
| Projected Development Site 5 | X | X | X |
| Projected Development Site 6 | X | X | X |
| Projected Development Site 7 | X | X | X |

*Hazardous Materials*

The (E) designation requirements applicable to **Projected Development Sites 1-7** 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.*

*Air Quality*

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

**Block 1020, Lot 36 (Projected Development Site 1):** Any new residential or commercial development on the above-referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot water system(s) stack is located at the building's highest level or at least 98 feet above grade and that the stack is located at least 60 feet from the western lot line facing 2nd Avenue to avoid any potential significant adverse air quality impacts.

**Block 1020, Lots 43, 44 (Projected Development Site 2):** Any new residential or commercial development on the above-referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot water system(s) stack is located at the building's highest level or at least 98 feet above grade and that the stack is located at least 30 feet from the western lot line facing 2nd Avenue to avoid any potential significant adverse air quality impacts.

**Block 1026, Lots 35, 36 (Projected Development Site 3):** Any new residential or commercial development on the above-referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot water system(s) stack is located at the building's highest level or at least 98 feet above grade and that the stack is located at least 30 feet from the western lot line facing 2nd Avenue to avoid any potential significant adverse air quality impacts.

**Block 1026, Lots 40, 42 (Projected Development Site 4):** Any new residential or commercial development on the above-referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot water system(s) stack is located at the building's highest level or

at least 98 feet above grade and that the stack is located at least 45 feet from the western lot line facing 2nd Avenue to avoid any potential significant adverse air quality impacts.

**Block 1026, Lot 32 (Projected Development Site 5):** Any new residential or commercial development on the above-referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot

water system(s) stack is located at the building's highest level or at least 98 feet above grade to avoid any potential significant adverse air quality impacts.

**Block 1020, Lot 34 (Projected Development Site 6):** Any new residential or commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC), and hot water system(s) and must be fitted with low NOx (30 ppm) burners, ensure that the stack is located at the building's highest level at a minimum of 98 feet above the grade, and that the stack is located at least 20 feet from the southern lot line facing 12th Street to avoid any potential significant adverse air quality impacts.

**Block 1020, Lot 45 (Projected Development Site 7):** Any new residential or commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC), and hot water system(s) and must be fitted with low NOx (30 ppm) burners, ensure that the stack is located at the building's highest level at a minimum of 98 feet above the grade, and that the stack is located at least 20 feet from the eastern lot line facing 3rd Avenue and 20 feet from the northern lot line facing 11th Street to avoid any potential significant adverse air quality impacts.

*Noise*

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

**Block 1020, Lot 36 (Projected Development Site 1):** To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide 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 1020, Lots 43 and 44 (Projected Development Site 2)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and the facades facing 11th Street and the facades facing 2nd Avenue and 28 dBA of attenuation on the facades facing 12th Street to maintain a n interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, to, air conditioning. but is not limited.

**Block 1026, Lots 35 and 36 (Projected Development Site 3)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and 28 dBA of attenuation on the facades facing 12th Street and the facades facing 2nd Avenue and the facades facing 13th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide closedwindow condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning .

**Block 1026 , Lots 40 and 42 (Projected Development Site 4)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and 28 dBA of

attenuation on the facades facing 12th Street and the facades facing 2nd Avenue and the facades facing 13th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial uses. To provide closed office window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning .

**Block 1026, Lot 32 (Projected Development Site 5)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and 28 dBA of attenuation on the facades facing 12th Street and the facades facing 2nd Avenue and the facades facing 13th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide closed window condition, an alter nate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning .

**Block 1020, Lot 34 (Projected Development Site 6)**: interior noise environment, future residential/co To ensure an acceptable commercial office uses must provide a closed window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and the facades facing 11th Street and the facades facing 2nd Avenue and 28 dBA of attenuation on the facades facing 12th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide 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 1020, Lot 45 (Projected Development Site 7) :** To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and the facades facing 11th Street and the facades facing 2nd Avenue and 28 dBA of attenuation on the facades facing 12th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide closed window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

# 506 & 530 3rd Avenue, Brooklyn

Figure 1: Site Location




Data Source: MapPLUTO 2018v2.1

Urban Cartographics

# 506 & 530 3rd Avenue, Brooklyn

Figure 2: Tax Map

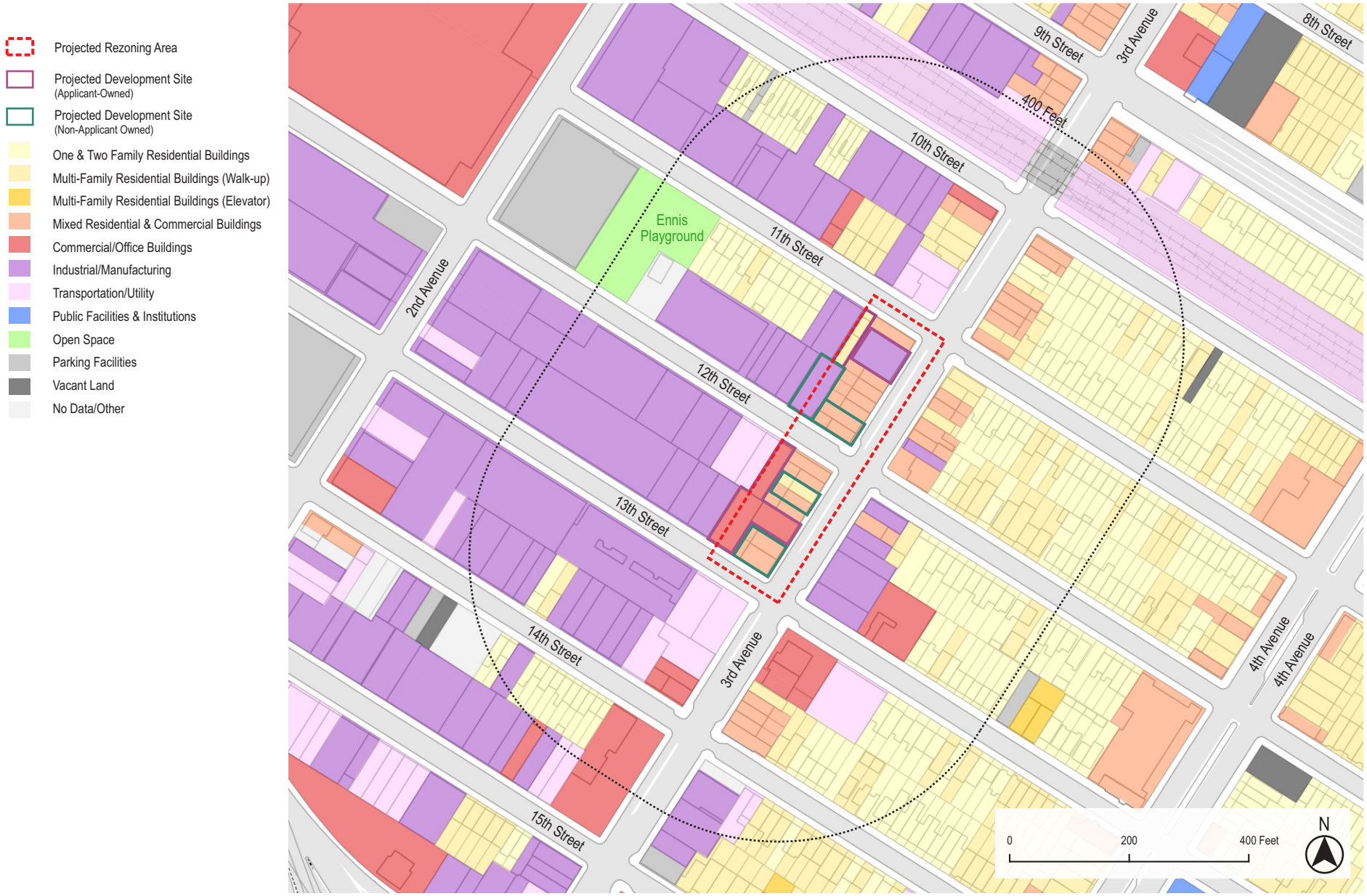



Data Source: MapPLUTO 2018v2.1, NYC DOF Digital Tax Map 2/22/19

Urban Cartographics

# 506 & 530 3rd Avenue, Brooklyn

Figure 3: Land Use Map

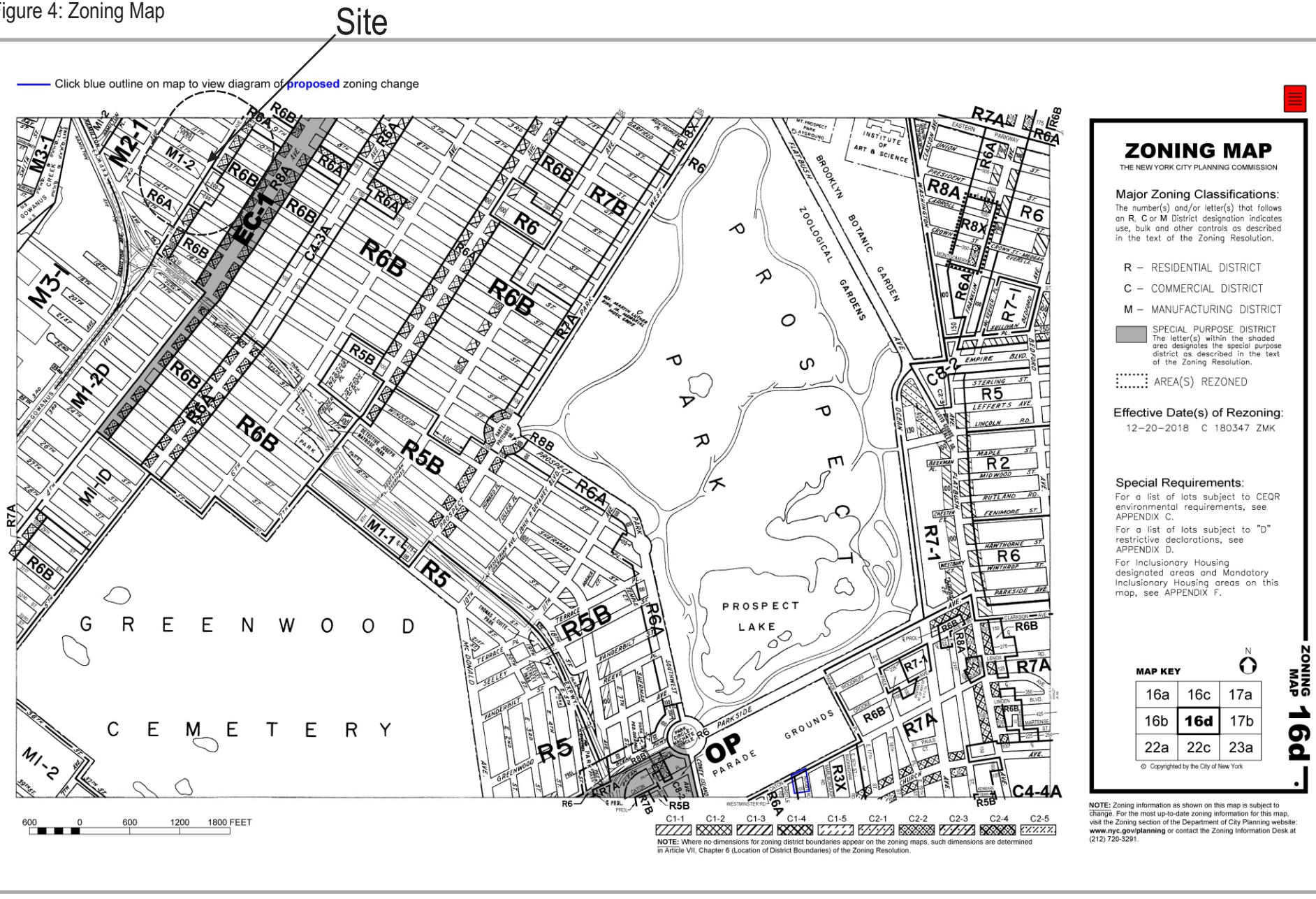



Data Source: MapPLUTO 2018v2.1, NYC DOF Digital Tax Map 2/22/19

Urban Cartographics

**506 & 530 3rd Avenue, Brooklyn**

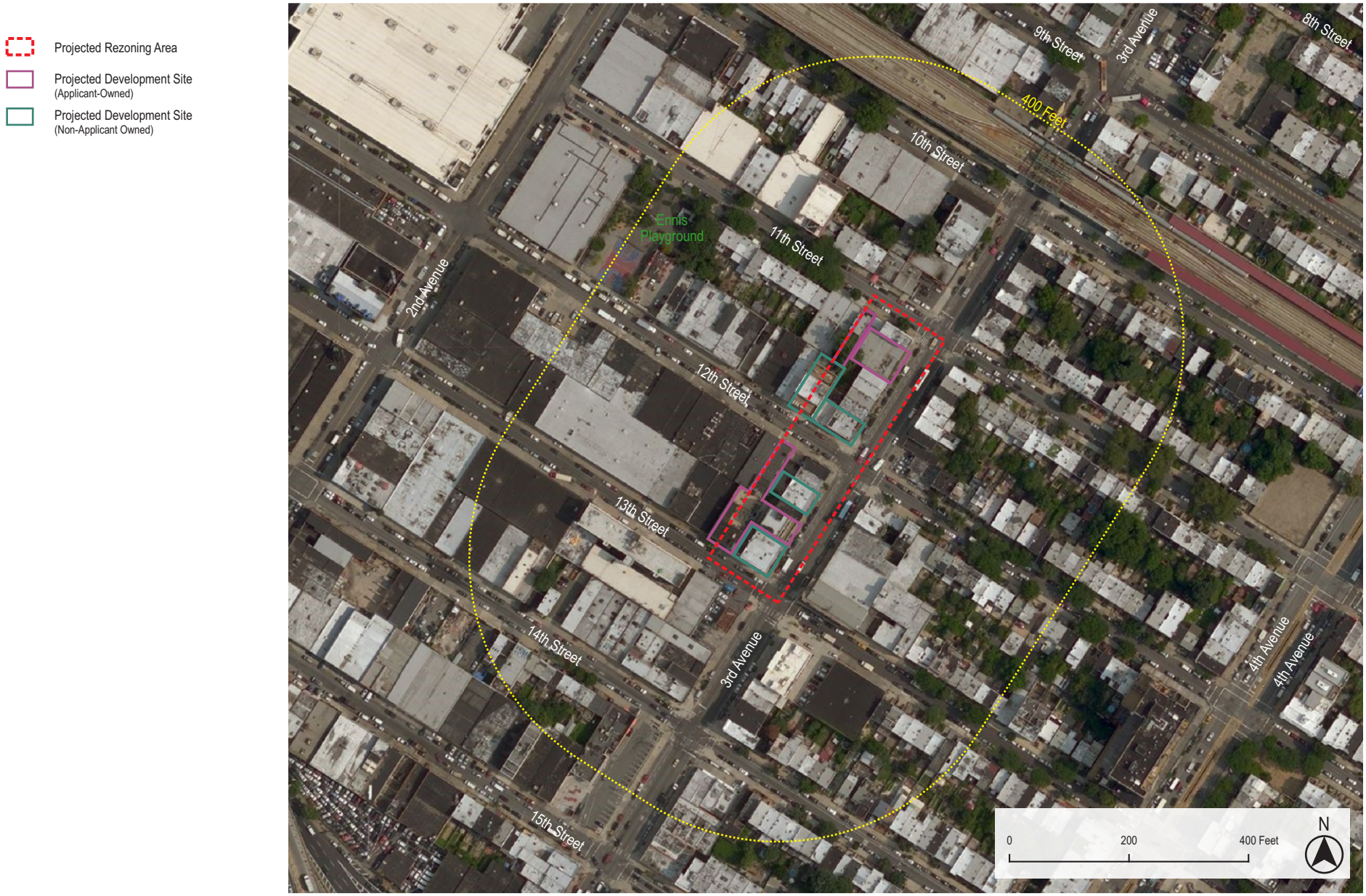
Figure 4: Zoning Map




Urban Cartographics

# 506 & 530 3rd Avenue, Brooklyn

Figure 5: Aerial Map




Imagery Source: 2019 Bing, Microsoft Corporation

Urban Cartographics

# 506 THIRD AVENUE REZONING
# PROJECT DESCRIPTION

## *Proposed Actions*

The Applicant, PAB 3rd Avenue Holdings LLC, seeks a zoning map amendment and zoning text amendment (the "Proposed Actions") to facilitate the development of a five-story commercial office building at 506 Third Avenue ("Projected Development Site 1," also identified as Block 1020, Lot 36) in the Gowanus section of Brooklyn Community District 6. In addition to Projected Development Site 2, the Applicant controls 530 Third Avenue (Block 1026, Lot 32, anticipated for expansion under the proposed actions) and 156 11th Street (Block 1020, Lot 34, anticipated for redevelopment under the proposed actions). In total, the proposed zoning map amendment affects 82,951 square feet of lot area, of which 57,471 sf (10 tax lots) are anticipated to be redeveloped in the future with the Proposed Actions.

The Proposed Actions would affect the following tax blocks and lots:

- Block 1020, Lots **34**, 35, **36**, 39, 40, 41, 42, 43, 44, and 45;
- Block 1026, Lots **32**, 33, 34, 35, 36, 37, 40, 42.[1]

The Proposed Actions consist of a zoning map amendment from M2-1 to C4-4A and a zoning text amendment to designate the Project Area as a Mandatory Inclusionary Housing (MIH) Area, pursuant to an amendment of Appendix F of the New York City Zoning Resolution (ZR).

## *Description of Surrounding Area*

The Project Area is located in the Gowanus section of Brooklyn, in a transitional area where industrial and manufacturing uses are predominant to the west and residential uses are predominant to the east. The Project Area has frontage on Third Avenue, which is a well-traveled two-lane corridor in the north and south directions. The elevated Metropolitan Transit Authority F/G subway viaduct is located one block north of the project area, running east-west along 10th Street. The 4th Avenue F/G stop is at the corner of 10th Street and Fourth Avenue, with the 9th Street stop on the R Train located at 9th Street and Fourth Avenue. The Gowanus Expressway runs southeast approximately 1,000 feet from the Project Area.

## *Description of Affected Area*

The Proposed Actions affect the Third Avenue frontage of Brooklyn Blocks 1020 and 1026, located on the west side of Third Avenue between 11th and 13th Streets. The affected area consists of Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45; and Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, 42.

The Third Avenue frontage of Block 1020 in the Project Area is made up of three-story mixed-used buildings containing ground floor retail spaces with residential units above with the exception of the Applicant-controlled Lot 36, which is improved with a one-story industrial building occupied by a fuel oil company. The Applicant also controls Lot 34 (fronting on 11th Street), which is vacant, having been cleared for redevelopment: BSA records indicate that plans for a commercial building on the site were filed and then withdrawn in 2016 (BSA Job #321476764). Aside from permits filed to use the site for private parking, no additional

[1] Lots indicated in **bold** are controlled by the Applicant.

development activity has occurred on the site. Lot 45 (fronting on 12th Street) is developed with a three-story building containing a wholesaling company.

On Block 1026, Lots 33, 34, 35, 36, and 37 are improved upon with three-story buildings containing ground floor commercial retail space and residential units above. Lot 32, which is controlled by the applicant, is an irregularly shaped lot with frontage on Third Avenue, 12th Street, and 13th Street, and is improved with a five-story commercial building (ground-floor retail and upper floor offices) and has a floor area of 18,165 sf. Lots 40 and 42 are improved upon with four-story mixed-use building containing ground floor commercial retail space and residential units above.

### *Description of Proposed Development*

The Proposed Actions are intended to facilitate the redevelopment of Projected Development Site 1 with a commercial building (with ground-floor retail space and upper floor offices) on Projected Development Site 1 (Block 1020, Lot 36) to contain 19,800 gsf (18,000 zsf, 3.75 FAR) of floor area. The building is proposed to have a rooftop height of 68 feet. No accessory parking spaces are required, and none are proposed.

As described under ***Reasonable Worst Case Development Scenario***, six additional projected development sites were identified, and a more conservative building envelope will be considered for Projected Development Site 1.

### *Purpose and Need*

The Proposed Actions would facilitate the proposed commercial development and would bring pre-existing non-residential uses into conformance with zoning. The Proposed Actions would permit greater density for residential, commercial, and community facility uses throughout the Project Area, supporting density along a wide corridor within a quarter mile of the subway. The Proposed Actions would promote mixed-income housing through MIH, and would create space for jobs in close proximity to major employment nodes. Currently, the Project Area is zoned M2-1, which permits a commercial floor area ratio (FAR) of 2.0. The proposed C4-4A district allows a commercial FAR of 4.0, a residential FAR of 4.6, and a community facility FAR of 4.0, which the applicant believes would be appropriate along a corridor in a developed, mixed-use area that is well-connected to public transit and major roadways.

### *Required Approvals*

The proposed development requires a zoning map amendment to rezone the project area and a zoning text amendment to establish an MIH area coterminous with the area to be rezoned. The granting of the zoning map amendment is a discretionary action that is subject to both the Uniform Land Use Review Procedure (ULURP) as well as the City Environmental Quality Review (CEQR). ULURP is a process that allows public review of the Proposed Actions at four levels: the Community Board; the Borough President; the City Planning Commission; and, if applicable, the City Council. CEQR is a process by which agencies review discretionary actions for the purpose of identifying the effects those actions may have on the environment.

### *Reasonable Worst Case Development Scenario (RWCDS)*

The Proposed Actions are a zoning map amendment and a zoning text amendment that would affect 18 tax lots on two blocks fronting on Third Avenue in Brooklyn. Of these properties, 10 are anticipated for redevelopment on 7 Projected Development Sites.

Sites identified as projected development sites for purposes of the RWCDS include the three applicant-controlled properties; three pairs of adjacent lots, each pair of which is under common ownership; and Lot 45 on Block 1020. The development sites are listed below, with Applicant-controlled properties indicated in bold:

- **Projected Development Site 1: Block 1020, Lot 36**
- **Projected Development Site 5: Block 1026, Lot 32**
- **Projected Development Site 6: Block 1020, Lot 34**
- Projected Development Site 2: Block 1020, Lots 43 and 44
- Projected Development Site 3: Block 1026, Lots 35 and 36
- Projected Development Site 4: Block 1026, Lots 40 and 42
- Projected Development Site 7: Block 1020, Lot 45

### *Future No-Action Condition*

In the future without the proposed actions, it is anticipated that the vacant 900 gsf retail space on Block 1020, Lot 43, will be converted to active use. Additionally, it is assumed that the vacant lot on Block 1020, Lot 34, will be developed as-of-right for commercial use to an FAR of 2.0, the maximum permitted under the underlying zoning, for a floor area of 4,000 gsf. In total, 4,900 gsf of commercial space is anticipated to be added under the no-action scenario. No other land use changes are anticipated in the future without the Proposed Actions.

### *Future With-Action Condition*

The proposed zoning is C4-4A, which permits residential uses at an FAR of 4.6 and commercial uses at an FAR of 4.0. In order to capture the range of permitted uses and potential impacts, two scenarios are analyzed: Scenario A, in which the Project Area is redeveloped with residential buildings containing ground-floor retail; and Scenario B, in which the Project area is redeveloped with commercial office buildings (such as those proposed by the Applicant and currently located at 530 Third Avenue). The RWCDS height for all projected development is 9 stories and 95 feet under Scenario A and 8 stories and 85 feet under Scenario B, the maximum permitted under the proposed zoning for residential (with MIH) and nonresidential use.

#### Scenario A

**Projected Development Site 1 (Applicant-controlled) –** The Applicant proposes a 19,800 gsf (18,000 zsf, FAR 3.75) on Projected Development Site 1. However, for analysis purposes this EAS will assume a full building on the site, as follows: a 24,288 gsf building containing 19,488 gsf of residential space (FAR 3.6) and 4,800 gsf of retail space (FAR 1.0). The total FAR would be 4.6 and the building height would be 95 feet.

**Projected Development Site 5 (Applicant-controlled) –** This is an irregularly-shaped lot with frontage on Third Avenue, 12th Street, and 13th Street. The Third Avenue frontage is developed

with a five-story office building identified as 530 Third Avenue. The 13th Street frontage is developed with a two-story industrial building and the 12th Street frontage is vacant. Under Scenario A, the 530 Third Avenue building would remain, the industrial building would be demolished, and a residential building would be constructed at the rear of the lot. Projected Development Site 2 thus would contain 50,149 gsf of floor area, of which 31,984 gsf would be residential (FAR 2.77) and 10,000 would be commercial (FAR 1.83). The total FAR would be 4.6, with a maximum height of 95 feet.

**Projected Development Site 6 (Applicant-controlled) –** A 10,120 gsf building containing 8,120 gsf (FAR 3.6) of residential space and 2,000 gsf (FAR 1.0) of commercial space. The total FAR would be 4.6 and the building height would be 95 feet.

**Projected Development Site 2 –** A 15,180 gsf building containing 12,180 gsf of residential space (FAR 3.6) and 3,000 gsf of ground-floor retail space (FAR 1.0). The total FAR would be 4.6 and the building height would be 95 feet.

**Projected Development Site 3 –** A 15,180 gsf building containing 12,180 gsf of residential space (FAR 3.6) and 3,000 gsf of ground-floor retail space (FAR 1.0). The total FAR would be 4.6 and the building height would be 95 feet.

**Projected Development Site 4 –** A 21,191 gsf building containing 17,003 gsf (3.6 FAR) of residential space and 4,188 gsf (1.0 FAR) of commercial retail space. The total FAR would be 4.6 and the building height would be 95 feet.

**Projected Development Site 7 –** A 23,782 gsf building containing 19,082 gsf residential space (FAR 3.6) and 4,700 gsf (FAR 1.0) commercial space. The total FAR would be 4.6 and the building height would be 95 feet.

In total, Scenario A would result in a total of 128,202 gsf of residential space, a net increase of 110,292 over no-action conditions (115 DU's, of which 39 would be permanently affordable under MIH). There would be 21,688 gsf of commercial space, a net increase of 5,638 as compared to the no-action scenario, as well as a net decrease in manufacturing space of 18,246 gsf.

Scenario B

**Projected Development Site 1 (Applicant-controlled) –** A 24,288 gsf commercial building would be constructed, containing 4,800 gsf of ground-floor retail space with offices above. Total FAR 4.0; rooftop height 85 feet, the maximum floor area and height permitted for non-residential use.

**Projected Development Site 5 (Applicant-controlled**) – A commercial office building with ground floor retail, containing 50,149 gsf of floor area. Total FAR 4.0, maximum height 85 feet.

**Projected Development Site 6 (Applicant-controlled)–** A 15,180 gsf commercial building, of which 2,000 gsf would be retail space. Total FAR 4.0; rooftop height 85 feet.

**Projected Development Site 2 –** A 13,200 gsf commercial building with 10,200 gsf of office space 3,000 gsf of retail space. Total FAR 4.0; rooftop height 85 feet.

**Projected Development Site 3 –** A 13,200 gsf commercial office building with 10,200 gsf of office space and 3,000 gsf of retail space. Total FAR 4.0; rooftop height 85 feet.

**Projected Development Site 4 –** A 18,427 gsf office building containing 4,188 gsf of retail space. Total FAR 4.0; rooftop height 85 feet.

**Projected Development Site 7 –** A 23,782 gsf commercial building, of which 4,700 would be retail space. Total FAR 4.0; rooftop height 85 feet.

Scenario B would result in a net increase of 139,036 gsf of commercial space, a net decrease of 17,910 gsf of residential space, and a net decrease of 18,246 gsf of manufacturing space as compared to the no-action scenario.

### *Development Summary and Analysis Increment*

As shown in the following table, Scenario A represents the most conservative residential scenario, with a net increase of 110,292 gsf of residential floor area. Scenario B represents the most conservative nonresidential scenario, with a net increase of 112,986 gsf of commercial space.

**Table 1: Analysis Increment by Scenario**

| | Existing | No-Action | With-Action Scenario A | With-Action Scenario B | Analysis Increment Scenario A | Analysis Increment Scenario B |
|---|---|---|---|---|---|---|
| Residential floor (gsf) | 17,910 | 17,910 | 128,202 | 0 | 110,292 | -17,910 |
| Dwelling units | 26 | 26 | 141 | 0 | 115 | -26 |
| Low- to moderate-income units | 0 | 0 | 39 | 0 | 39 | 0 |
| Commercial (gsf) | 21,150 | 26,050 | 31,688 | 139,036 | 5,638 | 112,986 |
| Manufacturing (gsf) | 18,246 | 18,246 | 0 | 0 | -18,246 | -18,246 |

A breakdown of the no-action and with-action employment figures is presented in Table 2.

**Table 2: Commercial Floor Area and Employees**

| | No-Action | With Action | | Increment | |
|---|---|---|---|---|---|
| | | Scenario A | Scenario B | Scenario A | Scenario B |
| **Floor Area (gross square feet)** | | | | | |
| Retail | 6,950 | 21,688 | 21,688 | 14,738 | 14,738 |
| Office | 19,100 | 10,000 | 117,348 | -9,100 | 98,248 |
| Manufacturing | 18,246 | | | -18,246 | -18,246 |
| Total | 44,296 | 31,688 | 139,036 | -12,608 | 94,740 |
| **Employees** | | | | | |
| Retail | 21 | 65 | 65 | 44 | 44 |
| Office | 76 | 40 | 469 | -36 | 393 |
| Manufacturing | 18 | 0 | 0 | -18 | -18 |
| Total | 116 | 105 | 535 | -10 | 419 |

*Estimated number of workers is based on multipliers used in previous environmental review documents, including the East Village/Lower East Side Rezoning FEIS and the East New York Rezoning FEIS. Estimates are based on 3 employees per 1,000 square feet of retail uses, four employees per 1,000 sf of office uses, and 1 employee per 1,000 sf of industrial uses.*

Based on an estimated 12-month approval process and 18-month buildout and construction period, the analysis year will be 2024.

# 506 THIRD AVENUE REZONING
# ENVIRONMENTAL ASSESSMENT STATEMENT

Based on the analysis and screens contained in the Environmental Assessment Statement Short Form, the analysis areas that require further explanation include land use, zoning, and public policy; open space; shadows; historic and cultural resources; urban design and visual resources; hazardous materials; transportation; air quality; and noise. Section numbers correspond with the relevant chapters of the 2014 *CEQR Technical Manual*.

# 4. LAND USE, ZONING, AND PUBLIC POLICY

## INTRODUCTION

The analysis of land use, zoning and public policy characterizes the existing conditions of the Development Sites and the surrounding study area; anticipates and evaluates those changes in land use, zoning and public policy that are expected to occur independently of the proposed project; and identifies and addresses any potential impacts related to land use, zoning and public policy resulting from the project. Various sources have been used to prepare a comprehensive analysis of land use, zoning and public policy characteristics of the area, including field surveys, studies of the neighborhood, census data, and land use and zoning maps.

The Proposed Actions involve the mapping of an C4-4A district in place of an existing M2-1 district to facilitate the proposed construction of a commercial office building with ground-floor retails on the Applicant-controlled Projected Development Site 1. Several additional properties would be rezoned as a result of the Proposed Actions, and a total of seven Potential Development Sites are considered in this analysis, including Projected Development Site 2, which is also under the control of the Applicant.

### *Study Area*

In order to assess the potential for project-related impacts, a study area has been defined that includes the area located within 400 feet of the Project Area. This 400-foot area is the area within which the Proposed Actions have the potential to affect land use, land use trends, zoning, or public policy. The study area is generally bounded by 10th Street to the north; Fourth Avenue to the east, 15th Street to the south, and Second Avenue to the west.

## EXISTING CONDITIONS

### *Land Use*

The Project Area is located in the Gowanus neighborhood of Brooklyn Community District 6. The project area includes all or part of 18 tax lots. These parcels combined contain a total lot area of 43,799 sf with frontage along Third Avenue, 11th Street, 12th Street, and 13th Street. Third Avenue is a "wide" street pursuant to zoning with a width of 80 feet and 11th, 12th, and 13th Streets are "narrow" streets with widths of 60 feet.

<u>Applicant-Controlled Area</u>

- **Projected Development Site 1** is identified on the NYC Tax Map as Block 1020, Lot 36 and has an area of 4,800 sf with 60 feet of frontage along Third Avenue. The lot is developed with a one-story, 4,800 sf commercial building containing office space.
- **Projected Development Site 5** is identified on the NYC Tax Map as Block 1026, Lot 32 and has an area of 9,911 sf. The lot is irregularly shaped, with frontage on Third Avenue, 12th Street, and 13th Street. The Third Avenue frontage is developed with a five-story commercial office building. The 12th Street frontage is undeveloped. The 13th Street frontage is developed with a two-story light industrial building occupied by uses including a construction company, a food stylist company, and an automotive repair shop.

- **Projected Development Site 6** is identified on the NYC Tax Map as Block 1020, Lot 34 and has an area of 2,000 sf with 20 feet of frontage along Third Avenue. The lot is vacant and being used for private parking or vehicle storage.

Non-Applicant-Controlled Area and Study Area

The Project Area that is not controlled by the applicant is developed with residential buildings, all of which have ground-floor commercial use with the exception of one narrow lot on Third Avenue and another on 11th Street, which are entirely residential.

Third Avenue in the study area serves as a boundary between a residential neighborhood to the east and a primarily industrial neighborhood to the west. Ground floor commercial uses are common along Third Avenue. There are some residential uses along 10th, 11th, and 14th Streets in the study area west of Third Avenue, including a row of buildings on 11th Street adjacent to Ennis Playground. Ennis Playground is the only publicly accessible open space in the study area. East of Third Avenue (and not fronting on Third Avenue), there are three properties developed with commercial or transportation uses. Among these are 157 113th Street, a three-story, 24,840 sf office building that rents office space to individuals or companies; and 162 13th Street, a 10,000 sf warehouse.

### *Zoning*

The Project Area and the study area west of Third Avenue are zoned M2-1. The two blocks directly opposite the subject blocks on Third Avenue between 12th and 13th Streets are zoned M1-2 along the Third Avenue frontage to a depth varying between 100 and 200 feet. The east side Third Avenue frontage, located across from the other subject block, between 11th and 12th Streets is zoned R6A with a C2-4 overlay to a depth of 100 feet. East of the R6A/C2-4 (and M1-2) area, the study area is zoned R6B. The R6A/C2-4 and R6B districts were mapped as a part of the 2003 Park Slope rezoning (03DCP030K). Just outside of the study area along its east edge is the boundary of the EC-1 special district that is mapped along Fourth Avenue. EC-1, the Special Enhanced Commercial District 1, was created to promote the development commercial and community facility uses on the ground floor of new developments and enlargements.

M1 zoning districts are light industrial districts, often mapped as buffer zones between M2 and M3 districts and residential areas. M1 zoning districts permit Use Groups 4-14 and 16-17 and uses typically include woodworking shops, auto repair shops, and wholesale/storage facilities. These uses are usually located in one and two-story warehouse buildings. The M1-2 zoning district allows a maximum FAR of 2.0 for light manufacturing and industrial uses and allows an FAR of 4.8 for community facility uses. The maximum building height is based on a sky-exposure plane, which begins 60 feet above the street line.

M2 districts occupy the middle ground between light (M1) and heavy (M3) industrial districts. They are often mapped in the city's older industrial areas along the waterfront. M2-1 permits a maximum FAR of 2.0. The maximum base height is 60 feet, after which the building must set back to comply with a sky exposure plane. Off-street parking is required, and buildings must have at least a 20-foot rear yard. Permitted Use Groups include UG 6-14 and 16-17.

The C2-4 zoning district is a commercial overlay, mapped at a depth of 100 feet. C2 districts allow for a wide variety of commercial uses (Use Groups 1-9, 14) such as local retail, funeral homes and repair services. Within lower density residential zoning districts (R1 through R5) the maximum FAR of 1.0, whereas in denser residential districts (R6 through R10) the maximum FAR is 2.0 for industrial and commercial uses. Parking requirements vary by use.

R6A is a medium-density contextual residential district that allows residential and community facilities but excludes commercial and industrial uses. It is designed to be compatible with existing buildings found in older neighborhoods, such as those found in the Vinegar Hill Historic District. The Quality Housing program is mandatory in R6A districts. The maximum allowable FAR in an R6A district is 3.0 for community facility or residential uses. The maximum street wall height is 60 feet and the maximum building height is 70 feet. Above 60 feet, there must be setback of at least 10 feet on a wide street or 15 feet on a narrow street before rising to the maximum height. The street wall of a new building can be no closer to the street line than that of any existing building within 150 feet on the same block. Maximum lot coverage is 80 percent on a corner lot or 65 percent on an interior or through lot. Off-street parking is required for 50 percent of a building's dwelling units, though the parking requirement can be waived if five or fewer spaces are required.

### *Public Policy*

Parts of the study area are located within the Industrial Business Zone (IBZ). The IBZ program was introduced in 2006, and included a new business relocation tax credit, zoning protections, and direct business assistance through the Industrial Business Solutions Providers network. The project area is located with a New York State Empire Zone. The Empire Zone program was introduced in 1999 but is no longer accepting entrants. The Project Area is located within the Coastal Zone Boundary and is thus subject to the Waterfront Revitalization Plan (WRP). Policies addressing new development in the City include Housing New York, the New York Works jobs plan, and OneNYC, which promote affordable housing and a range of employment opportunities for New Yorkers. The Gowanus Neighborhood Study and the Gowanus IBZ Vision Study also address community needs in the study area, focusing on community-based planning, resiliency, job creation, and affordable housing.

## NO-ACTION CONDITIONS

### *Land Use*

Absent the Proposed Actions, it is anticipated that the vacant 900 gsf ground floor space on Block 1020, Lot 43, will be converted to active retail use. Additionally, it is assumed that the vacant lot on Block 1020, Lot 34, will be developed as-of-right for commercial use to an FAR of 2.0, the maximum permitted under the underlying zoning, for a floor area of 4,000 gsf. In total, 4,900 gsf of commercial space is anticipated to be added under the no-action scenario. No other land use changes are anticipated in the future without the Proposed Actions.

### *Zoning*

In the future without the Proposed Actions, the provisions of the existing M2-1 zoning district would continue to apply to the Project Area. No changes are anticipated to occur on the Projected Development Sites beyond the as-of-right commercial development described above under Land Use. The surrounding zoning districts within the immediate study area are expected to remain largely unchanged by the project build year of 2024.

### *Public Policy*

In the future without the Proposed Actions, any new development within the Project Area would continue to be governed by the provisions of the underlying M2-1 zoning district. No other public policy initiatives would pertain to the Project Area or to the 400-foot study area around the property by the project build year of 2024. In addition, no changes are anticipated to the zoning districts and zoning regulations or to any public policy documents related to the Project Area or the surrounding study area by the project build year.

## WITH-ACTION CONDITIONS

### *Land Use*

In the future with the Proposed Actions, the Project Area is anticipated for redevelopment. Two scenarios are considered for analysis: Scenario A, a mixed-use scenario in which the Projected Development Sites are anticipated for redevelopment with residential building containing ground-floor commercial space; and Scenario B, a commercial scenario in which the Projected Development Sites are anticipated for commercial redevelopment.

#### Scenario A

In the future with the Proposed Actions under Scenario A, the Projected Development sites would be redeveloped with residential and commercial uses as shown in Table 4-2.

Under Scenario A, ground-floor retail uses are anticipated on the Projected Development Sites, as is common along Third Avenue in the study area. The upper floors would contain residential space, 30% of which would be permanently affordable under MIH. Using a standard dwelling site size of 850 gsf, Scenario A would result in 221 dwelling units (a net increase of 115 DU's over future no-action conditions).

#### Scenario B

In the future with the Proposed Actions under Scenario B, the Projected Development Sites would be redeveloped for commercial use as indicated in Table 4-3.

**Table 4-2: Scenario A Development Summary**

| Site | Block | Lot | Site Size SF | Total GSF | Residential GSF | Commercial GSF |
|---|---|---|---|---|---|---|
| Projected Development Site 1 | 1020 | 36 | 4,800 | 24,288 | 19,488 | 4,800 |
| Projected Development Site 2 | 1020 | 43 | 3,000 | 15,180 | 12,180 | 3,000 |
| | 1020 | 44 | | | | |
| Projected Development Site 3 | 1026 | 35 | 3,000 | 15,180 | 12,180 | 3,000 |
| | 1026 | 36 | | | | |
| Projected Development Site 4 | 1026 | 40 | 4,188 | 21,191 | 17,003 | 4,188 |
| | 1026 | 42 | | | | |
| Projected Development Site 5 | 1026 | 32 | 9,911 | 50,149 | 40,149 | 10,000 |
| Projected Development Site 6 | 1020 | 34 | 2,000 | 10,120 | 8,120 | 2,000 |
| Projected Development Site 7 | 1020 | 45 | 4,700 | 23,782 | 19,082 | 4,700 |
| **TOTAL** | | | **31,599** | **159,890** | **128,202** | **31,688** |
| ***INCREMENT vs. NO-ACTION*** | | | | ***97,684*** | ***110,292*** | ***5,638*** |

**Table 4-3: Scenario B Development Summary**

| Site | Block | Lot | Site Size SF | Total GSF | Residential GSF | Commercial GSF |
|---|---|---|---|---|---|---|
| **Projected Development Site 1** | 1020 | 36 | 4,800 | 21,120 | | 21,120 |
| **Projected Development Site 2** | 1020 | 43 | 3,000 | 13,200 | | 13,200 |
| | 1020 | 44 | | | | |
| **Projected Development Site 3** | 1026 | 35 | 3,000 | 13,200 | | 13,200 |
| | 1026 | 36 | | | | |
| **Projected Development Site 4** | 1026 | 40 | 4,188 | 18,427 | | 18,427 |
| | 1026 | 42 | | | | |
| **Projected Development Site 5** | 1026 | 32 | 9,911 | 43,608 | | 43,608 |
| **Projected Development Site 6** | 1020 | 34 | 2,000 | 8,800 | | 8,800 |
| **Projected Development Site 7** | 1020 | 45 | 4,700 | 20,680 | | 20,680 |
| **TOTAL** | | | **31,599** | **139,036** | | **139,036** |
| ***INCREMENT*** | | | ***0*** | ***76,830*** | ***-17,910*** | ***112,986*** |

The Projected Development Sites would contain ground-floor retail space, as under Scenario A, with commercial office space above. The projected commercial development would displace a total of 26 residential units. As shown in Table 4-1, there would be 139,036 gsf of commercial space on the Projected Development Sites, which is a net increase of 112,986 gsf over future no-action conditions.

### *Zoning*

In the future with the proposed action, a C4-4A district would be mapped along the west side of Third Avenue between 11th and 13th Streets to a depth of 100 feet. Additionally, a text amendment to Appendix F of the Zoning Resolution (ZR) is proposed to designate the Project Area as a Mandatory Inclusionary Housing (MIH) Area.

C4 zoning districts are mapped in regional commercial centers that are located outside of the central business districts. In these areas, specialty and department stores, theaters, and other commercial and office uses serve a larger area and generate more traffic than neighborhood shopping areas. C4-4A is a contextual district that permits a commercial and community facility FAR of 4.0 and a residential FAR of 4.0 (4.6 under MIH) and has a residential district equivalent of the R7 district. The proposed C4-4A district permits Use Groups 1-6, 8-10, and 12.

The Proposed Actions are necessary to allow the density and bulk proposed by the Applicant for the commercial building planned for Projected Development Site 1. The Applicant proposes a five-story commercial building similar to the Applicant-controlled office building located at 530 13th Street (Projected Development Site 2) with an FAR of 3.75 where the existing zoning district permits a maximum commercial FAR of 2.0.

### *Public Policy*

The proposed and projected development would occur in accordance with the proposed zoning district. As demonstrated in the WRP form appended to this document, the Proposed Actions uphold the WRP. The inclusion of the MIH program will encourage the development of low-income housing in this dynamic section of Brooklyn, and the proposed zoning districts allow for a wide range of land uses to suit neighborhood trends and community needs.

## CONCLUSIONS

The study area already contains a mix of residential and commercial uses, and the Project Area is sited in a transitional area between residential and commercial/industrial uses. The proposed C4-4A district would permit both residential and commercial uses, permitting the Project Area to support greater density of housing and space for jobs. Whether the Projected Development Sites are redeveloped as commercial or residential uses, the resulting land use will be appropriate in this mixed-use area. The increased bulk and density facilitated by the Proposed Actions are appropriate for the Project Area's location, with frontage on a wide street and in proximity to various public and private transportation options.

A zoning text amendment to designate the Project Area a MIH-designated area will allow an increased FAR on the Projected Development Sites, should the property owners with to pursue residential development, and will require all future residential development of a certain size to include an additional affordable housing component. Through the MIH designation, all future

owners of the properties affected by the Proposed Actions will be required to provide a percentage of permanently affordable housing units.

No potentially significant adverse impacts related to land use, zoning, or public policy are expected to occur as a result of the Proposed Actions.

| FOR INTERNAL USE ONLY | WRP No. _____ |
|---|---|
| Date Received: _____ | DOS No. _____ |

# NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM
## Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP or other local, state or federal discretionary review procedures, and that are within New York City's Coastal Zone, must be reviewed and assessed for their consistency with the *New York City Waterfront Revitalization Program (WRP)* which has been approved as part of the State's Coastal Management Program.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, state, or federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, the New York City Department of City Planning, or other city or state agencies in their review of the applicant's certification of consistency.

### A. APPLICANT INFORMATION

Name of Applicant: PAB 3rd Avenue Holdings LLC

Name of Applicant Representative: Hiram A. Rothkrug, Environmental Studies Corp.

Address: 55 Water Mill Road, Greatneck, New York 11021

Telephone: (718) 343-0026 Email: hrothkrug@environmentalstudiescorp.com

Project site owner (if different than above): _____

### B. PROPOSED ACTIVITY

*If more space is needed, include as an attachment.*

1. Brief description of activity

The Applicant, PAB 3rd Avenue Holdings LLC, seeks a zoning map amendment and zoning text amendment (the "Proposed Actions") to facilitate the development of a five-story commercial office building at 506 Third Avenue ("Projected Development Site 1," also identified as Block 1020, Lot 36) in the Gowanus section of Brooklyn Community District 6. In addition to Projected Development Site 2, the Applicant controls 530 Third Avenue (Block 1026, Lot 32, anticipated for expansion under the proposed actions) and 156 11th Street (Block 1020, Lot 34, anticipated for redevelopment under the proposed actions). In total, the proposed zoning map amendment affects 82,951 square feet of lot area, of which 57,471 sf (10 tax lots) are anticipated to be redeveloped in the future with the Proposed Actions.

2. Purpose of activity

The Proposed Actions would facilitate the proposed commercial development and would bring pre-existing non-residential uses into conformance with zoning. The Proposed Actions would permit greater density for residential, commercial, and community facility uses throughout the Project Area, supporting density along a wide corridor within a quarter mile of the subway. The Proposed Actions would promote mixed-income housing through MIH, and would create space for jobs in close proximity to major employment nodes. Currently, the Project Area is zoned M2-1, which permits a commercial floor area ratio (FAR) of 2.0. The proposed C4-4A district allows a commercial FAR of 4.0, a residential FAR of 4.6, and a community facility FAR of 4.0, which the applicant believes would be appropriate along a corridor in a developed, mixed-use area that is well-connected to public transit and major roadways.

## C. PROJECT LOCATION

Borough: Brooklyn Tax Block/Lot(s): Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45; Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, 42

Street Address: 506 Third Avenue, Brooklyn, New York

Name of water body (if located on the waterfront): Not located on the waterfront

## D. REQUIRED ACTIONS OR APPROVALS

*Check all that apply.*

### City Actions/Approvals/Funding

***City Planning Commission*** ☑ Yes ☐ No

- ☐ City Map Amendment
- ☑ Zoning Map Amendment
- ☑ Zoning Text Amendment
- ☐ Site Selection – Public Facility
- ☐ Housing Plan & Project
- ☐ Special Permit
  (if appropriate, specify type: ☐ Modification ☐ Renewal ☐ other) Expiration Date: _____
- ☐ Zoning Certification
- ☐ Zoning Authorizations
- ☐ Acquisition – Real Property
- ☐ Disposition – Real Property
- ☑ Other, explain: WRP Consistency Determination
- ☐ Concession
- ☐ UDAAP
- ☐ Revocable Consent
- ☐ Franchise

***Board of Standards and Appeals*** ☐ Yes ☑ No

- ☐ Variance (use)
- ☐ Variance (bulk)
- ☐ Special Permit
  (if appropriate, specify type: ☐ Modification ☐ Renewal ☐ other) Expiration Date: _____

***Other City Approvals***

- ☐ Legislation
- ☐ Rulemaking
- ☐ Construction of Public Facilities
- ☐ 384 (b) (4) Approval
- ☐ Other, explain: _____
- ☐ Funding for Construction, specify: _____
- ☐ Policy or Plan, specify: _____
- ☐ Funding of Program, specify: _____
- ☑ Permits, specify: DOB Building Permit

### State Actions/Approvals/Funding

- ☐ State permit or license, specify Agency: _____ Permit type and number: _____
- ☐ Funding for Construction, specify: _____
- ☐ Funding of a Program, specify: _____
- ☐ Other, explain: _____

### Federal Actions/Approvals/Funding

- ☐ Federal permit or license, specify Agency: _____ Permit type and number: _____
- ☐ Funding for Construction, specify: _____
- ☐ Funding of a Program, specify: _____
- ☐ Other, explain: _____

Is this being reviewed in conjunction with a Joint Application for Permits? ☐ Yes ☑ No

## E. LOCATION QUESTIONS

1. Does the project require a waterfront site? ☐ Yes ☑ No
2. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land under water or coastal waters? ☐ Yes ☑ No
3. Is the project located on publicly owned land or receiving public assistance? ☐ Yes ☑ No
4. Is the project located within a FEMA 1% annual chance floodplain? *(6.2)* ☐ Yes ☑ No
5. Is the project located within a FEMA 0.2% annual chance floodplain? *(6.2)* ☐ Yes ☑ No
6. Is the project located adjacent to or within a special area designation? *See Maps – Part III of the NYC WRP. If so, check appropriate boxes below and evaluate policies noted in parentheses as part of WRP Policy Assessment (Section F).* ☐ Yes ☑ No

   ☐ Significant Maritime and Industrial Area (SMIA) (*2.1*)
   ☐ Special Natural Waterfront Area (SNWA) (*4.1*)
   ☐ Priority Maritime Activity Zone (PMAZ) (*3.5*)
   ☐ Recognized Ecological Complex (REC) (*4.4*)
   ☐ West Shore Ecologically Sensitive Maritime and Industrial Area (ESMIA) (*2.2, 4.2*)

## F. WRP POLICY ASSESSMENT

*Review the project or action for consistency with the WRP policies. For each policy, check* Promote, Hinder *or* Not Applicable (N/A). *For more information about consistency review process and determination, see* ***Part I*** *of the NYC Waterfront Revitalization Program. When assessing each policy, review the full policy language, including all sub-policies, contained within* ***Part II*** *of the WRP. The relevance of each applicable policy may vary depending upon the project type and where it is located (i.e. if it is located within one of the special area designations).*

*For those policies checked* Promote *or* Hinder, *provide a written statement on a separate page that assesses the effects of the proposed activity on the relevant policies or standards. If the project or action promotes a policy, explain how the action would be consistent with the goals of the policy. If it hinders a policy, consideration should be given toward any practical means of altering or modifying the project to eliminate the hindrance. Policies that would be advanced by the project should be balanced against those that would be hindered by the project. If reasonable modifications to eliminate the hindrance are not possible, consideration should be given as to whether the hindrance is of such a degree as to be substantial, and if so, those adverse effects should be mitigated to the extent practicable.*

| | | Promote | Hinder | N/A |
|---|---|---|---|---|
| **1** | **Support and facilitate commercial and residential redevelopment in areas well-suited to such development.** | ☑ | ☐ | ☐ |
| 1.1 | Encourage commercial and residential redevelopment in appropriate Coastal Zone areas. | ☑ | ☐ | ☐ |
| 1.2 | Encourage non-industrial development with uses and design features that enliven the waterfront and attract the public. | ☐ | ☐ | ☑ |
| 1.3 | Encourage redevelopment in the Coastal Zone where public facilities and infrastructure are adequate or will be developed. | ☑ | ☐ | ☐ |
| 1.4 | In areas adjacent to SMIAs, ensure new residential development maximizes compatibility with existing adjacent maritime and industrial uses. | ☐ | ☐ | ☑ |
| 1.5 | Integrate consideration of climate change and sea level rise into the planning and design of waterfront residential and commercial development, pursuant to WRP Policy 6.2. | ☐ | ☐ | ☑ |

| | | Promote | Hinder | N/A |
|---|---|---|---|---|
| **2** | **Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.** | ☐ | ☐ | ☑ |
| 2.1 | Promote water-dependent and industrial uses in Significant Maritime and Industrial Areas. | ☐ | ☐ | ☑ |
| 2.2 | Encourage a compatible relationship between working waterfront uses, upland development and natural resources within the Ecologically Sensitive Maritime and Industrial Area. | ☐ | ☐ | ☑ |
| 2.3 | Encourage working waterfront uses at appropriate sites outside the Significant Maritime and Industrial Areas or Ecologically Sensitive Maritime Industrial Area. | ☐ | ☐ | ☑ |
| 2.4 | Provide infrastructure improvements necessary to support working waterfront uses. | ☐ | ☐ | ☑ |
| 2.5 | Incorporate consideration of climate change and sea level rise into the planning and design of waterfront industrial development and infrastructure, pursuant to WRP Policy 6.2. | ☐ | ☐ | ☑ |
| **3** | **Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation.** | ☐ | ☐ | ☑ |
| 3.1. | Support and encourage in-water recreational activities in suitable locations. | ☐ | ☐ | ☑ |
| 3.2 | Support and encourage recreational, educational and commercial boating in New York City's maritime centers. | ☐ | ☐ | ☑ |
| 3.3 | Minimize conflicts between recreational boating and commercial ship operations. | ☐ | ☐ | ☑ |
| 3.4 | Minimize impact of commercial and recreational boating activities on the aquatic environment and surrounding land and water uses. | ☐ | ☐ | ☑ |
| 3.5 | In Priority Marine Activity Zones, support the ongoing maintenance of maritime infrastructure for water-dependent uses. | ☐ | ☐ | ☑ |
| **4** | **Protect and restore the quality and function of ecological systems within the New York City coastal area.** | ☐ | ☐ | ☑ |
| 4.1 | Protect and restore the ecological quality and component habitats and resources within the Special Natural Waterfront Areas. | ☐ | ☐ | ☑ |
| 4.2 | Protect and restore the ecological quality and component habitats and resources within the Ecologically Sensitive Maritime and Industrial Area. | ☐ | ☐ | ☑ |
| 4.3 | Protect designated Significant Coastal Fish and Wildlife Habitats. | ☐ | ☐ | ☑ |
| 4.4 | Identify, remediate and restore ecological functions within Recognized Ecological Complexes. | ☐ | ☐ | ☑ |
| 4.5 | Protect and restore tidal and freshwater wetlands. | ☐ | ☐ | ☑ |
| 4.6 | In addition to wetlands, seek opportunities to create a mosaic of habitats with high ecological value and function that provide environmental and societal benefits. Restoration should strive to incorporate multiple habitat characteristics to achieve the greatest ecological benefit at a single location. | ☐ | ☐ | ☑ |
| 4.7 | Protect vulnerable plant, fish and wildlife species, and rare ecological communities. Design and develop land and water uses to maximize their integration or compatibility with the identified ecological community. | ☐ | ☐ | ☑ |
| 4.8 | Maintain and protect living aquatic resources. | ☐ | ☐ | ☑ |

| | | Promote | Hinder | N/A |
|---|---|---|---|---|
| **5** | **Protect and improve water quality in the New York City coastal area.** | ☐ | ☐ | ☑ |
| 5.1 | Manage direct or indirect discharges to waterbodies. | ☐ | ☐ | ☑ |
| 5.2 | Protect the quality of New York City's waters by managing activities that generate nonpoint source pollution. | ☐ | ☐ | ☑ |
| 5.3 | Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes, and wetlands. | ☐ | ☐ | ☑ |
| 5.4 | Protect the quality and quantity of groundwater, streams, and the sources of water for wetlands. | ☐ | ☐ | ☑ |
| 5.5 | Protect and improve water quality through cost-effective grey-infrastructure and in-water ecological strategies. | ☐ | ☐ | ☑ |
| **6** | **Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future conditions created by climate change.** | ☐ | ☐ | ☑ |
| 6.1 | Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the site, the use of the property to be protected, and the surrounding area. | ☐ | ☐ | ☑ |
| 6.2 | Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in *New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms*) into the planning and design of projects in the city's Coastal Zone. | ☐ | ☐ | ☑ |
| 6.3 | Direct public funding for flood prevention or erosion control measures to those locations where the investment will yield significant public benefit. | ☐ | ☐ | ☑ |
| 6.4 | Protect and preserve non-renewable sources of sand for beach nourishment. | ☐ | ☐ | ☑ |
| **7** | **Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environment and public health and safety.** | ☑ | ☐ | ☐ |
| 7.1 | Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems. | ☑ | ☐ | ☐ |
| 7.2 | Prevent and remediate discharge of petroleum products. | ☑ | ☐ | ☐ |
| 7.3 | Transport solid waste and hazardous materials and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources. | ☑ | ☐ | ☐ |
| **8** | **Provide public access to, from, and along New York City's coastal waters.** | ☐ | ☐ | ☑ |
| 8.1 | Preserve, protect, maintain, and enhance physical, visual and recreational access to the waterfront. | ☐ | ☐ | ☑ |
| 8.2 | Incorporate public access into new public and private development where compatible with proposed land use and coastal location. | ☐ | ☐ | ☑ |
| 8.3 | Provide visual access to the waterfront where physically practical. | ☐ | ☐ | ☑ |
| 8.4 | Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations. | ☐ | ☐ | ☑ |

| | | Promote | Hinder | N/A |
|---|---|---|---|---|
| 8.5 | Preserve the public interest in and use of lands and waters held in public trust by the State and City. | ☐ | ☐ | ☑ |
| 8.6 | Design waterfront public spaces to encourage the waterfront's identity and encourage stewardship. | ☐ | ☐ | ☑ |
| **9** | **Protect scenic resources that contribute to the visual quality of the New York City coastal area.** | ☐ | ☐ | ☑ |
| 9.1 | Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront. | ☐ | ☐ | ☑ |
| 9.2 | Protect and enhance scenic values associated with natural resources. | ☐ | ☐ | ☑ |
| **10** | **Protect, preserve, and enhance resources significant to the historical, archaeological, architectural, and cultural legacy of the New York City coastal area.** | ☐ | ☐ | ☑ |
| 10.1 | Retain and preserve historic resources, and enhance resources significant to the coastal culture of New York City. | ☐ | ☐ | ☑ |
| 10.2 | Protect and preserve archaeological resources and artifacts. | ☐ | ☐ | ☑ |

## G. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Applicant/Agent's Name: Brian Kintish for Hiram Rothkrug, Environmental Studies Corp.

Address: 55 Watermill Road, Great Neck, NY 11021

Telephone: 718-343-0026 Email: bkintish@environmentalstudiescorp.com

Applicant/Agent's Signature: Brian Kintish

Date: 5/10/21

**506 Third Avenue Rezoning, Explanation of Consistency with Waterfront Policies**

1. **Policy 1: Support and facilitate commercial and residential redevelopment in areas well-suited to such development.**

   WRP Policy 1 relates to the development of new residential and commercial uses on the waterfront in order to revitalize derelict waterfront areas. The Project Area and associated development sites are not located on the waterfront, but approximately three blocks to the east of the Gowanus Canal. Nevertheless, the development that would be facilitated by the Proposed Project would bring new residents, workers, shoppers, and other visitors to the area resulting in new activity in the nearby waterfront area.

2. **Policy 1.1: Encourage commercial and residential redevelopment in appropriate Coastal Zone areas.**

   The Project Area is an appropriate location for the proposed development and meets the criteria of Policy 1.1 as described below.

   *A. Criteria that should be considered to determine areas appropriate for reuse through public and private actions include: compatibility with the continued functioning of the designated Special Natural Waterfront Areas, the Arthur Kill Ecologically Sensitive Maritime and Industrial Area, or Significant Maritime and Industrial Areas, where applicable; the absence of unique or significant natural features or, if present, the potential for compatible development; the presence of substantial vacant or underused land; proximity to existing residential or commercial uses; the potential for strengthening upland residential or commercial areas and for opening up the waterfront to the public; transportation access; the maritime and industrial jobs potentially displaced or created; and the new opportunities created by redevelopment.*

   *Public actions – such as property disposition, urban renewal plans, and infrastructure provision – should facilitate redevelopment of underused property to promote housing and economic development and enhance the city's tax base, subject to consideration of Policy 2, where applicable.*

   Relative to Policy 1.1 A., the Project Area is not designated either as a Special Natural Waterfront Area (SNWA) or as a Significant Maritime and Industrial Area (SMIA) nor is it in close proximity to any areas so designated. The Project Area is located inland and does not border the shoreline. The Project Area does not contain any unique and significant natural features. The Project Area is comprised of mixed-use residential / commercial, industrial, and commercial uses. The Project Area is located in the Gowanus section of Brooklyn, in a transitional area where industrial and manufacturing uses are predominant to the west and residential uses are predominant to the east.

   The Proposed Actions would facilitate the proposed commercial development and would bring pre-existing non-residential uses into conformance with zoning. The Proposed Actions would permit greater density for residential, commercial, and community facility uses throughout the Project Area, supporting density along a wide corridor within a quarter mile of the subway. The Proposed Actions would promote mixed-income housing through MIH, and would create space for jobs in close proximity to major employment nodes. Currently, the Project Area is zoned M2-1, which permits a commercial floor area

ratio (FAR) of 2.0. The proposed C4-4A district allows a commercial FAR of 4.0, a residential FAR of 4.6, and a community facility FAR of 4.0, which the applicant believes would be appropriate along a corridor in a developed, mixed-use area that is well-connected to public transit and major roadways.

The Proposed Actions would not involve any public actions, such as property disposition, Urban Renewal Plans, and infrastructure provision. However, the action would facilitate redevelopment of underused property to promote housing and economic development and would thereby enhance the city's tax base.

3. **Policy 1.3: Encourage redevelopment in the Coastal Zone where public facilities and infrastructure are adequate or will be developed.**

   *A. Encourage development at a density compatible with the capacity of surrounding roadways, mass transit, and essential community services such as public schools. Lack of adequate local infrastructure need not preclude development, but it may suggest the need to upgrade or expand inadequate or deteriorated local infrastructure.*

   The Project Area is located in an area with fully developed infrastructure with adequate capacity to serve the projected development. The Project Area is bounded by 3rd Avenue to the east, 13th Street to the south, and 11th Street to the north, providing automobile access in all directions from and to the Project Area. Access to I-278 is provided approximately 0.25-mile south of the Project Area, which connects the Project Area to all major roadways in and around New York City. The 4th Avenue and 9th Street subway stops are located approximately 0.25-mile east of the Project Area, with access to the F, G, and R trains.

   The nearest public elementary school, P.S. 124 at 515 4th Avenue serving grades pre-K through 5 (as well as providing special education programs) at 36-36 10th Street serving grades pre-K through 5, is located approximately 0.3-mile southeast from the Project Area. The most recent enrollment and capacity data from the NYC Department of Education indicates that in the 2019-2020 school year, the target capacity of P. S. 76 was 311 seats while 305 students were enrolled, representing a utilization rate of approximately 98 percent.

4. **Policy 7: Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environment and public health and safety;**

5. **Policy 7-1: Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems;**

6. **Policy 7-2: Prevent and remediate discharge of petroleum products; and**

7. **Policy 7-3: Transport solid waste and hazardous materials and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.**

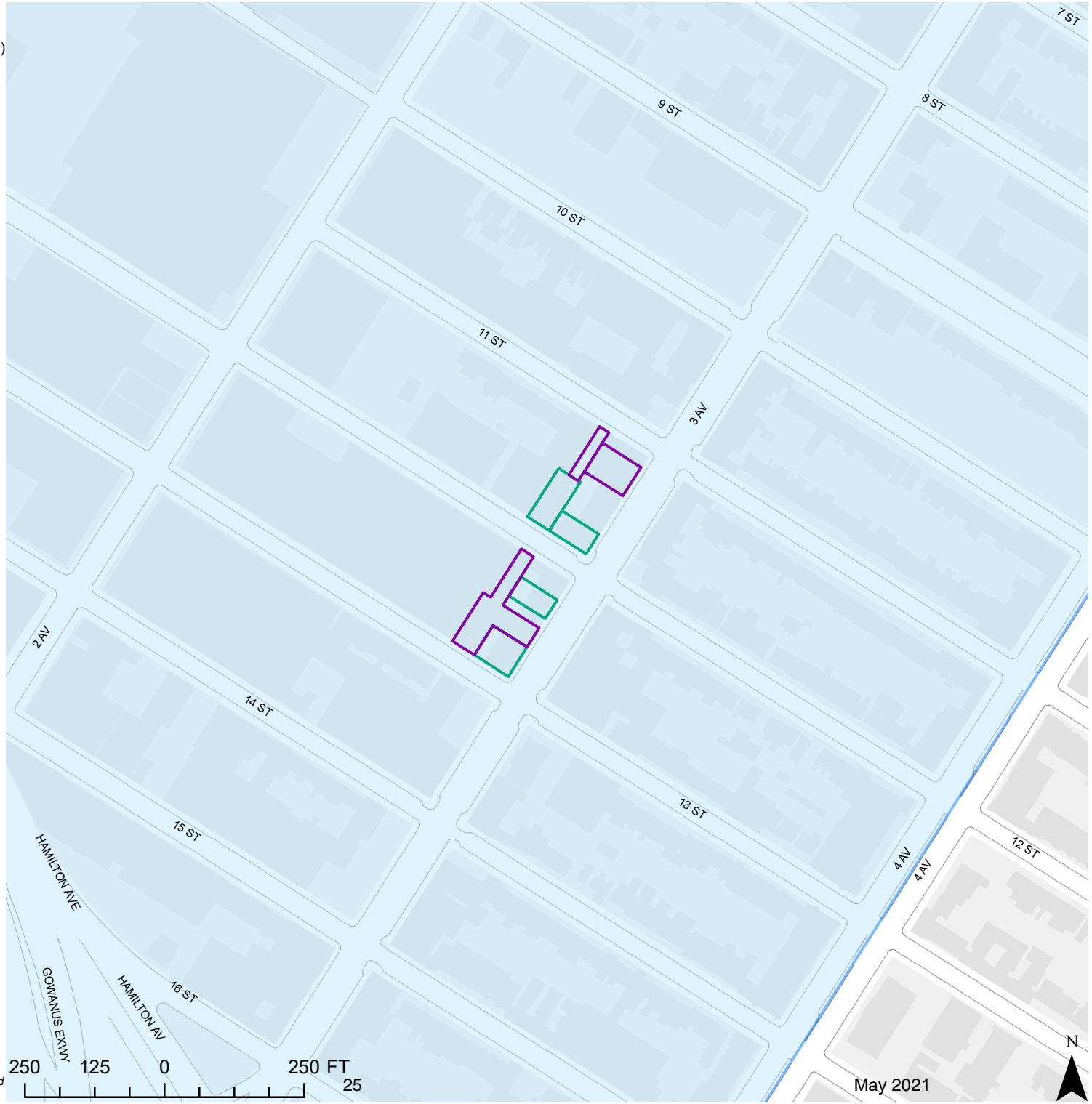
These policies largely pertain to hazardous waste sites and major petroleum storage and off-loading facilities. Because the Phase I ESA identified recognized environmental conditions pertinent to both the subject property and other projected development sites within the Affected Area, an "E" designation for hazardous materials (E-617) will be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for all of the projected development sites, mandating that redevelopment must be preceded by soil, groundwater, and vapor testing in accordance with a protocol approved by OER, OER's review of the test results, and any remediation measures deemed necessary by OER. DOB building permits cannot be issued unless OER communicates in writing that the (E) designation requirements have been satisfied. With this (E) designation in place, no significant adverse impacts related to hazardous materials are expected. Petroleum storage and off-loading facilities would not be included as part of the Future With-Action Condition. In addition, as the new residential and commercial uses would likely utilize natural gas and electricity for their heating and hot water generation needs, oil storage tanks would not be located in these structures, thereby eliminating a potential source of petroleum contamination. Any businesses or other facilities using petroleum products would be required to handle, store and dispose of these products and to clean up any spills in accordance with current Federal, State, and City rules and regulations.

# NYC Coastal Zone Boundary Map

Projected Development Site (Applicant-Owned)

Projected Development Site (Non-Applicant Owned)

NYC Coastal Zone Boundary




***Data Source(s):***
*(1) New York City Department of City Planning, Information Technology Division: MapPLUTO Data;*
*(2) NYC Department of Information Technology and Telecommunications: NYC Street Centerlines;*
*(3) NYC Department of Information Technology and Telecommunications: Pavement Edge;*
*(4) NYC Department of Information Technology and Telecommunications: Building Footprints;*
*(5) New York City Department of City Planning Planning Coordination and Waterfront Division: NYC Coastal Zone Boundary*

# FEMA Flood Hazard Area, Official 2007 Mapping




***Data Source(s):***
*(1) New York City Department of City Planning, Information Technology Division: MapPLUTO Data;*
*(2) NYC Department of Information Technology and Telecommunications: NYC Street Centerlines;*
*(3) NYC Department of Information Technology and Telecommunications: Pavement Edge;*
*(4) NYC Department of Information Technology and Telecommunications: Building Footprints;*
*(5) Federal Emergency Management Agency 2007 National Flood Hazard Layer, New York City*

# FEMA Flood Hazard Area, Preliminary 2015 Mapping




***Data Source(s):***
*(1) New York City Department of City Planning, Information Technology Division: MapPLUTO Data;*
*(2) NYC Department of Information Technology and Telecommunications: NYC Street Centerlines;*
*(3) NYC Department of Information Technology and Telecommunications: Pavement Edge;*
*(4) NYC Department of Information Technology and Telecommunications: Building Footprints;*
*(5) Federal Emergency Management Agency 2015 Preliminary National Flood Hazard Layer, New York City*

**NYC Waterfront Revitalization Program - Policy 6.2 Flood Elevation Workhsheet**

**COMPLETE INSTRUCTIONS ON HOW TO USE THIS WORKSHEET ARE PROVIDED IN THE "CLIMATE CHANGE ADAPTATION GUIDANCE" DOCUMENT AVAILABLE AT www.nyc.gov/wrp**

*Enter information about the project and site in highlighted cells in Tabs 1-3. Tab 4, "Summary Charts" contains primary results. Tab 5, "0.2%+SLR" produces charts to be used for critical infrastructure or facilities. Tab 6, "Calculations" contains background computations. Appendix A contains tide elevations for station across the city to be used for the elevation of MHHW if a site survey is not available. Non-highlighted cells have been locked.*

| **Background Information** | |
|---|---|
| Project Name | 506 Third Avenue Rezoning |
| Location | 506 Third Avenue in Brooklyn CD 6 (Block 1020, Lot 36) |
| Type(s) | ☑ Residential, Commercial, Community Facility ☐ Parkland, Open Space, and Natural Areas ☐ Tidal Wetland Restoration ☐ Critical Infrastructure or Facility ☐ Industrial Uses<br>☐ Over-water Structures ☐ Shoreline Structures ☐ Transportation ☐ Wastewater Treatment/Drainage ☐ Coastal Protection |
| Description | The proposed rezoning would facilitate the redevelopment of the project site with a five-story commercial building, with retail space on the ground floor and offices on the upper floors. The ground floor would be 20 feet tall, and the upper floors would each be 12 feet in height. The building would be 68 feet tall. |
| Planned Completion Date | 2024 |
| Expected Project Lifespan | Unknown |

*The New York City Waterfront Revitalization Program Climate Change Adaptation Guidance document was developed by the NYC Department of City Planning. It is a guidance document only and is not intended to serve as a substitute for actual regulations. The City disclaims any liability for errors that may be contained herein and shall not be responsible for any damages, consequential or actual, arising out of or in connection with the use of this information. The City reserves the right to update or correct information in this guidance document at any time and without notice.*

**For technical assistance on using this worksheet, email wrp@planning.nyc.gov, using the message subject "Policy 6.2 Worksheet."**

***Last update: Sept. 7, 2018***

## Establish current tidal and flood heights.

| | FT (NAVD88) | Feet | Datum | Source |
|---|---|---|---|---|
| MHHW | 2.61 | **2.61** | **NAVD88** | *Battery Station NOAA Tides and Currents* |
| 1% flood height | 11.00 | **11.00** | **NAVD88** | *NYC Flood Hazard Mapper* |
| Design flood elevation | 22.00 | **22.00** | **NAVD88** | *NYC Open Data Building Footprints File* |
| *As relevant:* | | | | |
| 0.2% flood height | --> | | | |

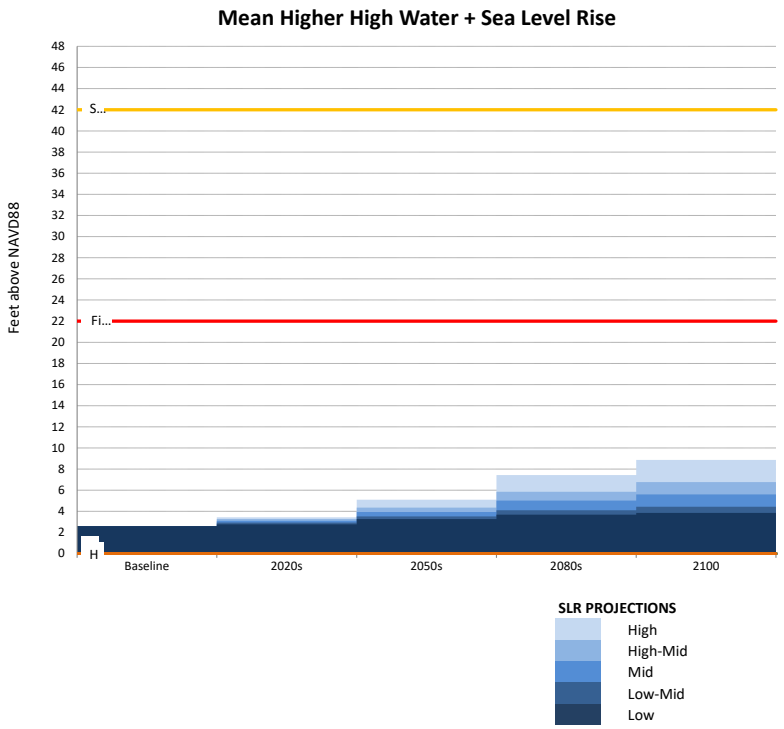
*Data will be converted based on the following datums:*

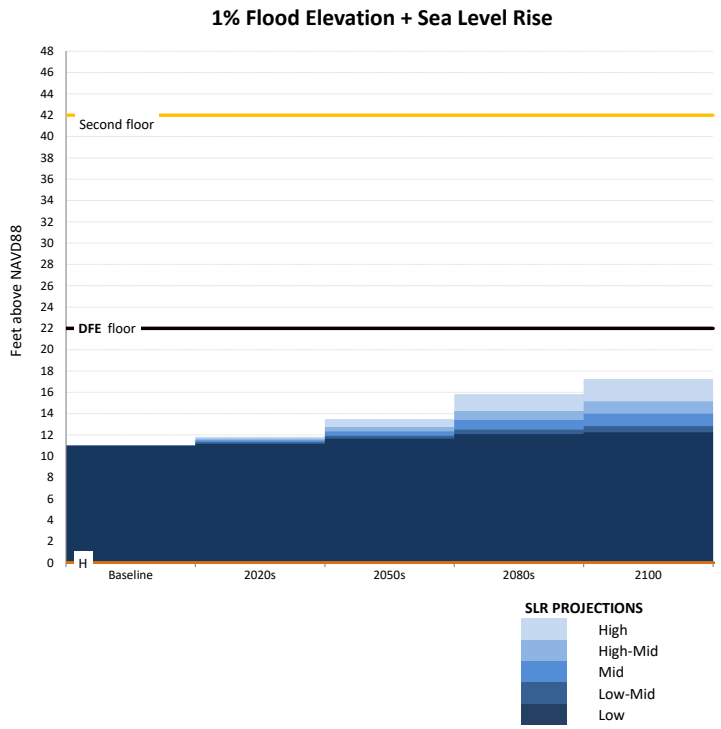
| Datum | FT (NAVD88) |
|---|---|
| NAVD88 | *0.00* |
| NGVD29 | *-1.10* |
| Manhattan Datum | *1.65* |
| Bronx Datum | *1.51* |
| Brooklyn Datum (Sewer) | *0.61* |
| Brooklyn Datum (Highway) | *1.45* |
| Queens Datum | *1.63* |
| Richmond Datum | *2.09* |

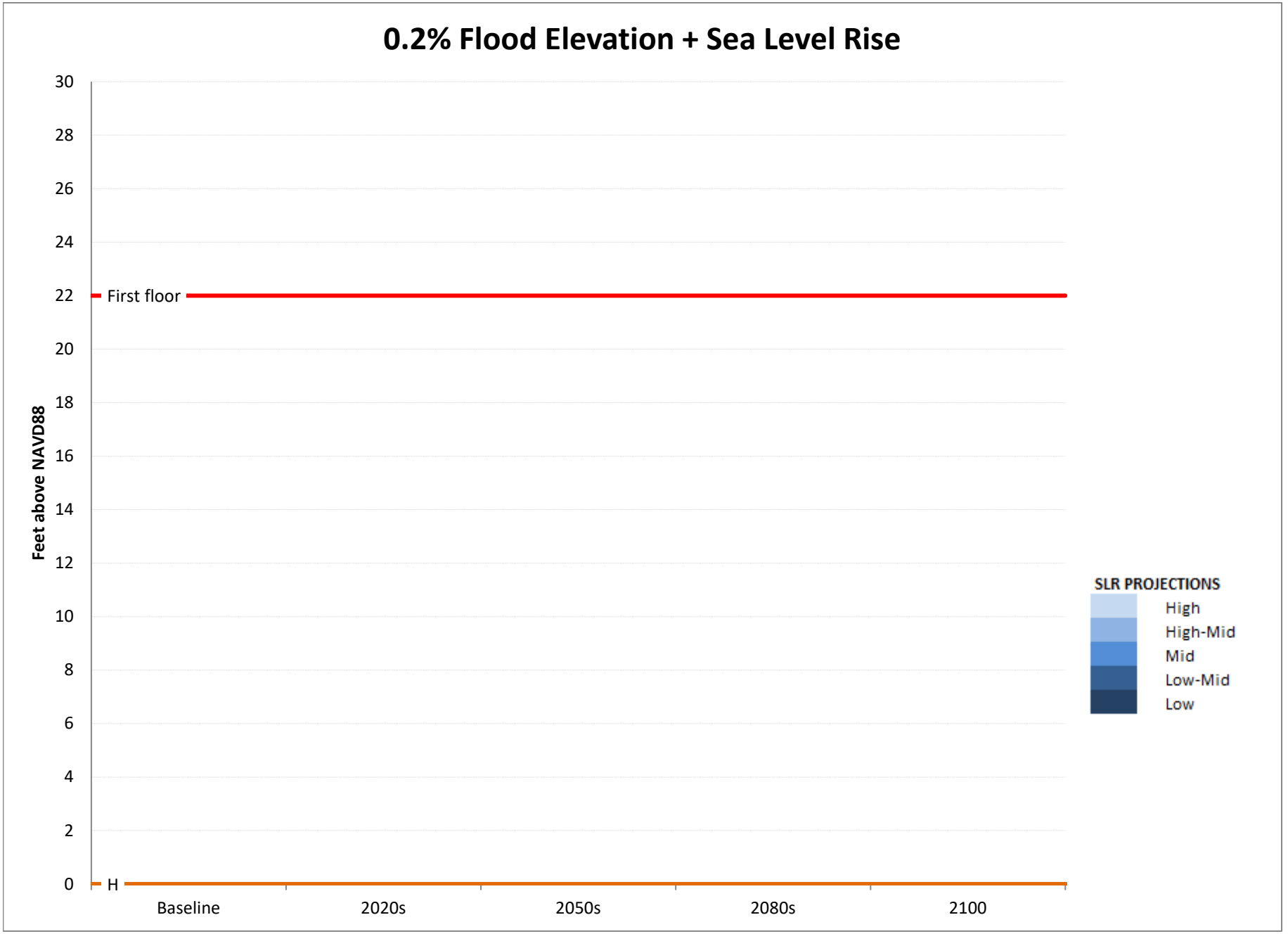
**Describe key physical features of the project.**

| Feature *(enter name)* | Feature Category | Lifespan | Elevation | Units | Datum | Ft | Ft Above NAVD88 | Ft Above MHHW | Ft Above 0.2% flood height |
|---|---|---|---|---|---|---|---|---|---|
| **First floor** | ☑ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other | Unknown | 22.0 | Feet | NAVD88 | *22.0* | *22.0* | *19.4* | *#VALUE!* |
| *Retai space* | | | | | | | | | |
| **Second floor** | ☑ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other | Unknown | 42.0 | Feet | NAVD88 | *42.0* | *42.0* | *39.4* | *#VALUE!* |
| *Office space* | | | | | | | | | |
| **C** | ☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other | | | Feet | NAVD88 | | | | |
| *Description of Planned Uses and Materials* | | | | | | | | | |
| **D** | ☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other | | | Feet | NAVD88 | | | | |
| *Description of Planned Uses and Materials* | | | | | | | | | |
| **E** | ☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other | | | Feet | NAVD88 | | | | |
| *Description of Planned Uses and Materials* | | | | | | | | | |
| **F** | ☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other | | | Feet | NAVD88 | | | | |
| *Description of Planned Uses and Materials* | | | | | | | | | |
| **G** | ☐ Vulnerable ☐ Critical ☐ Potentially Hazardous ☐ Other | | | Feet | NAVD88 | | | | |
| *Description of Planned Uses and Materials* | | | | | | | | | |
| **H** | ☐ Vulnerable ☐ Critical ☑ Potentially Hazardous ☐ Other | | | Feet | NAVD88 | | | | |
| *Description of Planned Uses and Materials* | | | | | | | | | |

**Assess project vulnerability over a range of sea level rise projections.**




0.2% Flood Elevation + Sea Level Rise
Feet above NAVD88
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
First floor
H
Baseline
2020s
2050s
2080s
2100
SLR PROJECTIONS
High
High-Mid
Mid
Low-Mid
Low

| | SLR (ft) | | | | | |
|---|---|---|---|---|---|---|
| | **Low** | **Low-Mid** | **Mid** | **High-Mid** | **High** | |
| **Baseline** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | **2014** |
| **2020s** | 0.17 | 0.33 | 0.50 | 0.67 | 0.83 | **2020s** |
| **2050s** | 0.67 | 0.92 | 1.33 | 1.75 | 2.50 | **2050s** |
| **2080s** | 1.08 | 1.50 | 2.42 | 3.25 | 4.83 | **2080s** |
| **2100** | 1.25 | 1.83 | 3.00 | 4.17 | 6.25 | **2100** |

| | MHHW+SLR (ft above NAVD88) | | | | |
|---|---|---|---|---|---|
| | **Low** | **Low-Mid** | **Mid** | **High-Mid** | **High** |
| **Baseline** | 2.61 | 2.61 | 2.61 | 2.61 | 2.61 |
| **2020s** | 2.78 | 2.94 | 3.11 | 3.28 | 3.44 |
| **2050s** | 3.28 | 3.53 | 3.94 | 4.36 | 5.11 |
| **2080s** | 3.69 | 4.11 | 5.03 | 5.86 | 7.44 |
| **2100** | 3.86 | 4.44 | 5.61 | 6.78 | 8.86 |

| | 1%+SLR (ft above NAVD88) | | | | |
|---|---|---|---|---|---|
| | **Low** | **Low-Mid** | **Mid** | **High-Mid** | **High** |
| **Baseline** | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 |
| **2020s** | 11.17 | 11.33 | 11.50 | 11.67 | 11.83 |
| **2050s** | 11.67 | 11.92 | 12.33 | 12.75 | 13.50 |
| **2080s** | 12.08 | 12.50 | 13.42 | 14.25 | 15.83 |
| **2100** | 12.25 | 12.83 | 14.00 | 15.17 | 17.25 |

| | 0.2%+SLR (ft above NAVD88) | | | | |
|---|---|---|---|---|---|
| | **Low** | **Low-Mid** | **Mid** | **High-Mid** | **High** |
| **Baseline** | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| **2020s** | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| **2050s** | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| **2080s** | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| **2100** | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |

| | 0 | 1 |
|---|---|---|
| First floor | 22 | 22 |
| Second floor | 42 | 42 |
| C | 0 | 0 |
| D | 0 | 0 |
| E | 0 | 0 |
| F | 0 | 0 |
| G | 0 | 0 |
| H | 0 | 0 |
| DFE | 22.00 | 22.00 |

| SLR (in) | | | | |
|---|---|---|---|---|
| **Low** | **Low-Mid** | **Mid** | **High-Mid** | **High** |
| 0 | 0 | 0 | 0 | 0 |
| 2 | 4 | 6 | 8 | 10 |
| 8 | 11 | 16 | 21 | 30 |
| 13 | 18 | 29 | 39 | 58 |
| 15 | 22 | 36 | 50 | 75 |

# 7. OPEN SPACE

## INTRODUCTION

For the purpose of CEQR, open space is defined as publicly or privately-owned land that is publicly accessible and has been designated for leisure, play, or sport; or land that is set aside for the protection and/or enhancement of the natural environment. Under CEQR, an open space analysis is conducted to determine whether or not a proposed action would have either a direct impact resulting from the elimination or alteration of open space or an indirect impact resulting from overtaxing the use of open space. The analyses focus only on officially designated existing or planned public open space. Open space may be public or private and may include active and/or passive areas. Active open space is the part of a facility used for active play such as sports or exercise and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, lawns and paved areas for active recreation. Passive open space is used for sitting, strolling, and relaxation with benches, walkways, and picnicking areas. Certain spaces such as lawns, can be used for both active and passive recreation.

Open space analyses may be necessary when an action would potentially have a direct or indirect effect on open space. A direct impact would physically change, diminish or eliminate an open space or reduce its utilization or aesthetic value. An indirect impact could result from an action introducing a substantial new user population that would create or exacerbate an overutilization of open space resources.

## DIRECT EFFECTS

The Proposed Actions would not result in any direct impacts to open space resources. The project would not eliminate or reduce the size of any existing open space facilities, would not limit access to any open spaces, and would not alter any open space areas so that they no longer serve the same user population. In addition, the projected developments in the Rezoning Area would not directly affect any open space resources by casting them in shadow for a substantial portion of the day, or by causing substantial noise, odors, air pollutant emissions, or other nuisances that would interfere with the public's ability to enjoy the open space.

## INDIRECT EFFECTS

### *Introduction*

On the basis of *CEQR Technical Manual* criteria, the Proposed Actions could potentially result in indirect impacts to open space resources within the project study area and must be further assessed to determine whether significant indirect impacts would be expected to occur. The Project Area is located in the Gowanus neighborhood of Brooklyn, which is considered under-served area relative to open space resources. If a project is located in an area that is under-served, the *CEQR Technical Manual* requires that an open space assessment be conducted if that project would generate more than 50 residents or 125 workers.

In the future with the Proposed Actions, the Project Area is anticipated for redevelopment with 7 new buildings on the 7 Projected Development Sites. Based on the two scenarios described in the analysis framework, the Proposed Actions would result in a net increase of 141 residential units, of which 41 would be affordable under MIH, under Scenario A, which represents the most conservative scenario for residential use. In terms of non-residential uses, Scenario B consists of

an incremental increase of 100,275 gsf of commercial space (local retail/office space), which represents the most conservative scenario for non-residential uses. In terms of additional residents and workers, Scenario A would generate a net increment of 330 residents (based on an average household size of 2.34 in Brooklyn Community District 6) representing a net increase of 297 persons over the Future No-Action Condition, and Scenario B would generate a net increment of 419 workers.

New residents would therefore exceed the threshold number of 50 new residents, and a quantitative analysis of indirect open space impacts for residents would be required. New employees would therefore exceed the threshold number of 125 new workers, and a quantitative analysis of indirect open space impacts for employees would also be required.

***Preliminary Assessment***

Based on the methodologies presented in the *CEQR Technical Manual*, an initial quantitative open space assessment involves a determination of an area's open space ratios based on the residential and worker populations of the study areas and the acreage of all publicly accessible open space resources within these study areas. If an area's open space ratio decreases significantly as a result of a proposed action or if an area has a very low open space ratio, a more detailed assessment may be required.

Based on the calculation of the ratio of publicly accessible open space acres to the study area population, a determination of the adequacy of open space resources in the study area was quantified. The resultant computation for the study area was then compared with the median ratio for New York City, which is 1.5 acres per 1,000 residents, and with the planning benchmarks of 2.5 acres per 1,000 population established by the DCP. The optimal ratio for worker populations is 0.15 acres of passive open space per 1,000 nonresidents.

The *CEQR Technical Manual* considers an action to result in significant impacts to open space resources if it would decrease the open space ratio substantially, thereby reducing the availability of open spaces for an area's population. A decrease in the open space ratio of 5 percent or more is generally considered to be a significant adverse impact on open space resources. However, if the existing open space ratio is low, even an open space ratio change of less than 1 percent may result in potential significant open space impacts.

The residential project study area exhibits an open space ratio of 0.116 acres per 1,000 residents (based on 3.52 acres of existing open space within a ½-mile radius divided by the study area population of 30,115, see table). The worker project study area exhibits an open space ratio of 0.048 acres per 1,000 workers (based on 0.14 acres of existing passive open space within a ¼-mile radius divided by the worker population of 3,281 workers, See table).

Study Area Populations

According to the U.S. Census, the half-mile area surrounding the Project Area contained 28,531 residents in 2018 based on census tracts located fully or at least 50 percent within the half-mile study area (See Figure 7-1). Projecting to the 2022 project build year based on the calculated annual growth rate from 2010 to 2018 (using 2010 census data for the respective study area census tracts) results is an estimated residential population of 30,115 persons.

**Table 7-1: Residential Study Area Population**

| Tract | 2010 Population | 2018 Population | Annual Growth Rate, 2010-18 | Projected 2022 Build Year Population |
|---|---|---|---|---|
| 77 | 3,901 | 5,172 | 0.04654 | 6,204 |
| 117 | 2,364 | 2,608 | 0.01474 | 2,765 |
| 119 | 1,530 | 1,377 | -0.01429 | 1,300 |
| 121 | 1,619 | 2,020 | 0.03538 | 2,321 |
| 135 | 3,595 | 3,920 | 0.01291 | 4,126 |
| 137 | 3,057 | 3,512 | 0.02126 | 3,820 |
| 139 | 3,481 | 3,420 | -0.00250 | 3,386 |
| 141 | 3,017 | 3,033 | 0.00076 | 3,042 |
| 143 | 3,487 | 3,469 | -0.00074 | 3,459 |
| **Total:** | **26,051** | **28,531** | **N/A** | **30,115** |

*Sources: U.S. Census, 2010 and 2018 American Community Survey data*

Census data shows that the quarter-mile area surrounding the Project area had 2,862 jobs in 2017 based on census tracts located fully or at least 50 percent within the half-mile study area. For the purposes of this analysis it is assumed that the commercial open space study area would contain the same amount of jobs in the 2024 project build year under the Future No-Action conditions.

**Table 7-2: Worker Study Area Population**

| Tract | Workers |
|---|---|
| 117 | 1,054 |
| 121 | 1,808 |
| **Total** | **2,862** |

*Source: U.S. Census OnTheMap Tool, 2017 data*

Study Area Open Space

*Residential*

The one-half mile residential open space study area is generally bounded by an area between 1st Street to the north, Sixth Avenue to the east, 22nd Street to the south, and Court Street to the west. Within the census tracts that are fully or at least 50 percent within this area, there are 5 publicly owned and accessible facilities providing a total of 3.52 acres of open space resources. See Figure 7-1, Open Space Facilities and Census Tracts and Table 7-3a, Inventory of Open Space Resources.

*Worker*

The one-quarter mile employee study area is generally bounded by 9th Street to the north, Fifth Avenue to the east, 17th Street to the south, and Hamilton Place and the Gowanus Canal to the west. One open space is located within this study area, Ennis Playground. Because employees on their breaks tend to use passive open space, only the passive portion of Ennis Playground (0.14 acres) is considered in the employee analysis.

Assessment of Open Space Adequacy

*Residential*

The residential open space ratio was calculated based on the residential study area population shown in Table 7-1 and the total open space acreage within half-mile shown in Table 7-3a. The resulting ratio is 0.116 acres per 1,000 residents based on 3.52 acres of existing open space divided by the study area population of 30,115 residents, (see Table 7-4). This ratio is less than the citywide average of 1.5 acres and the DCP benchmark of 2.5 acres per 1,000 population, indicating that the area is underserved by public open space resources.

**Table 7-3a: Publicly Accessible Open Spaces (Half-mile study area)**

| Map # | Park Name | Size (Acres) | Amenities | Hours |
|---|---|---|---|---|
| 1 | Ennis Playground | 0.55 | Basketball courts, spray showers, playground equipment, turf field | 6am-9pm |
| 2 | Purple Playground | 0.71 | Playground equipment, landscaping, seating | 6am-9pm |
| 3 | Washington Park | 1.55 | Skate park, basketball courts, dog run, turf field, handball, seating | 6am-1am |
| 4 | St. Mary's Park | 0.37 | Handball, basketball courts, fitness equipment | 6am-9pm |
| 5 | St. Mary's Playground | 0.34 | Playground equipment, handball | 6am-9pm |
| **Total:** | | **3.52** | | |

**Table 3b: Publicly Accessible Passive Open Spaces (Quarter-mile study area)**

| Map # | Park Name | Size (Acres) | Amenities | Hours |
|---|---|---|---|---|
| 1 | Ennis Playground | 0.14 | Basketball courts, spray showers, playground equipment, turf field | 6am-9pm |
| **Total:** | | **0.14** | | |

*Worker*

The worker open space ratio was calculated based on the worker study area population shown in Table 7-2 and the total open space acreage within quarter-mile shown in Table 7-3b. The resultant ratio is 0.040 acres per 1,000 workers based on 0.14 acres of existing open space divided by the worker population of 2,862 workers (see Table 7-4b). This ratio is less than the optimal ratio for worker populations of 0.15 acres of passive open space per 1,000 nonresidents, indicating that the area is under-served by public open space resources for the worker population.

**Table 7-4a: Residential Open Space Ratios**

| Residential Study Area | No Action | Future With-Action | | % change |
|---|---|---|---|---|
| | | Scenario A | Scenario B | |
| Publicly Accessible Open Space (Acres) | 3.52 | 3.52 | | |
| Study Area Population | 30,115 | 30,412 | | |
| Open Space Ratio (Acres/1,000 residents) | 0.116 | 0.115 | | -0.98 |

**Table 7-4b: Worker Open Space Ratios**

| Worker Study Area | No Action | Future With-Action | | % change |
|---|---|---|---|---|
| | | Scenario A | Scenario B | |
| Publicly Accessible Open Space (Acres) | 0.14 | | 0.14 | |
| Study Area Workers | 2,862 | | 3,281 | |
| Open Space Ratio (Acres/1,000 employees) | 0.048 | | 0.042 | -0.82 |

Future With-Action Conditions

*Study Area Populations Residential*

As discussed above, the Proposed Actions are expected to generate approximately 330 new residents for the census tracts located within half-mile of the Project Area, representing a net increase of 297 persons over the Future No-Action Condition. Adding this net population increase to the Future No-Action residential population of 30,115 would result in a total study area population of approximately 30,412 residents (see Table 7-4a).

*Worker*

The Proposed Actions would generate approximately 419 net new jobs in the Project Area. Adding this population to the Future No-Action worker population of 2,862 would result in a total study area population of approximately 3,281 workers (see Table 7-4b).

*Study Area Open Space Residential*

No new publicly accessible open space and recreational resources are planned to be added to the residential study area by 2022 with the Proposed Actions. Therefore, in 2022 with the Proposed Actions, the half-mile residential study area would contain approximately 3.52 acres of open space resources, the same as under currently existing and Future No-Action conditions.

*Worker*

No new publicly accessible open space and recreational resources are planned to be added to the worker study area by 2024 with the Proposed Actions. Therefore, in 2022 with the Proposed Actions, the worker project study area would contain approximately 0.14 acres of passive open space resources, the same as under currently existing and Future No-Action conditions.

*Assessment of Open Space Adequacy*

*Residential*

The future with-action residential open space ratio within a half-mile radius of the Rezoning Area would be approximately 0.115 based on the area residential population of 30,412 persons in 2024 and the 3.52 acres of open space area.

The projected residential open space ratio in 2024 with the Proposed Actions would be 0.115 acres per 1,000 residents compared with the projected ratio of 0.116 acres in the study area in the future without the project. This represents a decrease of approximately 0.001 acres or approximately 0.98 percent in the residential open space ratio. Therefore, the residential community would continue to be underserved compared to the City as a whole and would not meet DCP's open space planning goal or its deficiency threshold.

Table 7-4a shows the calculation of residential open space ratios for the Future No-Action and Future With-Action Scenarios.

*Worker*

The future with-action worker open space ratio within a ¼-mile radius of the Project Area would be approximately 0.042 based on the area worker population of 3,281 persons in 2024 and the 0.14 acres of passive open space area.

The projected worker open space ratio in 2024 with the Proposed Actions would be 0.042 acres per 1,000 workers compared with the projected ratio of 0.048 acres in the study area in the future without the project. This represents a decrease of approximately 0.006 acres or approximately 0.82 percent in the worker open space ratio. Therefore, the worker community would continue to be under-served relative to the optimal ratio for worker populations at 0.15, according to the *CEQR Technical Manual*.

Table 7-4b shows the calculation of worker open space ratios for the existing, Future No-Action, and Future With-Action Scenarios.

Conclusions

A detailed open space assessment is not required as it has been determined that the project would not decrease the residential or worker open space ratio by more than 1 percent.

Due to the absence of significant direct impacts on any open space resource and the small decrease in the future with-action open space ratio, it is anticipated that the project would not have any potentially significant adverse open space impacts and further assessment is not warranted. No significant adverse impacts associated with open space would occur as a result of the Proposed Actions.

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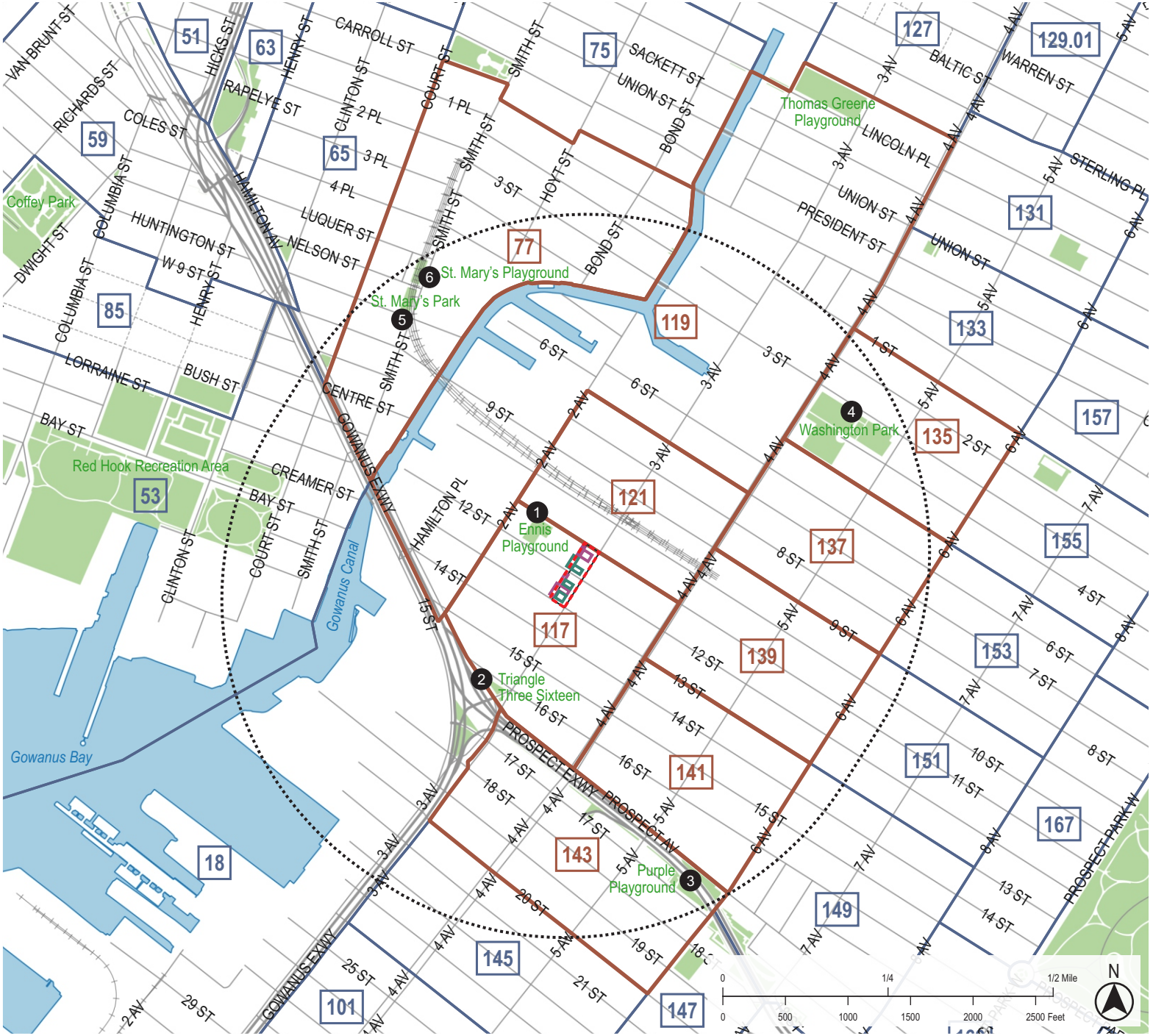
Figure 7-1: Open Space Facilities and Census Tracts

- Proposed Rezoning Area
- Projected Development Site (Applicant-Owned)
- Projected Development Site (Non-Applicant Owned)
- 1/2-Mile Study Area
- Census Tract Boundaries
- 123 — 50% or More of Census Tract Within Study Area
- 123 — Less Than 50% of Census Tract Within Study Area
- 1 — Open Space Resources (see Table 7-1)




Urban Cartographics

# 7. SHADOWS

## INTRODUCTION

Under CEQR, a shadow is defined as the circumstance in which a building or other built structure blocks the sun from the land. An adverse shadow impact is considered to occur when the shadow from a proposed project falls upon a publicly accessible open space, a historic landscape, or other historic resource if the features that make the resource significant depend on sunlight, or if the shadow falls on an important natural feature and adversely affects its uses or threatens the survival of important vegetation. An adverse impact would occur only if the shadow would fall on a location that would otherwise be in sunlight; the assessment therefore distinguishes between existing shadows and new shadows resulting from a proposed project. Finally, the determination of whether the impact of new shadows on an open space or a natural or historic resource would be significant is dependent on their extent and duration. In general, shadows on City streets and sidewalks or on other buildings are not considered significant under CEQR. In addition, shadows occurring within an hour and a half of sunrise or sunset generally are not considered significant under CEQR.

According to the *2014 CEQR Technical Manual*, a shadows assessment is not required unless the project would include a structure at least 50 feet tall or if it would contain shorter structures that might cast substantial new shadows on an adjacent park, historic resource, or an important natural resource. A shadow analysis is required for this project since the RWCDS would result in buildings over 50 feet in height and the Project Area is located a short distance from several open space resources.

The RWCDS assumes that the Project Area would be redeveloped with seven buildings (Projected Development Sites 1-7) each of which would result in an incremental height over 50 feet. Under the proposed C4-4A district with MIH, a maximum height of 95 feet could be achieved for each building.

Based on *CEQR Technical Manual* criteria, the longest shadow that any building would cast during the year (except within an hour and a half of sunrise or sunset which is not deemed to be of concern) is 4.3 times its height. Under the RWCDS projected development, Scenario A, the sites would have a top floor height of 95 feet. Applying the 4.3 factor to the heights outlined above would result in a maximum shadow distance of 409 feet from the Rezoning Area. However, portions of Projected Development Sites 4 and 7 are located outside the boundary of the proposed rezoning and thus still potentially applicable to the underlying M2-1 zoning district. The maximum, though unlikely, possible height of these building potions is 284 feet and 237 feet. For conservative analysis purposes, this height was modelled in the shadow diagrams.

***Preliminary Screening Assessment: Tier 1 Screening***

As shown in Tier I shadow diagram, there is one sunlight-sensitive resource that is located within the maximum shadow distance from the Development Sites, Ennis Playground. Thus, a Tier 2 screening assessment was performed to assess potential impacts to this park.

***Tier 2 Screening Assessment***

Based on the Tier 1 assessment, which showed the potential for the longest shadow to reach a sunlight-sensitive open space resource, a Tier 2 assessment was prepared. A Tier 2 assessment located the area south of an area that cannot be cast in shadow. This area in New York City is between -108 and +108 degrees from true north.

The attached Tier 2 screening assessment shows the area south of the Project Area that cannot be shadowed by the projected development. As illustrated in the figure, Ennis Playground falls within the area that could be affected by project-generated shadows. Therefore, a Tier 3 assessment was prepared.

***Tier 3 Screening Assessment***

A Tier 3 screening assessment was prepared for the four representative days of the year set forth in the *CEQR Technical Manual*: December 21, the winter solstice and shortest day of the year; March 21/September 21, the equinoxes; May 6, the midpoint between the summer solstice and the equinox (and equivalent to August 6); and June 21, the summer solstice and the longest day of the year. The CEQR Technical Manual defines the temporal limits of a shadow analysis period to fall from an hour and a half after sunrise to an hour and a half before sunset. In accordance with the CEQR Technical Manual, surrounding buildings are not included in the Tier 3 shadow assessment model.

As shown on the attached Tier 3 assessment, project-generated shadows would reach the park on the December 21st and March 21st analysis days. The Tier 3 incremental screening assessment shows the time and durations of new shadows that would be cast by project-generated development on the park.

New shadows would be cast by the proposed development on Ennis Playground during the following analysis periods:

- December 21, 8:51am until 10:00am (1 hour, 9 minutes)
- March 21 from 7:40am until 7:42am (2 minutes)

***Significance of Shadow Impacts***

Based on *CEQR Technical Manual* criteria and as shown in the Tier 3 incremental impact screening impact assessment diagrams, shadows from projected development could fall on the Ennis Playground for approximately 1 hour, 9 minutes during the December 21 analysis day and 2 minutes during the March 21 analysis day. The Ennis Playground is characterized largely by paved and hardscape areas (including basketball courts and playground facilities / equipment) with a central synthetic turf area with accessory landscaping throughout (see Figure 7-9, appended to the end of this Section, for a schematic plan of Ennis Playground).

New incremental shadows identified during the December 21 analysis day would fall on southern and northern portions of the Ennis Playground, areas that feature basketball courts and playground equipment, respectively, with minimal landscaping features. Further, these shadows would fall during the winter months, when vegetation would be dead or dormant (i.e., outside of March through October growing season, pursuant to the *CEQR Technical*

*Manual*) and usage would be at an annual lowest. As such, given the duration and location of new incremental shadows on the Ennis Playground during the December 21 analysis day, no significant adverse shadow impacts are anticipated.

Those new incremental shadows during the March 21 analysis day would fall on a small, eastern portion of the playground characterized by with landscaping elements for a total of 2 minutes (not considered a length of time for significant adverse shadow impacts to result, pursuant to the *CEQR Technical Manual*).

It is noted that outside of these new incremental shadow durations Ennis Playground would remain largely sunlit for the remainder of the December 21 and March 21 analysis days, receiving adequate sunlight to maintain the viability of vegetation (4 to 6 hours during the March through October growing season pursuant to the *CEQR Technical Manual*) as well as the public's use and enjoyment of the resource.

***Conclusion***

The proposed building on the Project Site would cast new shadows on portions Ennis Playground for up to 1 hour and 9 minutes in the morning hours of the December 21 analysis period and for 2 minutes in the morning of the March 21 analysis period. No other open space on sunlight-sensitive resource would be affected by shadows generated by the proposed actions. Therefore, the Proposed Actions would not result in significant shadow impacts, and no further analysis is necessary.

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Figure 8-1: Tier 1 Screening Assessment




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Figure 8-2: Tier 2 Screening Assessment

- Project Site
- Projected Building Footprint
- Roof Above 7th Floor (75')
- Roof Above 9th Floor (95')
- Longest Shadow Study Area Boundary
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource
- Area That Cannot Be Shaded by the Proposed Building




Urban Cartographics

506 & 530 3rd Avenue, Brooklyn

Figure 8-3: Tier 3 Screening Assessment for the December 21 Analysis Day

- Project Site
- Projected Building Footprint
- Roof Above 7th Floor (75')
- Roof Above 9th Floor (95')
- 8:51am Shadow Cast/Analysis Time
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

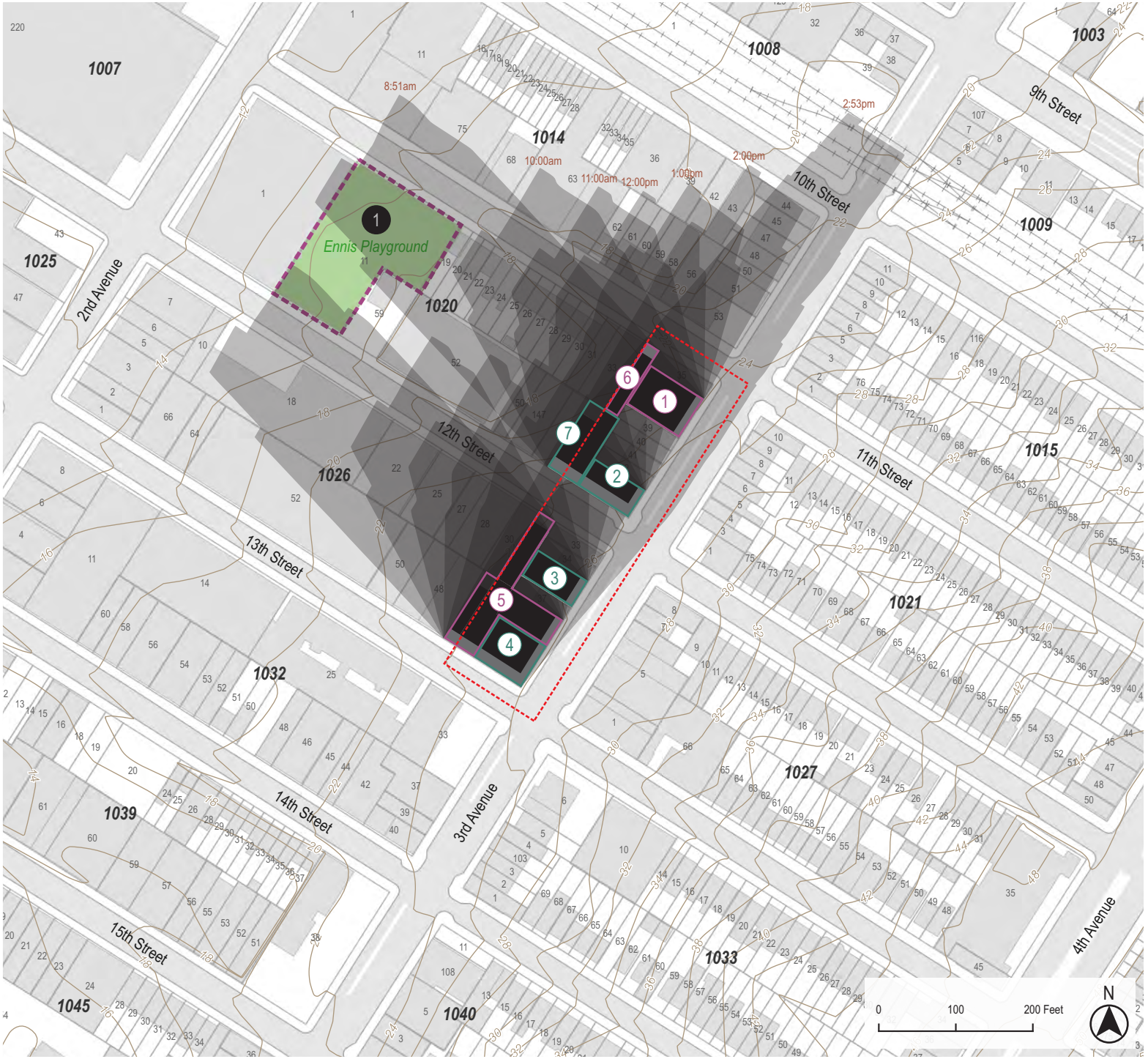


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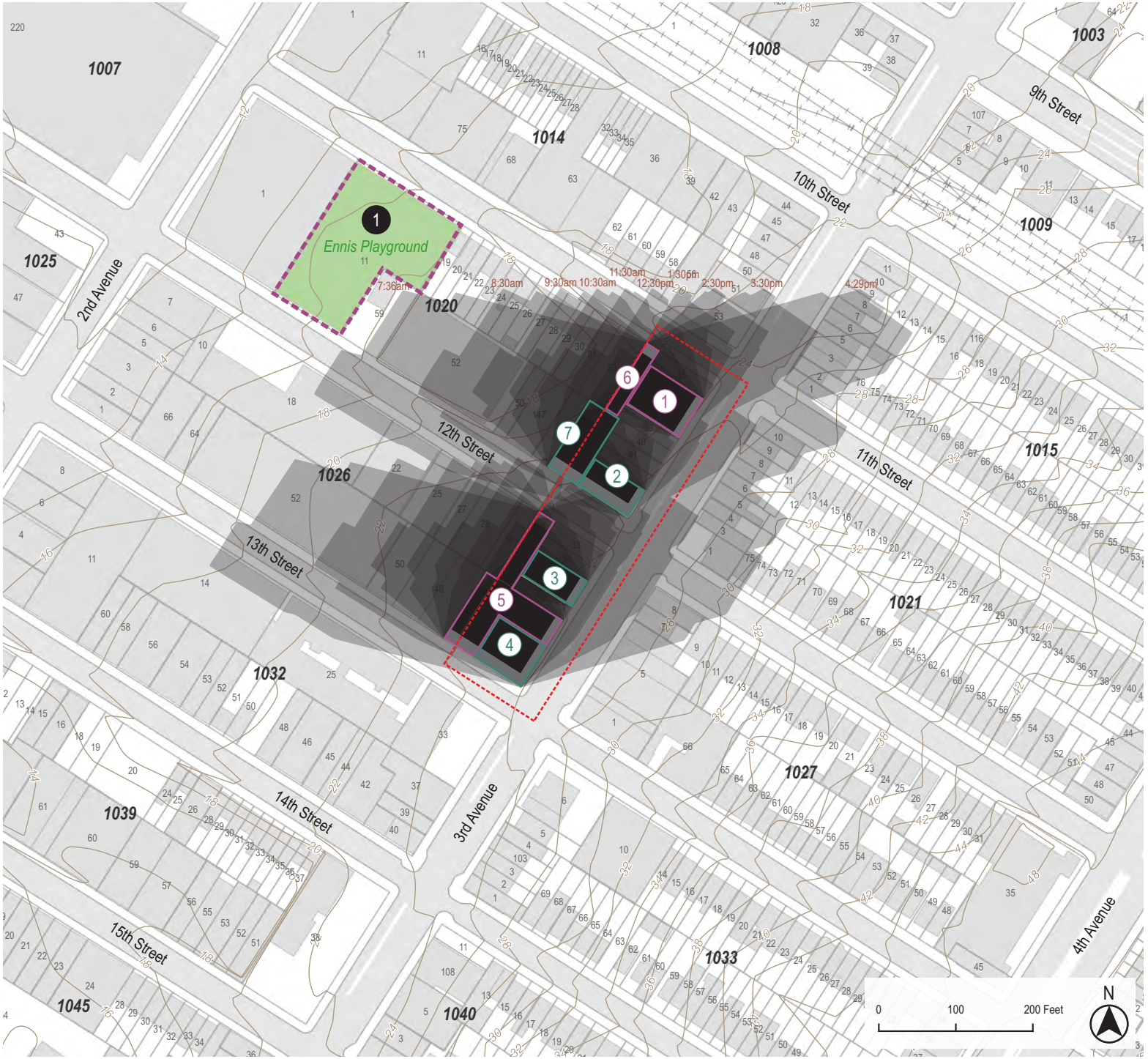
Figure 8-4: Tier 3 Screening Assessment for the March 21 Analysis Day

- Project Site
- Projected Building Footprint
- Roof Above 7th Floor (75')
- Roof Above 9th Floor (95')
- 8:51am Shadow Cast/Analysis Time
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource




Urban Cartographics

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## Figure 8-5: Tier 3 Screening Assessment for the May 6 Analysis Day

- Project Site
- Projected Building Footprint
- Roof Above 7th Floor (75')
- Roof Above 9th Floor (95')
- 8:51am Shadow Cast/Analysis Time
- # Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

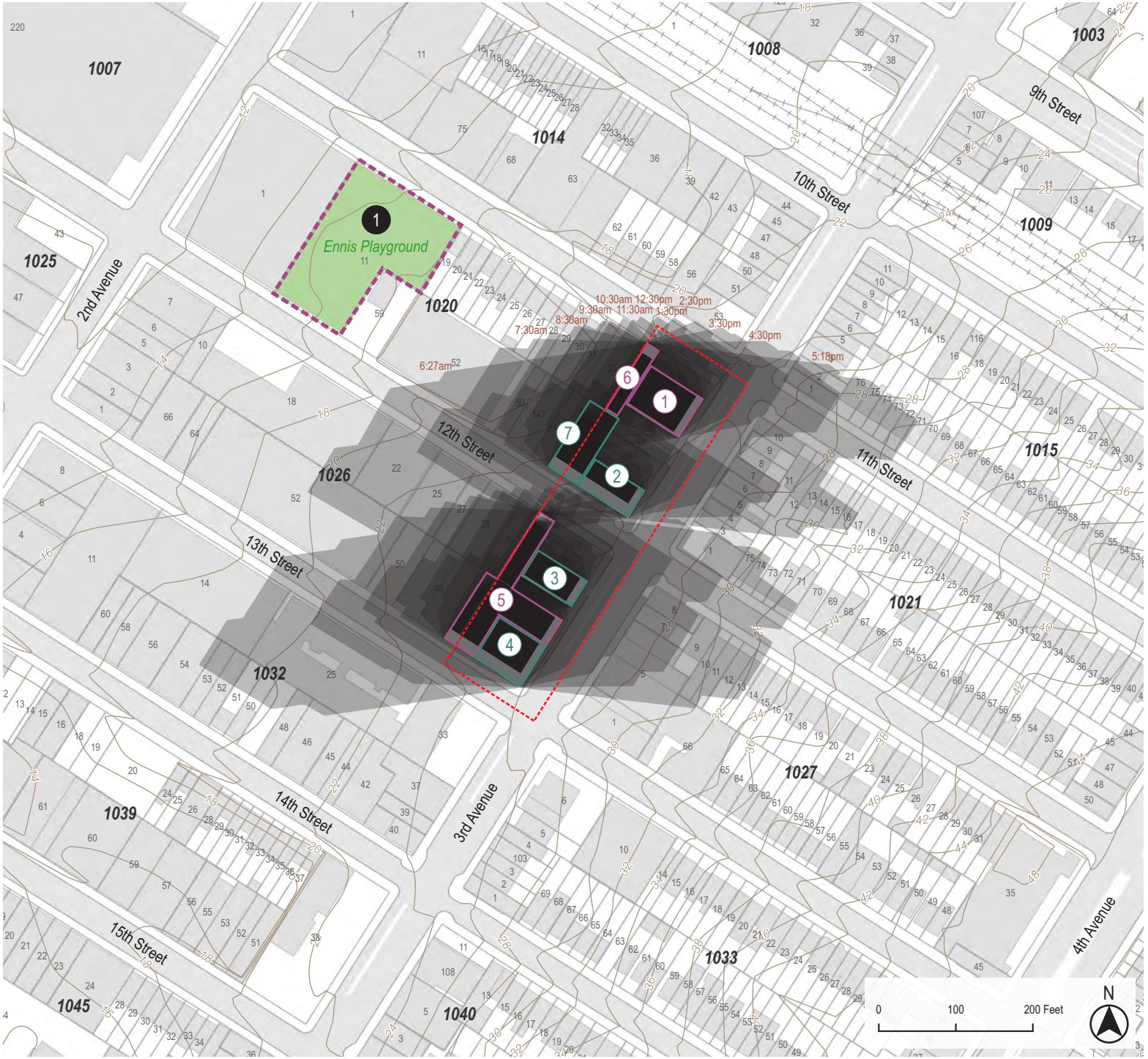


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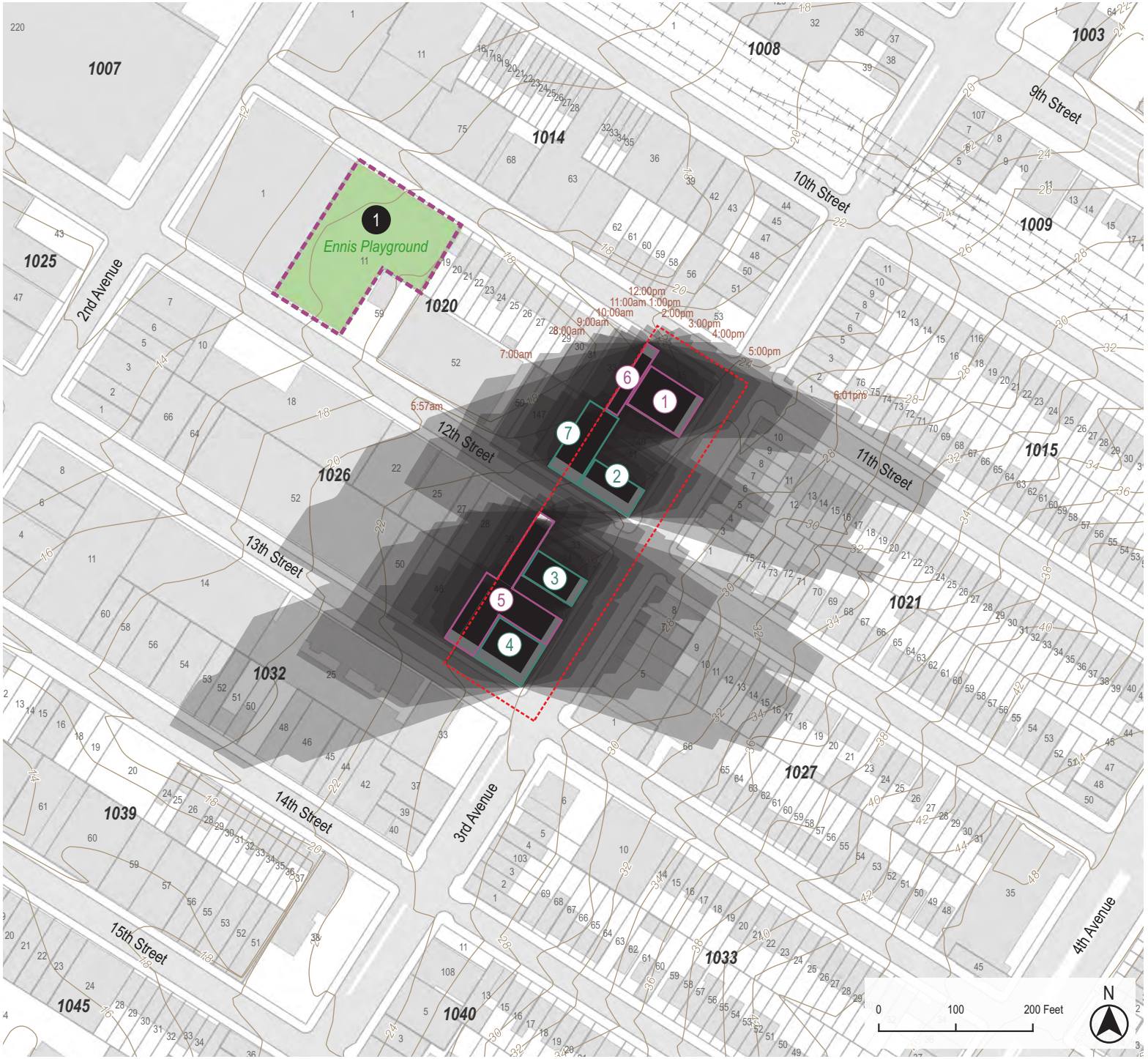
Figure 8-6: Tier 3 Screening Assessment for the June 21 Analysis Day

- Project Site
- Projected Building Footprint
- Roof Above 7th Floor (75')
- Roof Above 9th Floor (95')
- 8:51am — Shadow Cast/Analysis Time
- # — Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

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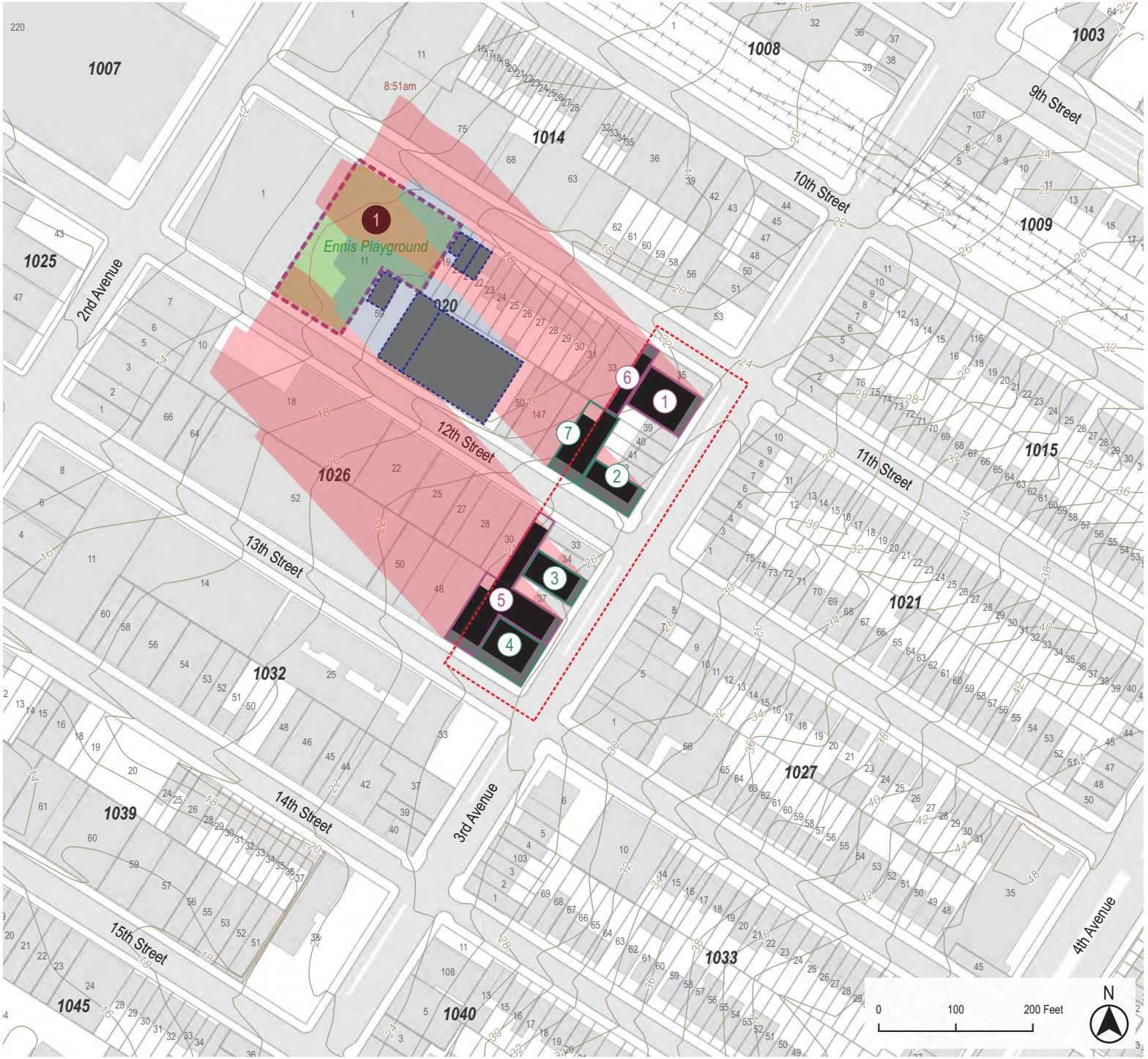
506 & 530 3rd Avenue, Brooklyn

Figure 8-7: Tier 3 Incremental Impact for the December 21 Analysis Day

| **Shadows Cast on Sunlight-Sensitive Resource** | 8:51am – 9:45am |
|---|---|

- Project Site
- Proposed Building Footprint
- Roof Above 7th Floor (75')
- Roof Above 9th Floor (95')
- 8:51am Shadow Cast / Analysis Time
- Footprint of Intervening Building
- Shadow of Intervening Building
- 1 Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

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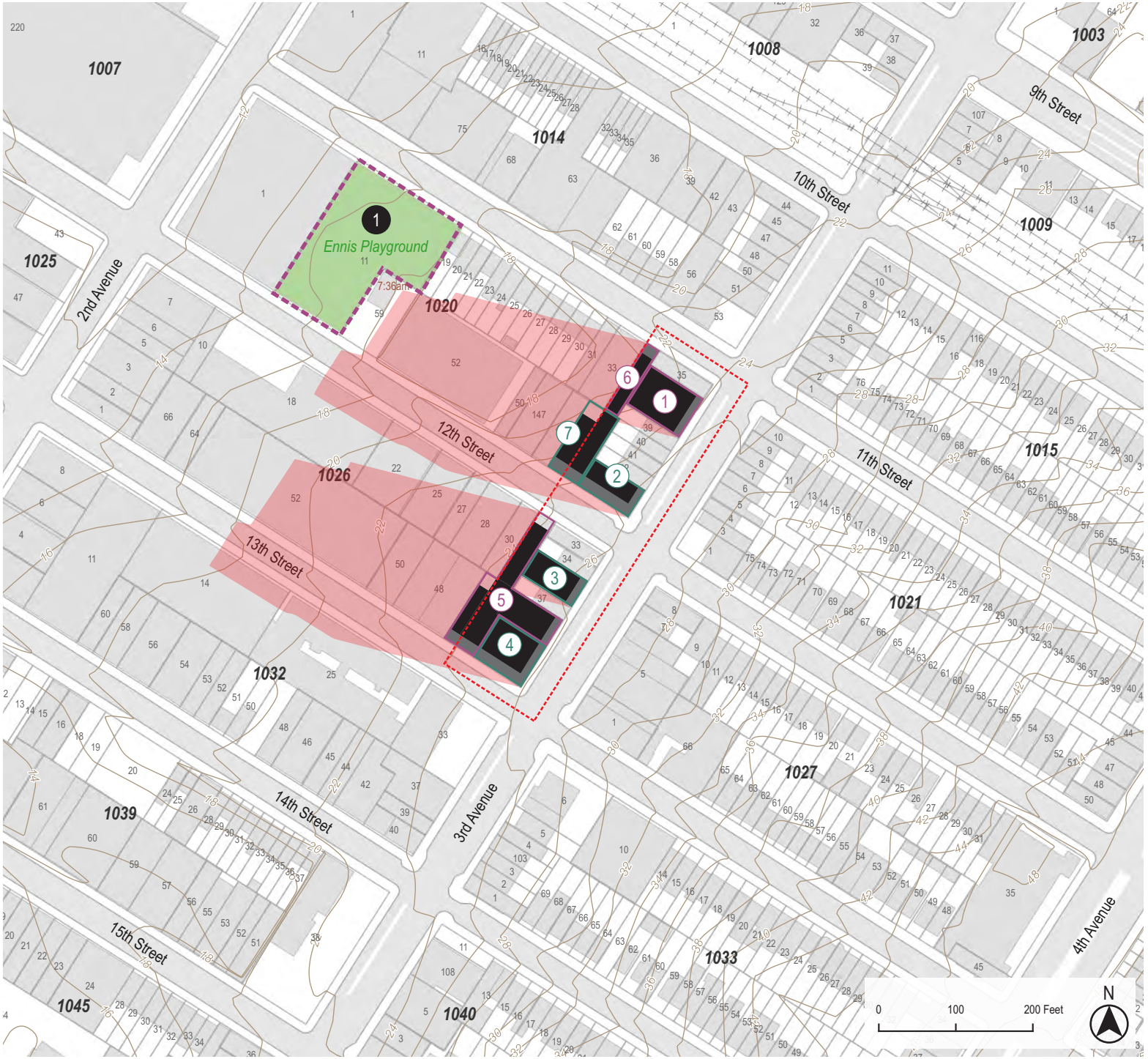
506 & 530 3rd Avenue, Brooklyn

Figure 8-8: Tier 3 Incremental Impact for the March 21 Analysis Day

| **Shadows Cast on Sunlight-Sensitive Resource** | 7:40am – 7:42am |
|---|---|

- Project Site
- Proposed Building Footprint
- Roof Above 7th Floor (75')
- Roof Above 9th Floor (95')
- 8:51am Shadow Cast / Analysis Time
- Footprint of Intervening Building
- Shadow of Intervening Building
- 1 Sunlight-Sensitive Open Space Resource
- Potentially Affected Open Space Resource

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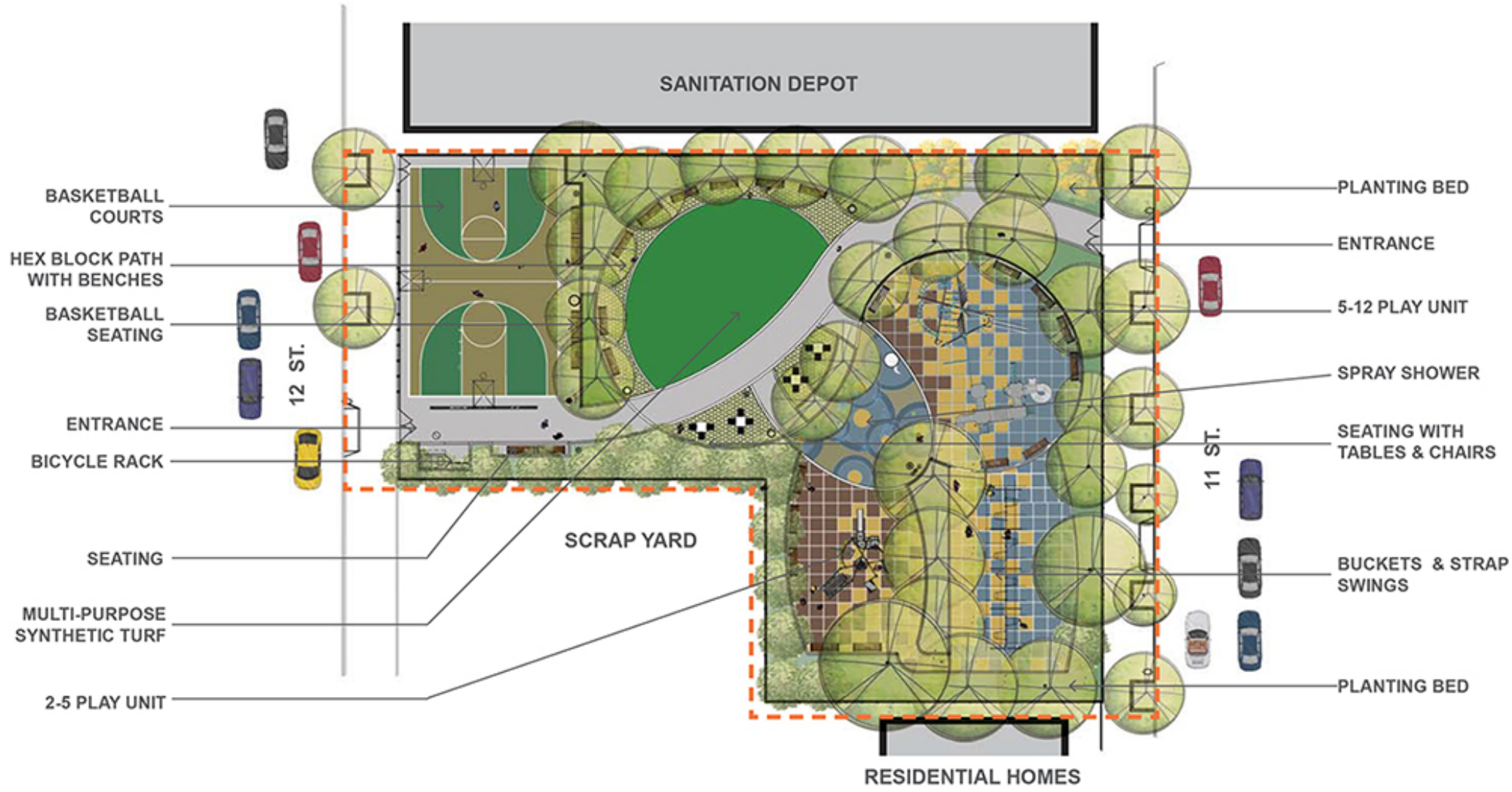
## FIGURE 7-9 - ENNIS PLAYGROUND SCHEMATIC PLAN



# 9. HISTORIC AND CULTURAL RESOURCES

## INTRODUCTION

The 2014 *City Environmental Quality Review* (CEQR) Technical Manual identifies historic resources as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. This includes designated New York City Landmarks (NYCL); properties calendared for consideration as landmarks by the New York City Landmarks Preservation Commission (LPC); properties listed in the State/National Registers of Historic Places (S/NR) or contained within a district listed in or formally determined eligible for S/NR listing; properties recommended by the New York State Board for listing on the S/NR; National Historic Landmarks (NHL); and properties not identified by one of the programs listed above, but that meet their eligibility requirements. An assessment of historic/archaeological resources is usually needed for projects that are located adjacent to historic or landmark structures or within historic districts, or projects that require in-ground disturbance, unless such disturbance occurs in an area that has already been excavated.

## ARCHAEOLOGICAL RESOURCES

The Proposed Actions would involve construction potentially resulting in ground disturbance of sites that may not have previously experienced extensive excavation. In a letter dated 6/26/2019 and appended to this document, the New York City Landmarks Preservation Commission (LPC) stated that the Project Area has no archaeological significance. There will be no significant adverse impacts to archaeological resources.

## ARCHITECTURAL RESOURCES

The Proposed Actions are anticipated to generate development resulting in the demolition of existing buildings. In a letter dated 6/26/2019 and appended to this document, the LPC stated that the Project Area has no architectural significance. No significant adverse impacts to architectural resources are anticipated to result from the Proposed Actions.

# 10. URBAN DESIGN AND VISUAL RESOURCES

## INTRODUCTION

An assessment of urban design is needed when a project may have effects on any of the elements that contribute to the pedestrian experience of public space. A preliminary assessment is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning. An assessment would be appropriate for the following:

1. Projects that permit the modification of yard, height, and setback requirements; and

2. Projects that result in an increase in built floor area beyond what would be allowed 'as-of-right'.

Because the proposed actions would permit modification of bulk and density requirements beyond what would be allowed as-of-right under the no-action condition, a preliminary assessment of urban design and visual resources appears below.

The Proposed Actions would facilitate a proposal by the Applicant to develop a commercial office building on Projected Development Site 1, and are projected to result in the construction of six other new buildings on Projected Development Sites 2 through 7.

Currently, the Project Area is zoned M2-1. M2-1 permits a maximum FAR of 2.0. The maximum base height is 60 feet, after which the building must set back to comply with a sky exposure plane. Off-street parking is required, and buildings must have at least a 20-foot rear yard. Permitted Use Groups include UG 6-14 and 16-17.

The proposed C4-4A district is a contextual district that permits a commercial and community facility FAR of 4.0 and a residential FAR of 4.0 (4.6 under MIH) and has a residential district equivalent of the R6A district. The proposed C4-4A district permits Use Groups 1-6, 8-10, and 12.

Since development assumed in the RWCDS is anticipated to result in a different built-form at the street level, an assessment of urban design and visual resources is warranted.

## EXISTING CONDITIONS

As noted in the Project Description, the Projected Development Sites consist of seven parcels made up of ten tax lots, comprising of one- to three-story building with a mix of residential, commercial, and light industrial uses. The surrounding area includes more commercial and industrial/manufacturing uses to the west, with two- and three-story residential buildings characterizing the area to the east. Third Avenue is the principal street in the study area and is a two-way street that is classified as 'wide' with 75 feet in width. The east-west streets in the study area are classified as 'narrow' with 60 feet in width.

The Project Area has frontage on Third Avenue, which is a well-traveled two-lane corridor in the north and south directions. Third Avenue in the study area serves as a boundary between a residential neighborhood to the east and a primarily industrial neighborhood to the west. Ground floor commercial uses are common along Third Avenue.

The elevated Metropolitan Transit Authority F/G tracks are located one block north of the project area, running east-west along 10th Street. The 4th Avenue F/G stop is at the corner of 10th Street and Fourth Avenue, with the 9th Street stop on the R Train located at 9th Street and Fourth Avenue. The Gowanus Expressway runs southeast through Gowanus approximately 1,000 feet from the Project Area.

The area east of Third Avenue in the study area is developed primarily with three-story attached residential buildings, reflecting the underlying R6B zoning district. The area west of Third Avenue in the study area is zoned M2-1 and is primarily developed with bulky, one- and two-story industrial and commercial buildings. There are some residential uses along 10th, 11th, and 14th Streets in the study area west of Third Avenue, including a row of buildings on 11th Street adjacent to Ennis Playground, further contributing to the mixed-use area and its varying building typologies. Ennis Playground is the only publicly accessible open space in the study area. The playground has an area of approximately half an acre, and provides active and passive recreation opportunities. East of Third Avenue (and not fronting on Third Avenue), there are three properties developed with commercial or transportation uses, including a three-story commercial building and a large, one-story warehouse.

There are no natural features or visual resources within the Project Area or within the surrounding 400 feet.

## FUTURE NO-ACTION

Absent the Proposed Actions, it is anticipated that the vacant 900 gsf ground floor space on Block 1020, Lot 43, will be converted to active retail use. Additionally, it is assumed that the vacant lot on Block 1020, Lot 34, will be developed as-of-right for commercial use to an FAR of 2.0, the maximum permitted under the underlying zoning, for a floor area of 4,000 gsf. In total, 4,900 gsf of commercial space is anticipated to be added under the no-action scenario.

## FUTURE WITH-ACTION

In the future with the Proposed Actions, the seven Projected Development Sites are anticipated for redevelopment with seven buildings. Under Scenario A, the projected buildings have a maximum height of 95 feet and would contain ground-floor commercial space with residential units above. Under Scenario B, the projected buildings have a maximum height of 95 feet and would contain ground-floor commercial space with office space on the upper floors.

The proposed C4-4A district would increase the range of uses for the entire Project Area from commercial, industrial, and community facility uses to include commercial and community facility uses as well as residential space and a wider range of commercial uses, including uses classified under Use Groups 8, 9, 10 and 12.

### Scenario A

In the future with the Proposed Actions under Scenario A, the Projected Development sites would be redeveloped with residential and commercial uses as shown in Table 10-2.

Under Scenario A, ground-floor retail uses are anticipated on the Projected Development Sites, as is common along Third Avenue in the study area. The upper floors would contain residential

space, 30% of which would be permanently affordable under MIH. Using a standard dwelling site size of 850 gsf, Scenario A would in 221 dwelling units (a net increase of 115 DU's over future no-action conditions).

Scenario B

In the future with the Proposed Actions under Scenario B, the Projected Development Sites would be redeveloped for commercial use as indicated in Table 10-2.

**Table 10-2: Scenario A Development Summary**

*Note: All buildings heights 95 feet*

| Site | Block | Lot | Site Size SF | Total GSF | Residential GSF | Commercial GSF |
|---|---|---|---|---|---|---|
| Projected Development Site 1 | 1020 | 36 | 4,800 | 24,288 | 19,488 | 4,800 |
| Projected Development Site 5 | 1020 | 43 | 3,000 | 15,180 | 12,180 | 3,000 |
| | 1020 | 44 | | | | |
| Projected Development Site 2 | 1026 | 35 | 3,000 | 15,180 | 12,180 | 3,000 |
| | 1026 | 36 | | | | |
| Projected Development Site 3 | 1026 | 40 | 4,188 | 21,191 | 17,003 | 4,188 |
| | 1026 | 42 | | | | |
| Projected Development Site 4 | 1026 | 32 | 9,911 | 50,149 | 40,149 | 10,000 |
| Projected Development Site 6 | 1020 | 34 | 2,000 | 10,120 | 8,120 | 2,000 |
| Projected Development Site 7 | 1020 | 45 | 4,700 | 23,782 | 19,082 | 4,700 |
| **TOTAL** | | | **31,599** | **159,890** | **128,202** | **31,688** |
| ***INCREMENT vs. NO-ACTION*** | | | | ***97,684*** | ***110,292*** | ***5,638*** |

**Table 10-2: Scenario B Development Summary**

*Note: All buildings heights 85 feet*

| Site | Block | Lot | Site Size SF | Total GSF | Residential GSF | Commercial GSF |
|---|---|---|---|---|---|---|
| **Projected Development Site 1** | 1020 | 36 | 4,800 | 21,120 | | 21,120 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Projected Development Site 2** | 1020 | 43 | 3,000 | 13,200 | | 13,200 |
| | 1020 | 44 | | | | |
| **Projected Development Site 2** | 1026 | 35 | 3,000 | 13,200 | | 13,200 |
| | 1026 | 36 | | | | |
| **Projected Development Site 3** | 1026 | 40 | 4,188 | 18,427 | | 18,427 |
| | 1026 | 42 | | | | |
| **Projected Development Site 4** | 1026 | 32 | 9,911 | 43,608 | | 43,608 |
| **Projected Development Site 6** | 1020 | 34 | 2,000 | 8,800 | | 8,800 |
| **Projected Development Site 7** | 1020 | 45 | 4,700 | 20,680 | | 20,680 |
| **TOTAL** | | | **31,599** | **139,036** | | **139,036** |
| ***INCREMENT vs. NO-ACTION*** | | | ***0*** | ***76,830*** | ***-17,910*** | ***112,986*** |

The Projected Development Sites would contain ground-floor retail space, as under Scenario A, with commercial office space above.

## ASSESSMENT

For an illustrative display of the RWCDS projected developments as well as the maximum permitted building envelopes under the Proposed Actions, see Figure 10-1 (Urban Design Diagrams**)**.

The Proposed Actions would produce seven mixed-use or commercial buildings that would complement the mix of uses and densities found in the surrounding area. Third Avenue is a dynamic retail corridor and development resulting from the proposed actions would be consistent with and further reinforce this character. While the Proposed Actions would permit an increased level of density that is higher than other buildings in the surrounding area, the newly permitted density would be located along a wide street with connections to other surface roads and highways in the area, and with ample transit connections (with the nearby F, G, and R trains). Further, the proposed zoning would provide continuous commercial retail at the ground level, in continuing with existing development patterns at the pedestrian level. No significant adverse impacts to the urban design character of the study area are anticipated as a result of the Proposed Action.

## CONCLUSION

The Proposed Actions would create additional density and allow a greater maximum height for an area along a heavily trafficked mixed-use thoroughfare with nearby connections to roadways and public transit. The Applicant asserts that the location and size of the proposed developments is appropriate, given the presence of a nearby transit options and predominantly mixed-use nature of the immediate area, as well as the mix of densities and land uses present. Furthermore, the Proposed Actions would not affect any natural resources or public view corridors to notable features or buildings in the

immediate vicinity of the Rezoning Area. Accordingly, no impacts to the urban design or visual resources of the area are expected.

## No-Action Scenario
11th Street facing west (Site at left)



## With-Action Scenario
11th Street facing west (Site at left)




····· Maximum Permitted Building Height

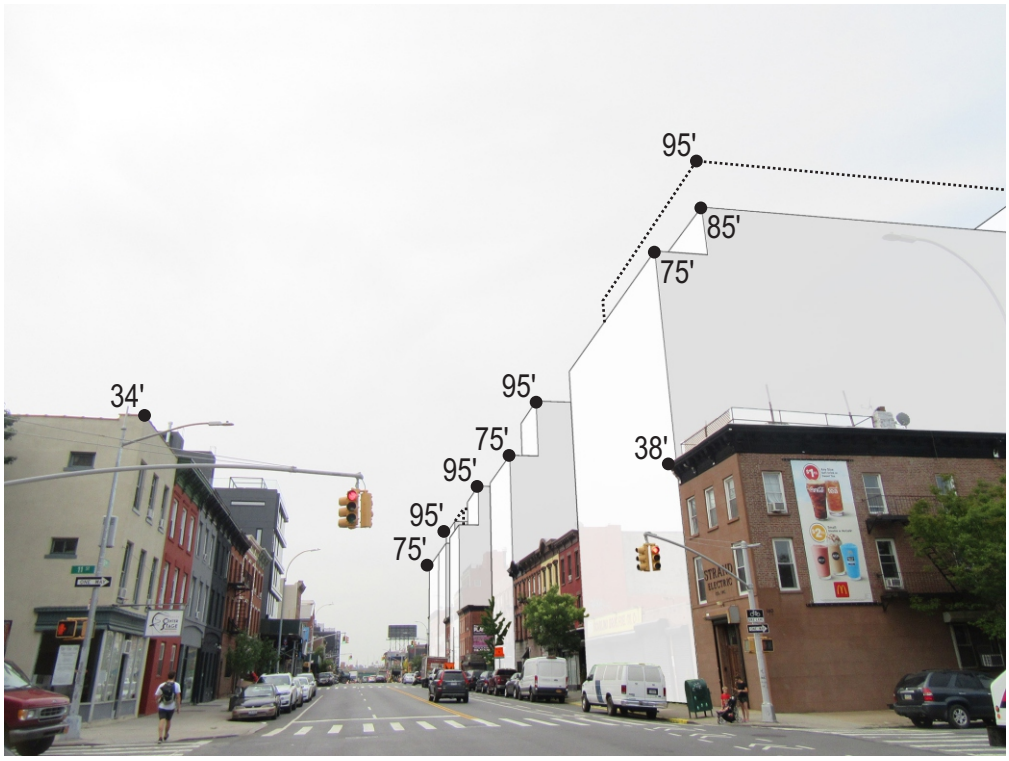
## No-Action Scenario

3rd Avenue facing south from 11th Street (Site at right)



## With-Action Scenario

3rd Avenue facing south from 11th Street (Site at right)




····· Maximum Permitted Building Height

## No-Action Scenario

12th Street facing west (Site at right and left)




## With-Action Scenario

12th Street facing west (Site at right and left)




····· Maximum Permitted Building Height

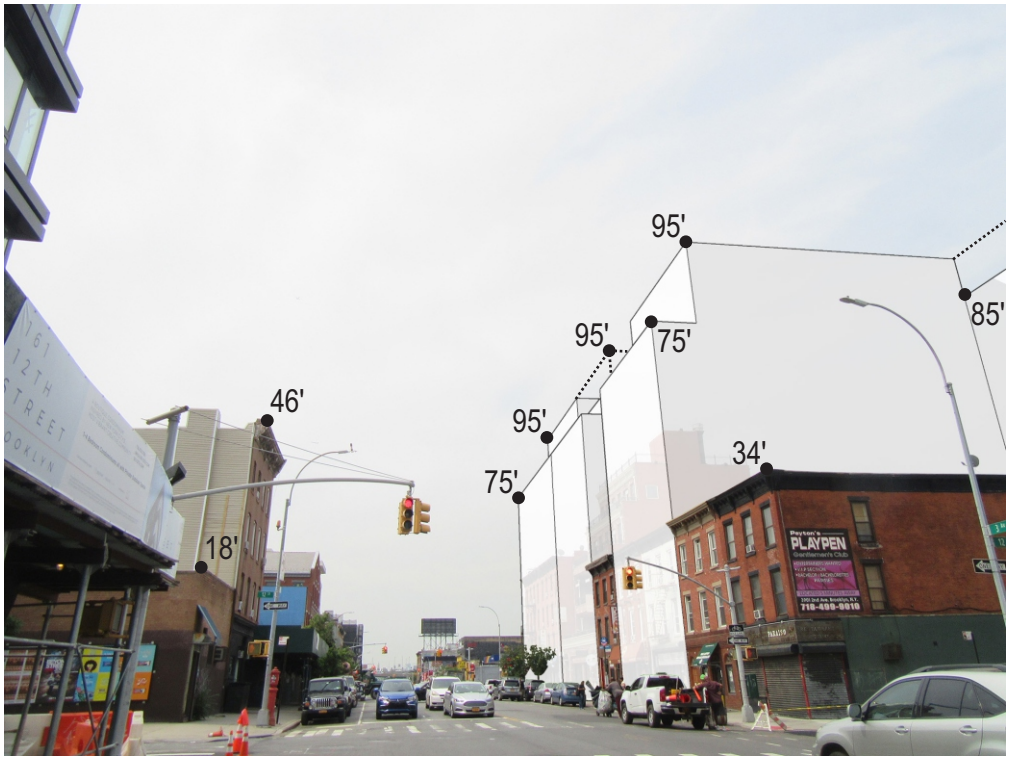
## No-Action Scenario

3rd Avenue facing south from 12th Street (Site at right)




## With-Action Scenario

3rd Avenue facing south from 12th Street (Site at right)

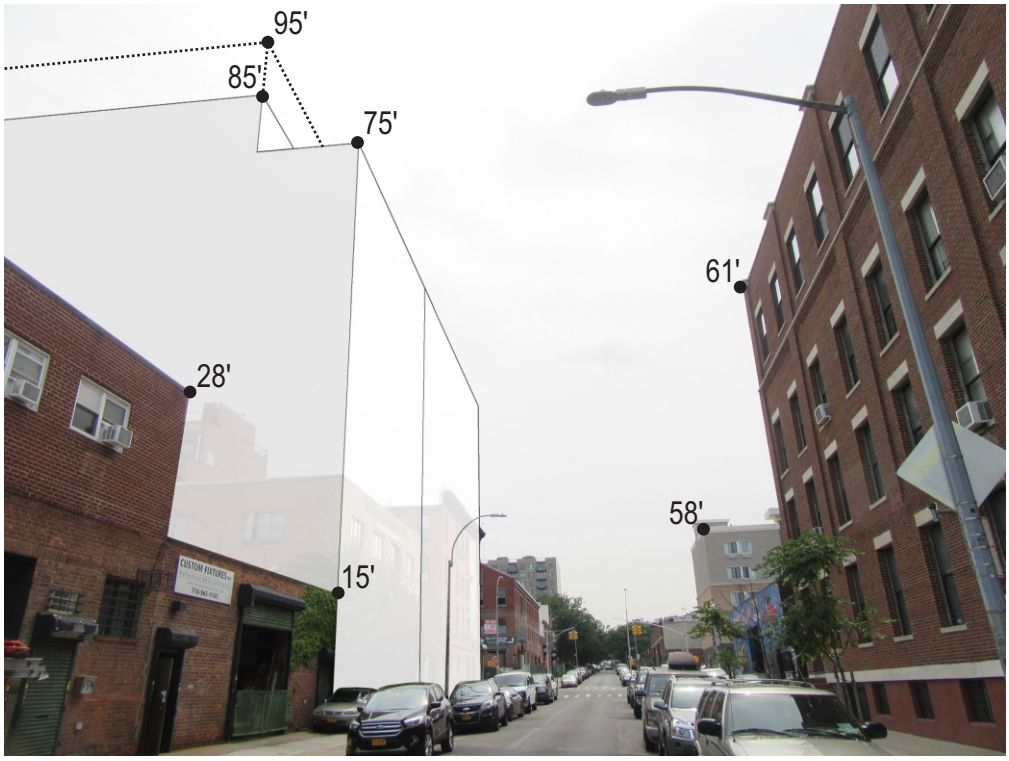



····· Maximum Permitted Building Height

## No-Action Scenario
13th Street facing east (Site at left)



## With-Action Scenario
13th Street facing east (Site at left)




····· Maximum Permitted Building Height

# 12. HAZARDOUS MATERIALS

## INTRODUCTION

A hazardous materials assessment is conducted to determine whether the proposed project may increase the exposure of people or the environment to hazardous materials and, if so, whether this increased exposure would result in potential significant public health or environmental impacts.

This section examines the Proposed Actions' potential to cause a significant adverse hazardous materials impact by leading to redevelopment or other activities that could expose people to hazardous materials, either by introducing land uses that would involve the use or storage of such materials or by increasing pathways to exposure to existing hazardous materials that contaminate portions of the proposed rezoning area as a result of current or past activities. A hazardous material is any substance that poses a threat to human health or the environment; such substances typically include heavy metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, dioxins, and other toxic, corrosive, or flammable waste products of industrial or other processes. Manufacturing operations, automotive repair shops, gasoline service stations, dry cleaners, exterminators, chemical laboratories, junk yards, solid waste transfer stations, welding shops, and printers are among those land uses that may be associated with subsequent hazardous materials contamination of soil or groundwater, as well as any land use with underground fuel storage tanks.

## PHASE I ENVIRONMENTAL SITE ASSESSMENT

A Phase I Environmental Site Assessment (ESA) was conducted in January 2019 at Projected Development Site 1 (506 Third Avenue).

### *Summary of Findings*

Historic Land Uses

The ESA stated that the subject building at 506 Third Avenue was constructed sometime between 1915 and 1938. The identified former uses in the building include retail stores, a garage, warehouse, ceramic laboratory, mirror manufacturing, a glass and glazing company, a fuel oil company, and an electrical contractor. It is not known if the operations in the building included auto or truck repairs, or if the building was used solely for car and truck parking during the time it was occupied as a garage (in the 1930s) or by the fuel oil company (1970s to circa 2016).

The former mirror manufacturing and ceramic laboratory operations likely included the use of hazardous substances. In addition, any past fuel oil spills or leaks from the fuel oil company operations in the building would also be a potential source of contamination to the project site. Finally, any past vehicle or truck maintenance and repair operations in the building would also have typically involved the use of hazardous substances and petroleum products. Therefore, the potential for contamination exists at the project site from past mirror manufacturing, ceramic laboratory and/or fuel oil company operations, including the potential for the encroachment of vapors to the existing or any future buildings at the site.

Petroleum Storage Tanks

No aboveground storage tanks (ASTs) were observed at the property during the site visit. Indications of the possible presence of two or more underground storage tanks (USTs) were found. These indications include an oil-fired boiler located in the small partial basement. The fuel supply and return lines for the boiler run through the basement foundation wall, to the existing/former fuel oil tank. In addition, two suspected UST vent lines were observed protruding from the roof of the building. It is not known if one of the vent lines protruding above the roof is connected to the fuel oil storage tank, or if they are connected to two separate USTs.

The 1938 Sanborn map shows an underground gasoline tank located below the building.

According to the owner of the project site, repairs were made to portions of the floor of the building circa 2016, and the concrete and some soil was removed prior to backfilling and installation of new flooring. No evidence of the presence of underground tanks were found during this work. The soil was observed to be sand and was free of any staining, odors or other indications of contamination in the areas where work was performed.

It is not known if the underground storage tanks at the project site were removed sometime in the past, or if they remain in place. Any out-of-service USTs at the project site are required to be properly closed or removed in accordance with applicable NYSDEC and New York City Fire Department (FDNY) requirements. Any past spill or leaks from underground storage tanks at the property would be a potential source of contamination to the project site.

Asbestos

Given the age of the subject building (constructed prior to 1938), it is possible that it contains asbestos building materials and lead-based paints. Potential asbestos-containing materials observed in the building during the site visit include floor tiles, ceiling tiles, roofing materials, and surfacing materials.

Surrounding Land Uses

A review of Sanborn maps showed that historical land uses surrounding the project site have been comprised of a mix of residential, commercial/retail, industrial, and auto-related uses since at least the early 1900s. Potential sources of contamination identified in the immediate vicinity of the project site on Sanborn maps include paint manufacturing, leather works, paper products manufacturing, dye and color works, glue and adhesive manufacturing, machine shops, metal works, auto-repair garages (some with underground gasoline tanks), and others. The 1950 through 1996 Sanborn maps show a gasoline filling station and auto repair garage at 496-498 3rd Avenue, which is located approximately 100 feet north of the project site. There is a reported spill incident at this site caused by a tank tightness test failure which has not been closed by the NYSDEC. The 1951 through 2007 Sanborn maps show an auto repair garage and car wash with underground gasoline tanks at 511-513 3rd Avenue, which is approximately 200 feet southeast of the project site. Given the potential off-site sources of contamination identified in the immediate vicinity of the subject property, the possibility of groundwater contamination exists from these potential off-site sources of contamination.

*Phase I ESA Conclusions*

The ESA identified the following recognized environmental conditions (RECs):

- The potential for site impacts from past on-site mirror manufacturing, ceramic laboratory, and fuel oil company operations, including the potential for the encroachment of vapors to the existing and any future buildings at the subject property.
- The potential for site impacts from spill or leaks from underground storage tanks at the site, including the potential for the encroachment of vapors to the existing and any future buildings at the property.
- The possible presence of one or more underground storage tanks at the subject site which have not been properly closed or moved in accordance with applicable local and state requirements.
- The potential for groundwater contamination in the vicinity of the subject site from historical off-site sources of contamination.

**(E) DESIGNATION**

Because the Phase I ESA identified recognized environmental conditions pertinent to both the subject property and other projected development sites within the Affected Area, Phase II testing should be performed for Projected Development Site 1 and all other development sites in the Affected Area. Because the existing buildings on the applicant-owned properties (Projected Development Sites 1, 5, and 6) prevent the necessary full spectrum of soil, soil vapor, and groundwater testing required under DEP testing guidelines, and because the other projected development sites are not under the applicant's control, an "E" designation for hazardous materials will be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for all of the projected development sites, in lieu of DEP review and approval of Phase II workplans. DEP concurred with this conclusion in correspondence dated April 19, 2021, which is appended to this report.

Therefore, in order to avoid any potential impacts associated with hazardous materials, an (E) designation (E-617) will be assigned for hazardous materials on the following properties:

**Brooklyn Block 1020, Lot 34**
**Brooklyn Block 1020, Lot 36**
**Brooklyn Block 1020, Lot 43**
**Brooklyn Block 1020, Lot 44**
**Brooklyn Block 1020, Lot 45**
**Brooklyn Block 1026, Lot 32**
**Brooklyn Block 1026, Lot 35**
**Brooklyn Block 1026, Lot 36**
**Brooklyn Block 1026, Lot 40**
**Brooklyn Block 1026, Lot 42**

The text for the (E) designations related to hazardous materials 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.**

## CONCLUSION

With this (E) designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted. Therefore, there is no potential for the Proposed Actions to result in significant adverse impacts related to hazardous materials.

# 16. TRANSPORTATION

## INTRODUCTION

To determine the potential for the Proposed Rezoning to result in significant adverse transportation impacts, trip generation and trip assignments screening analyses were performed pursuant to the methodologies identified in the *2014 CEQR Technical Manual.* Based on the proposed mixed-use development trip generation (Tier 1) and trip assignments screening (Tier 2) analyses results, it was determined that the Proposed Actions would not result in significant adverse impacts, as summarized below.

## PROJECT AREA

The Project Area comprises the following zoning lots in Gowanus section of Brooklyn:

Projected Sites 1 (block 1020, lot 36), 2 (block 1020, lots 43 and 44), 6 (block 1020, lot 34) and 7 (block 1020, lot 45) are located within the block bounded by 3rd Avenue, a two-way northbound/southbound roadway, on the east, 11th Street, a one-way westbound roadway, on the north, 12th Street, a one-way eastbound roadway on the south, and 2nd Avenue, a two-way northbound/southbound roadway, on the west.

Projected Sites 3 (block 1026, lots 35 and 36), 4 (block 1026, lot 40 and 42) and 5 (block 1026, lot 32) are located within the block bounded by 3rd Avenue, a two-way northbound/southbound roadway, on the east, 12th Street, a one-way eastbound roadway on the north, 13th Street, a one-way westbound roadway, on the south and 2nd Avenue, a two-way northbound/southbound roadway, on the west.

The projected sites with blocks and lots are shown in **Figures 1, 2** and the proposed Site Plan **(See Transportation Appendix for the proposed Site Plan).**

## EXISTING CONDITIONS

Both existing sites currently include a total of 26 residential d.u. (17,910 gsf), 4,050 gsf of local retail, 17,100 gsf of commercial office and a total of 18,246 gsf of light industrial, as summarized in **Tables 1 and 2.**

## NO-ACTION SCENARIO

Absent of the proposed action, both existing sites would develop to include a total of 26 residential d.u. (17,910 gsf), 6,950 gsf of local retail, 19,100 gsf of commercial office and a total of 18,246 gsf of light industrial, as summarized in **Tables 1 and 2.**

**Table 1 – Existing, No-Action and With-Action Scenarios (Scenario A)**

**Scenario A: Mixed-Use (Residential/Commercial Development)**

| Land Use | Existing | No-Action | With-Action | Increment |
|---|---|---|---|---|
| **Residential D.U. (gsf)** | 26 d.u. (17,910 gsf) | 26 d.u. (17,910 gsf) | 141 d.u. (128,202 gsf) | 115 d.u. (110,292 gsf) |
| **Local Retail (gsf)** | 4,050 gsf | 6,950 gsf | 21,688 gsf | 14,738 gsf |
| **Office (gsf)** | 17,100 gsf | 19,100 gsf | 10,000 gsf | -9,100 gsf |
| **Light Industry (gsf)** | 18,246 gsf | 18,246 gsf | 0 | -18,246 gsf |

**Table 2 – Existing, No-Action and With-Action Scenarios (Scenario B)**

**Scenario B: Commercial Development**

| Land Use | Existing | No-Action | With-Action | Increment |
|---|---|---|---|---|
| **Residential D.U. (gsf)** | 26 d.u. (17,910 gsf) | 26 d.u. (17,910 gsf) | 0 | -26 d.u. (17,910 gsf) |
| **Local Retail (gsf)** | 4,050 gsf | 6,950 gsf | 21,688 gsf | 14,738 gsf |
| **Office (gsf)** | 17,100 gsf | 19,100 gsf | 117,348 gsf | 98,248 gsf |
| **Light Industry (gsf)** | 18,246 gsf | 18,246 gsf | 0 | -18,246 gsf |

**WITH-ACTION SCENARIOS**

The EAS considers two projected development scenarios, Residential/Commercial development (Scenario A) and Commercial development (Scenario B) along 3rd Avenue in Gowanus section of Brooklyn.

**SCENARIO A**

Residential/Commercial Development, Scenario A, would result in a development composed of 141 residential units (128,202-gross-square-foot), 21,688 gsf of commercial retail (local) space and 10,000 gsf of commercial office space for a total of 159,890 gsf of mixed-use development.

**SCENARIO B**

Commercial Development, Scenario B, would result in a development composed of 21,688 gsf of commercial retail (local) space and 117,348 gsf of commercial office space for a total of 139,036 gsf of commercial development.

None of the scenarios would provide parking. **Tables 1 & 3 and 2 & 4 (see Transportation Appendix for Tables 3 and 4)** provide program assumptions under the Existing, No-Action, the Reasonable Worst-Case Development Scenario (RWCDS) With-Action conditions and the Increment for both scenarios.

**INCREMENT**

The increment between the No-Action and With-Action development scenarios are summarized in **Tables 1 & 3** for Scenario A **and Tables 2 & 4** for Scenario B**.** Based on the proposed development generated trips, as detailed in **Tables 5 through 7, and 14, 15 and 16** for **Scenario A** and **Tables 8 through 13, and 14, 15 and 16** for **Scenario B** (see Transportation Attachment for **Tables 5 through 16**), it was determined that scenario B, commercial development, would generate greater person and vehicular trips and therefore, it would be analyzed for transportation-related elements.

**SCENARIO B**

The transportation screening below has been prepared based on the difference between the No-Action and With-Action Scenarios (Increment), which would result in the development under the With-Action Scenario of an increase of 14,738 gross square feet (gsf) of local retail space, 98,248 gsf of office space, and the decrease of -26 d.u. (17,910 gsf) of residential development and -18,246 gsf of light industry development as summarized in **Tables 2 & 4**.

**PRINCIPAL CONCLUSIONS**

The following detailed trip generation (Tier 1) and trip assignments (Tier 2) analyses are conducted for projected sites, as is summarized and shown in **Tables 8** through **16, and Figures 3, 4 and 5 (see Transportation Appendix)** .

Traffic and Parking

Based on the results of trip generation (Tier 1), the proposed actions would generate fewer than the *CEQR Technical Manual 50-vehicle trip-ends threshold*, during Weekday Midday and Saturday Midday peak hours, as summarized in **Tables 10, 13 and 14 (see Transportation Appendix).** The proposed action would generate more the *CEQR Technical Manual 50-vehicle trip-ends threshold*, during Weekday AM and PM peak hours, requiring a level 2 screening analysis (trip assignment), per *the CEQR Technical Manual*.

A trip assignment (Tier 2) screening analysis was prepared for the Weekday AM and PM peak hours. The result shows, in the future with the Proposed Actions, none of the intersections in the study area would experience 50 or more peak hour vehicle trip-ends, as summarized in **Tables 10, 13 and 14** and shown in **Figures 3 and 4** (as presented in the **Transportation Appendix**) for the AM, and PM peak hours, respectively. Therefore, in accordance with the *CEQR Technical Manual 50-vehicle trip-ends threshold,* the vehicular trip-ends generated by the

Proposed Actions would not result in any conditions needed for a detailed assessment of traffic and parking impacts.

Transit

Based on the results of trip generation screening analysis (Tier 1), it is concluded that in the future with the Proposed Actions, none of the subway stations and bus lines in the study area would experience 200 and 50 or more peak hour subway and bus trip-ends, respectively, as shown in **Tables 9 and 12** and summarized in **Table 15** (as presented in the **Transportation Appendix**) for all peak hours. Therefore, in accordance with the *CEQR Technical Manual* 200 and 50-subway and bus trip-ends threshold, the subway and bus trip-ends generated by the Proposed Actions would not result in any conditions needed for a detailed assessment of transit impacts.

Pedestrian

Based on the results of trip generation (Tier 1), the prosed actions would generate more than the *CEQR Technical Manual 200-pedestrian trip-ends threshold* during Weekday Midday, PM and Saturday Midday peak hours, as summarized in **Tables 9 and 12 and shown in Table 16 (see Transportation Appendix),** therefore requiring a level 2 screening analysis (trip assignment), per *the CEQR Technical Manual*.

Based on a Tier 2 (trip assignment) analysis for the Weekday Midday peak hour (the highest peak hour), the proposed project pedestrian entrance/exit points, as shown in the proposed Site Plan, and pedestrian destinations, it is determined that pedestrian trip-ends at seven (7) pedestrian elements, one sidewalk, and six corner reservoirs in the project area would exceed the *CEQR 200-pedestrian trip-ends threshold* **(Figure 5)**, and detailed analysis is warranted according to the *CEQR guidelines*. The pedestrian elements to be analyzed are listed below.

Sidewalk

- 3rd Avenue between 11th and 12th Streets:
  North sidewalk

Corner Reservoirs

- Intersection of 3rd Avenue and 12th Street: Northwest corner (C1), Southwest corner (C2) and Northeast corner (C3) reservoirs
- Intersection of 3rd Avenue and 13th Street: Northwest corner (C4) reservoir
- Intersection of 3rd Avenue and 11th Street: Southwest corner (C5), and Northwest corner (C6) reservoirs.

Based on the detailed pedestrian analysis, described below, all analyzed pedestrian elements would operate at levels of service (LOS) B or better during the 2024 build condition. The proposed action would not result in significant adverse pedestrian impacts as is summarized below.

**BUILD YEAR**

Development is expected to be completed within an 18-month construction period and based on an estimated 12-month approval process the build year is anticipated to be **2024**.

## PRELIMINARY ANALYSIS METHODOLOGY AND SCREENING ASSESSMENT

The *CEQR Technical Manual* recommends a two-tier screening procedure for the preparation of a "preliminary analysis" to determine if quantified analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation analysis (Tier 1) to estimate the volume of person and vehicle trips attributable to the Proposed Rezoning. If the Proposed Rezoning is expected to result in fewer than 50 peak hour vehicle trip ends and fewer than 200 peak hour transit or pedestrian trip ends, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Tier 2) are performed to estimate the incremental trips at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the Proposed Rezoning would result in 50 or more peak hour vehicle trip ends at an intersection, 200 or more peak hour subway trip ends at a station, 50 or more peak hour bus trip ends per direction per bus route, or 200 or more peak hour pedestrian trip ends traversing a pedestrian element, then further quantified analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, and parking.

## LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Rezoning (**Scenario B**) during the Weekday AM, midday, PM, and Saturday peak hours **(Tables 8 through 13 as shown in Transportation Appendix)**. These estimates were then compared to the *CEQR Technical Manual thresholds* to determine if a Level 2 screening and/or quantified operational analyses would be warranted.

The proposed Rezoning would generate a total of 60, 47, 81, and 39 vehicle trip ends during the Weekday AM, Midday, PM, and Saturday Midday peak hours, respectively. Based on the results of trips generated by the proposed Rezoning for **Scenario B**, as shown in **Table 14 (see Transportation Appendix)**, traffic would screen for Weekday Middy and Saturday Midday peak hours and a level-two assessment would be required for Weekday AM and PM peak hours, as described below.

## LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the distribution and assignment of projected trips to the transportation network and the determination of whether specific locations are expected to experience incremental trips exceeding CEQR Technical Manual thresholds. Typically, if the results of this analysis show that the Proposed Rezoning would result in 50 or more peak hour vehicle trip ends through an intersection, 50 or more peak hour bus trip ends per bus route per direction, 200 or more peak hour subway trip ends per subway station, or 200 or more peak hour pedestrian trip ends per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, pedestrian, and parking impacts.

Trip assignments are assigned conservatively to the project sites, along 3rd Avenue (no parking is provided). Based on trip assignments, and as shown in **Figures 3 and 4 (see Transportation**

**Appendix)** for Weekday AM and PM peak hours**,** none of the intersections in the study area would experience more than 50-vehicle trip end **(Figure 3** shows the highest vehicle trip ends of 35 at the intersections of 3rd Avenue and 13th , 14th and 15th Streets, during the AM peak hour, similarly **Figure 4** shows 45 vehicle trip ends at the intersection of 3rd Avenue and 13th, 14th and 15th Streets, during the PM peak hour) . Therefore, in accordance with the *CEQR Technical Manual 50-vehicle trip-end criteria*, the proposed project (rezoning) generated vehicular trip ends would not result in any conditions needed for a detailed assessment of traffic and parking impacts.

**TRANSPORTATION PLANNING ASSUMPTIONS**

Trip generation factors for the Proposed Project were determined based on information from the *2014 City Environmental Quality Review* (CEQR) Technical Manual, U.S. Census Data, trip generation and modal split data provided by NYCDOT, and other approved EASs and EISs. The travel demand assumptions and trip generation sources are summarized in **Tables 8 & 11** for **Scenario B (see Transportation Appendix.)**

Residential

*2014 CEQR Technical Manual (table 16-2)* were utilized for trip generation rates, including truck trips, daily temporal distribution and *2013-2017 American Community Survey (ACS) Journey-to Work (JTW) data for Census Tract #'s 18, 117, 119, 121, 139,141 and 143* in Brooklyn, NY for modal split information and vehicle occupancy rates, as is summarized in **Exhibit A, B** and **Tables 8 & 11 (see Transportation Appendix.**

The estimated modal split data for residential use found that approximately 13.3% would travel by car, 0.2 percent would travel by taxi, 1.6% would travel by bus, 66.2% would travel by subway, 18.7% would travel by foot and other mode of travel, such as bicycle, as shown in **Exhibits A and B and Tables 8 & 11 (see Transportation Appendix)**.

Local Retail

*2014 CEQR Technical Manual (table 16-2)* is utilized for trip generation rates, including daily temporal distribution and truck trip rates. Modal split information and vehicle occupancy rates are based on the NYCDOT survey result for a similar local retail space, located within a ¼ -mile radius of a subway station (Brooklyn Transit Zone, 9th Street Subway Stations F,G, and D, R and W trains), as is summarized in **Tables 8 & 11 (see Transportation Appendix).**

The estimated modal split results for local commercial retail use found that approximately 11% would travel by car, 0% would travel by taxi, 2% would travel by bus, 3% would travel by subway and 84% would travel by foot. The above information is summarized in **Tables 8 & 11 ( see Transportation Appendix)**.

Office

*2014 CEQR Technical Manual (table 16-2)* is utilized for trip generation rates, including daily temporal distribution and truck trip rates. Modal split information and vehicle occupancy rates are based on the NYCDOT survey result for a similar office space in Gowanus section of

Brooklyn, located within a ¼ -mile radius of a subway station (Brooklyn Transit Zone, 9th Street Subway Stations F,G, and D, R and W trains), as is summarized in **Tables 8 & 11 ( see Transportation Appendix).**

*Modal Split Data for Weekday AM, PM & Saturday Midday Peak Hours (DOT)*

The estimated modal split results for commercial office use found that approximately 28.7% would travel by car, 4.9% would travel by taxi, 12.7% would travel by bus, 32.1% would travel by subway and 21.6% would travel by foot and other mode of travel, such as bicycle, as shown in **Tables 8 & 11 ( see Transportation Appendix)**.

*Modal Split Data for Weekday Midday Peak Hour (DOT)*

The estimated modal split results for commercial office use found that approximately 2% would travel by car, 1% would travel by taxi, 7% would travel by bus, 7% would travel by subway and 83% would travel by foot and other mode of travel, such as bicycle, as shown in **Tables 8 & 11 ( see Transportation Appendix)**.

Light Industrial

Trip generation rates, daily temporal distribution, vehicle occupancy rates and truck trip rates are based on the approved *the East New York Rezoning FEIS (TABLE 13-8)*. Modal split information is based on the *2012-2016 American Community Survey (ACS) Reverse-Journey-to Work (RJTW) data for Census Tract #'s 18, 117, 119, 121, 139, 141 and 143* in Brooklyn, NY, as is summarized in **Exhibits C, D** and **Tables 8 & 11 ( see Transportation Appendix).**

*Modal Split Data for Weekday AM, PM & Saturday Midday Peak Hours*

he estimated modal split results for manufacturing use found that approximately 41% would travel by car, 1% would travel by taxi, 6% would travel by bus, 32% would travel by subway, and 20% would travel by foot and other mode of travel, such as bicycle, as shown in **Exhibits C and D and Tables 8 & 11 ( see Transportation Appendix)**.

*Modal Split Data for Weekday Midday Peak Hour*

Weekday Midday peak hour modal split information is based on the approved 25 Kent Avenue EAS.

The estimated modal split results for light industrial use found that approximately 2% would travel by car, 3% would travel by taxi, 6% would travel by bus, 6% would travel by subway and 83% would travel by foot and other mode of travel, such as bicycle, as shown in **Tables 8 & 11 ( see Transportation Appendix)**.

The above information is summarized in **Table 8 & 11 ( see Transportation Appendix)**.

**PARKING**

The proposed rezoning would provide no parking and based on the result of traffic screening, no parking is required, per the *CEQR Technical Manual.*

**PERSON AND VEHICULAR TRIPS**

*Person Trips*

The Proposed rezoning would generate a total of 225, 657, 412, and 306 person trip ends during the AM, Midday, PM and Saturday Midday peak hour time periods, respectively, as summarized in **Table 14 for Scenario B ( see Transportation Appendix)**.

*Vehicle Trips*

The Proposed rezoning would generate a total of 60 (50 inbound and 10 outbound), 47 (23 inbound and 24 outbound), 81 (20 inbound and 61 outbound) and 39 (22 inbound and 17 outbound) net vehicle trip ends during the AM, Midday, PM and Saturday Midday peak hour time periods, respectively, as summarized in **Table 14 for Scenario B ( see Transportation Appendix).**

Based on trip generation analysis (Tier 1) and trip assignments (Tier 2) analyses, it was concluded that in the future with the proposed rezoning, none of the intersections in the study area would experience more than 50-vehicle trip-end, as summarized in **Table 14** and shown in **Figures 3 and 4** for Weekday Midday and PM. Therefore, in accordance with the *CEQR Technical Manual 50-vehicle trip-ends criteria*, the project generated vehicular trips would not result in any conditions needed for a detailed assessment of traffic and parking impacts.

**TRANSIT**

*Bus*

The proposed rezoning would generate a total of 25, 25, 34, and 13 net bus trip ends during the AM, Midday, PM, and Saturday Midday peak hour time periods, respectively, as summarized in **Table 15 for Scenario B (see Transportation Appendix**). Currently, there are three bus lines, bus line B37 is operating along 3rd Avenue, bus line B61 is operating along 9th Street and bus line B103 is operating along 4thAvenue. The Proposed rezoning would generate less than 50 bus trip ends during any peak hour time periods, and in accordance with the CEQR Technical Manual criteria, would not result in any conditions that would typically trigger the need for a detailed assessment of bus impacts.

*Subway*

The proposed rezoning would generate a total of 45, 22, 59, 15 net subway trip ends during the AM, and PM peak hour time periods, respectively, as summarized in **Table 15 for Scenario B (see Transportation Appendix**). Currently, there are two (2) subway stations for F, G and D, R and W trains along 9th Street and 4th Avenues. The 9th Street Subway stations for F, G (4th Avenue subway station) and D, R and W (9th Street subway station) trains are within a ¼ mile radius from the proposed project (Brooklyn Transit Zone). The Proposed rezoning would generate less than 200 subway trip ends per subway station during any peak hour time periods, and in accordance with the CEQR Technical Manual criteria, would not result in any conditions that would typically trigger the need for a detailed assessment of subway impacts.

**PEDESTRIANS**

The proposed rezoning would generate a total of 163, 603, 324, and 260 net pedestrian (bus, subway, walk, and other) trip ends during the AM, Midday, PM, and Saturday Midday peak hour time periods, respectively, as summarized in **Table 16 for Scenario B** (See **Transportation Appendix**).

The proposed rezoning would generate more than 200 pedestrian trip ends during Weekday Midday, PM, and Saturday Midday peak hour time periods.

Based on a Tier 2 (trip assignment) analysis for the Weekday Midday peak hour (the highest peak hour), the proposed project pedestrian entrance/exit points, as shown in the proposed Site Plan, and pedestrian destinations, it is determined that pedestrian trip-ends at seven (7) pedestrian elements, one (1) sidewalk, and six (6) corner reservoirs in the project area would exceed the *CEQR 200-pedestrian trip-ends threshold,* as shown in **Figure 5.** Therefor a detailed assessment of potential pedestrian impacts is warranted according to the *CEQR guidelines.*

Pedestrian analysis

The adequacy of the study area's sidewalk, crosswalk, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2010 HCM, pursuant to procedures detailed in the CEQR Technical Manual. The primary performance measure for sidewalks and walkways is pedestrian space, expressed as square feet per pedestrian (SFP), which is an indicator of the quality of pedestrian movement and comfort. The calculation of the sidewalk SFP is based on the pedestrian volumes by direction, the effective sidewalk or walkway width, and average walking speed. The SFP forms the basis for a sidewalk LOS analysis. The determination of sidewalk LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas platoon flow occurs when pedestrian volumes vary significantly within the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Street corners and crosswalks are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The HCM methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians. The total "time-space" available for these activities, expressed in square feet-second, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of available SFP.

Crosswalk LOS is also a function of time and space. Like the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-

space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk. The LOS standards for sidewalks, corner reservoirs, and crosswalks are summarized in **Table 17**.

**Table 17: Level of Service Criteria for Pedestrian Elements**

| LOS | Sidewalks | | | Corners Reservoirs and Crosswalks |
|---|---|---|---|---|
| | | Non-Platoon Flow | Platoon Flow | |
| A | (Unrestricted) | > 60 | > 530 | > 60 |
| B | (Slightly Restricted) | > 40 to 60 | > 90 to 530 | > 40 to 60 |
| C | (Restricted but fluid) | > 24 to 40 | > 40 to 90 | > 24 to 40 |
| D | (Restricted, necessary to continuously alter walking stride and direction) | > 15 to 24 | > 23 to 40 | > 15 to 24 |
| E | (Severely restricted) | > 8 to 15 | > 11 to 23 | > 8 to 15 |
| F | (Forward progress only by shuffling; no reverse movement possible) | <8 | < 11 | <8 |

**Notes:**

**SEP: square feet per pedestrian.**

**Source:** *CEQR Technical Manual*

2019 Existing Conditions

Pedestrian counts were conducted on Wednesday, November 6th 2019 at key locations in the project area during the (12n-2pm) weekday midday period, as well as street measurements for pedestrian elements (**Figure 6**, **see Transportation Appendix**). The weekday midday peak hour of 12:45 PM to 1:45 PM was identified as the highest peak hour and therefore, selected for analysis (see **Transportation Appendix**). The balanced 2019 pedestrian volume network for the existing weekday midday peak hour is shown in **Figure 7**. Detailed descriptions of the levels of service (LOS) for all seven pedestrian elements are presented in **Table 18**. All pedestrian elements are currently operating at LOS A, as summarized in **Table 18**.

**Table 18: 2019 Existing Conditions Pedestrian Levels of Service (LOS)**

**Weekday Midday Peak Hour**

| Pedestrian Element | Effective Width (ft) | Volume (ped/hr) | Avg. Pedestrian Space (sf/ped) | LOS | Platoon LOS |
|---|---|---|---|---|---|
| **Sidewalk** | | | | | |
| 3rd Ave. bet. 11th and 12th Streets-West Sidewalk | 7 | 151 | 634.1 | A | A |
| **Corner** | | | | | |
| | **(Ped/hr.)** | | **Avg. Pedestrian Space (sf/ped** | | |
| 3rd Avenue and 12th Street Intersection-Northwest Corner (C1) | | | 1,269.3 | A | |
| 3rd Avenue and 12th Street Intersection-Southwest Corner (C2) | 257 | | 377.2 | A | |
| 3rd Avenue and 12th Street Intersection- Northeast Corner (C3) | 279 | | 268.3 | A | |
| 3rd Avenue and 13th Street Intersection-Northwest Corner (C4) | 289 | | 387.0 | A | |
| 3rd Avenue and 11th Street Intersection-Southwest Corner (C5) | 282 | | 400.6 | A | |
| 3rd Avenue and 11th Street Intersection-Northwest Corner (C6) | 265 | | 427.2 | A | |

2022 No Build Conditions

The 2024 No-Build pedestrian volumes were determined by adding expected annual growth, 0.5% per year for a total of 1.5%, in overall pedestrian trips within the study area to the 2019 existing pedestrian volumes as well as incorporating pedestrian volumes from projects, expected to be completed by 2024 build year (*no major development is anticipated in the study area by the build year of 2024)*. The 2024 No Build pedestrian volume network for the weekday midday peak hour is shown in **Figure 8 (see Transportation Appendix)**. Detailed descriptions of the levels of service (LOS) for all nine pedestrian elements are presented in **Table 19**. All pedestrian elements would operate at LOS A, as summarized in **Table 19.**

**Table 19: 2022 No-Build Conditions Pedestrian Levels of Service (LOS)**

**Weekday Midday Peak Hour**

| Pedestrian Element | Effective Width (ft) | Volume (ped/hr.) | Avg. Pedestrian Space (sf/ped) | LOS | Platoon LOS |
|---|---|---|---|---|---|
| **Sidewalk** | | | | | |
| 3rd Ave. bet. 11th and 12th Streets-West Sidewalk | 7 | 153 | 625.8 | A | A |
| **Corner** | | | | | |
| | **(Ped/hr.)** | | **Avg. Pedestrian Space (sf/ped** | | |
| 3rd Avenue and 12th Street Intersection-Northwest Corner (C1) | | | 1,257.9 | A | |
| 3rd Avenue and 12th Street Intersection-Southwest Corner (C2) | 259 | | 374.3 | A | |
| 3rd Avenue and 12th Street Intersection- Northeast Corner (C3) | 282 | | 265.4 | A | |
| 3rd Avenue and 13th Street Intersection-Northwest Corner (C4) | 293 | | 381.5 | A | |
| 3rd Avenue and 11th Street Intersection-Southwest Corner (C5) | 286 | | 394.8 | A | |
| 3rd Avenue and 11th Street Intersection-Northwest Corner (C6) | 269 | | 420.7 | A | |

2022 Build Conditions

Project Generated Pedestrian Trips

The proposed rezoning would generate a total of 163, 603, 324, and 260 net pedestrian (bus, subway, walk, and other) trip ends during the AM, Midday, PM, and Saturday Midday peak hour time periods, respectively, as summarized in **Table 16 for Scenario B** (See **Transportation Appendix**).

The proposed rezoning would generate more than 200 pedestrian trip ends during Weekday Midday, PM, and Saturday Midday peak hour time periods.

Based on a Tier 2 (trip assignment) analysis for the Weekday Midday peak hour (the highest peak hour), the proposed project pedestrian entrance/exit points, as shown in the proposed Site Plan, and pedestrian destinations, such as shops, it is determined that pedestrian trip-ends at seven (7) pedestrian elements, one (1) sidewalk, and six (6) corner reservoirs in the project area would exceed the *CEQR 200-pedestrian trip-ends threshold,* as shown in **Figure 5** and listed below**.** Therefor a detailed assessment of potential pedestrian impacts is warranted according to the *CEQR guidelines.*

Sidewalk

- 3rd Avenue between 11th and 12th Streets:

North sidewalk

Corner Reservoirs

- Intersection of 3rd Avenue and 12th Street: Northwest corner (C1), Southwest corner (C2) and Northeast corner (C3) reservoirs
- Intersection of 3rd Avenue and 13th Street: Northwest corner (C4) reservoir
- Intersection of 3rd Avenue and 11th Street: Southwest corner (C5), and Northwest corner (C6) reservoirs.

The 2024 Build pedestrian volumes were determined by adding the project-generated pedestrian volumes **(Figure 5**) to the 2024 No-Build pedestrian volumes (**Figure 8**). The 2024 Build pedestrian volumes are shown in **Figure 9** for seven (7) pedestrian elements. Based on the detailed pedestrian analysis, as summarized below in **Table 20**, all analyzed pedestrian elements would operate at LOS B or better during the 2024 build conditions. The proposed action would not result in significant adverse pedestrian impacts as is summarized below.

**Table 20: 2024 Build Conditions Pedestrian Levels of Service (LOS)**

**Weekday Midday Peak Hour**

| Pedestrian Element | Effective Width (ft) | Volume (ped/hr.) | Avg. Pedestrian Space (sf/ped) | LOS | Platoon LOS |
|---|---|---|---|---|---|
| **Sidewalk** | | | | | |
| 3rd Ave. bet. 11th and 12th Streets-West Sidewalk | 7 | 365 | 262.2 | A | B |
| **Corner** | | | | | |
| | **(Ped/hr.)** | | **Avg. Pedestrian Space (sf/ped** | | |
| 3rd Avenue and 12th Street Intersection-Northwest Corner (C1) | | | 603.1 | A | |
| 3rd Avenue and 12th Street Intersection-Southwest Corner (C2) | 475 | | 199.3 | A | |
| 3rd Avenue and 12th Street Intersection- Northeast Corner (C3) | 408 | | 166.4 | A | |
| 3rd Avenue and 13th Street Intersection-Northwest Corner (C4) | 429 | | 256.8 | A | |
| 3rd Avenue and 11th Street Intersection-Southwest Corner (C5) | 506 | | 218.1 | A | |
| 3rd Avenue and 11th Street Intersection-Northwest Corner (C6) | 387 | | 291.5 | A | |

## CONCLUSION

In accordance with the threshold guidelines as detailed in the *2014 CEQR Technical Manual*, the proposed rezoning is not expected to result in significant adverse impacts related to traffic, parking, transit or pedestrian conditions. Specifically, the proposed action is unlikely to have a

significant effect on traffic flow, parking and operating conditions, transit provision, and pedestrian.

# 17. AIR QUALITY

## INTRODUCTION

### *Analysis Framework*

Ambient air quality, or the quality of the surrounding air, may be affected by air pollutants produced by motor vehicles, referred to as "mobile sources"; by fixed facilities, usually referenced as "stationary sources"; or by a combination of both. Under CEQR, an air quality assessment determines both a proposed project's effects on ambient air quality as well as the effects of ambient air quality on the project. The analysis followed the *New York City Environmental Quality Review 2014 Technical Manual*.

### *Project Description*

The Proposed Actions

The Affected Area is located on the west side of Third Avenue between 11th and 13th Streets, in the Park Slope-Gowanus neighborhood of Brooklyn, Community District 6. The Applicant controls two distinct Development Sites (Projected Development Site 1 and Projected Development Site 5) within the Affected Area. Five additional Projected Development Sites were also identified for the Reasonable Worst Case Development Scenario (RWCDS). The project Build year is 2024. Table 17-1 shows the Development Sites block and lot(s) numbers.

**Table 17-1: The Development Sites**

| Site ID | Block | Lot |
|---|---|---|
| **Projected Development Site 1 (Applicant-Controlled)** | 1020 | 36 |
| **Projected Development Site 2** | 1020 | 43, 44 |
| **Projected Development Site 3** | 1026 | 35, 36 |
| **Projected Development Site 4** | 1026 | 40, 42 |
| **Projected Development Site 5 (Applicant-Controlled)** | 1026 | 32 |
| **Projected Development Site 6** | 1020 | 34 |
| **Projected Development Site 7** | 1020 | 45 |

Two RWCDS, identified for the With-Action scenario, were analyzed: Scenario A, mixed-use commercial residential developments, each development is a 9-story, 95 feet high building; and, Scenario B, commercial developments, each development is an 8-story, 85 feet high building. The two RWCDS scenarios are described here:

*Scenario A*

**Projected Development Site 1 (Block 1020, Lot 36)**, the Applicant-owned property, would facilitate a mixed-use, predominantly residential, 9-story building. The proposed 5-story building would rise to a height of 68 feet. The RWCDS would facilitate a 95 feet high building. The RWCDS building would contain 24,288 gsf of floor area, of which 19,488 gsf are residential floor area and 4,800 gsf are commercial floor area. The building would contain no accessory parking spaces. The RWCDS height of 95 feet was considered for the air quality analysis.

**Projected Development Site 2 (Block 1020, Lots 43 and 44)** would facilitate a mixed-use, predominantly residential, 9-story building. The RWCDS building would contain 15,180 gsf of floor area, of which 12,180 gsf are residential floor area and 3,000 gsf are commercial floor area. The building would contain no accessory parking spaces.

**Projected Development Site 3 (Block 1026, Lots 35 and 36)** would facilitate a mixed-use, predominantly residential, 9-story building. The RWCDS building would contain 15,180 gsf of floor area, of which 12,180 gsf are residential floor area and 3,000 gsf are commercial floor area. The building would contain no accessory parking spaces.

**Projected Development Site 4 (Block 1026, Lots 40 and 42)** would facilitate a mixed-use, predominantly residential, 9-story building. The RWCDS building would contain 21,191 gsf of floor area, of which 17,003 gsf are residential floor area and 4,188 gsf are commercial floor area. The building would contain no accessory parking spaces.

**Projected Development Site 5 (Block 1026, Lot 32)**, an Applicant-owned property, assume that additional development will occur on Block 1026, Lot 32, in order to maximize the potential floor area on the lot. Projected Development Site 5 RWCDS would facilitate two buildings, containing a total of 50,149 gsf of floor area, of which 31,194 gsf would be residential and 18,165 gsf would be commercial. The existing 5-story, 10,000 gsf commercial building, fronting Third Avenue, on the site would remain. Therefore, the RWCDS would facilitate the development of a single mixed-use, predominantly residential, 9-story, 95 feet high building, to contain 40,149 (50,149 minus 10,000 gsf) of floor area, of which 31,984 gsf (the RWCDS maximum residential floor area) are residential floor area and 8,165 gsf (18,165 minus 10,000 gsf) are commercial floor area. The building would contain no accessory parking spaces.

**Projected Development Site 6 (Block 1020, Lot 34)** would facilitate a mixed-use, predominantly residential, 9-story building. The RWCDS building would contain 10,120 gsf of floor area, of which 8,120 gsf are residential floor area and 2,000 gsf are commercial floor area. The building would contain no accessory parking spaces.

**Projected Development Site 7 (Block 1020, Lot 45)** would facilitate a mixed-use, predominantly residential, 9-story building. The RWCDS building would contain 23,782 gsf of floor area, of which 19,082 gsf are residential floor area and 4,700 gsf are commercial floor area. The building would contain no accessory parking spaces.

*Scenario B*

**Projected Development Site 1 (Block 1020, Lot 36)**, the Applicant-owned property, would facilitate a commercial 8-story building. The proposed 5-story building would rise to a height of 68 feet. The RWCDS would facilitate an 85 feet high building, containing 21,120 gsf of floor area. The building would contain no accessory parking spaces. The RWCDS height of 85 feet was considered for the air quality analysis.

**Projected Development Site 2 (Block 1020, Lots 43 and 44)** would facilitate an 8-story, 85 feet high building, containing 13,200 gsf of floor area. The building would contain no accessory parking spaces.

**Projected Development Site 3 (Block 1026, Lots 35 and 36)** would facilitate an 8-story, 85 feet high building, containing 13,200 gsf of floor area. The building would contain no accessory parking spaces.

**Projected Development Site 4 (Block 1026, Lots 40 and 42)** would facilitate an 8-story, 85 feet high building, containing 18,427 gsf of floor area. The building would contain no accessory parking spaces.

**Projected Development Site 5 (Block 1026, Lot 32)**, an Applicant-owned property, assume that additional development will occur on Block 1026, Lot 32, in order to maximize the potential floor area on the lot. Projected Development Site 5 RWCDS would facilitate two buildings, containing a total of 43,608 gsf of commercial floor area. The existing 5-story, 10,000 gsf commercial building, fronting Third Avenue, on the site would remain. Therefore, the RWCDS would facilitate the development of a single 8-story, 85 feet high commercial building, to contain 33,608 (43,608 minus 10,000 gsf) of floor area. The building would contain no accessory parking spaces.

**Projected Development Site 6 (Block 1020, Lot 34)** would facilitate an 8-story, 85 feet high building, containing 8,800 gsf of floor area. The building would contain no accessory parking spaces.

**Projected Development Site 7 (Block 1020, Lot 45)** would facilitate an 8-story, 85 feet high building, containing 20,680 gsf of floor area. The building would contain no accessory parking spaces.

***Air Pollutants and Applicable Standards and Guidelines***

Criteria Pollutants

The EPA has identified six pollutants, known as criteria pollutants and established threshold concentrations for these pollutants. As required by the Clean Air Act, the National Ambient Air Quality Standards (NAAQS) have been established for the criteria pollutants by the EPA, and New York State has adopted the NAAQS as the State ambient air quality standards.

In addition to the NAAQS, the *CEQR Technical Manual* requires that projects subject to CEQR apply a $PM_{2.5}$ and 8-hour CO averaging time significant impact criteria (based on concentration increments). These criteria, referred to as *de minimis*, are more stringent than the NAAQS and the state standards, as the criteria set maximum increase of pollutants concentrations that are below the national standard (NAAQS). If the predicted impacts of a proposed project are less than the *de minimis* criteria, the impacts are not considered to be significant. $PM_{2.5}$ significant impact concentrations relevant to stationary sources are shown here:

- 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.

To determine compliance with the NAAQS, the predicted impact concentrations are added to the background concentrations. Per the *CEQR Technical manual*, the background concentrations are obtained from the nearest New York State Department of Environmental Conservation

(NYSDEC) monitoring station(s). Table 17-2 shows the background concentrations at the nearest NYSDEC monitoring stations and the NAAQS.

**Table 17-2: The NAAQS and 2018 Background Concentrations at the Nearest NYSDEC Monitoring Stations**

| Pollutant | Averaging Period | National and State Standards | Background Concentration | Monitoring Station |
|---|---|---|---|---|
| $NO_2$ | 1-Hour | 188 µg/m$^3$ | 105.7 µg/m$^3$ | Queens College |
| | Annual | 100 µg/m$^3$ | 29.8 µg/m$^3$ | |
| $SO_2$ | 1-Hour | 196 µg/m$^3$ | 14.8 µg/m$^3$ | Queens College |
| | Annual(1) | 80 µg/m$^3$ | 1.5 µg/m$^3$ | |
| $PM_{2.5}$ | 24-Hour | 35 µg/m$^3$ | 19.2 µg/m$^3$ | Division Street |
| | Annual | 12 µg/m$^3$ | 9.0 µg/m$^3$ | |
| $PM_{10}$ | 24-Hour | 150 µg/m$^3$ | 40 µg/m$^3$ | |

1. 6 CRR-NY 257-2.3 for annual $SO_2$ standard: "During any 12 consecutive months, the annual average of the 24-hour average concentrations shall not exceed 0.03 ppm.

The concentrations' increments, *de minimis*, for stationary source $PM_{2.5}$, the pollutant for which detailed analyses were required are presented below:

- 24-hour $PM_{2.5}$ 7.90 µg/m$^3$
- Annual $PM_{2.5}$ 0.3 µg/m$^3$ (for stationary source)

*$NO_2$ NAAQS*

Nitrogen oxide (NOx) emissions from combustion consist predominantly of nitric oxide (NO) at the source. The NOx 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). For determining compliance with the 1-hour standard, the EPA has developed a three-tiered modeling approach: Tier 1, the most conservative approach, assumes a full (100%) conversion of NOx to $NO_2$; Tier 2 applies a conservative ambient NOx/$NO_2$ ratio of 80% to the NOx 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 8$^{th}$ 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. A Tier 1 approach is initially applied, followed by a Tier 2 application. A less conservative Tier 3 approach is then applied if exceedances of the 1-hour $NO_2$ NAAQS were estimated.

For the Tier 3 approach, 2014-2018 Ozone hourly background concentrations were obtained from the NYSDEC Queens College monitoring station[1]. The maximum ozone hourly concentration was filled for missing values. 2016-2018 $NO_2$ hourly background concentrations were obtained from the NYSDEC for Queens College monitoring station.

[1] http://www.nyaqinow.net/

Noncriteria Pollutants

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 August 10, 2016. NYSDEC also regulates pollutants that produce discomfort due to odors, where significant discomfort is evaluated on quantity, characteristic or duration.

## MOBILE SOURCE

### *Introduction*

According to the *CEQR Technical Manual,* projects may result in significant mobile source air quality impacts when they increase or cause a redistribution of traffic, create any other mobile sources of pollutants (e.g., diesel trains, helicopters, boats), or add new uses near mobile sources (e.g., roadways, garages, parking lots). Detailed analyses are required to predict whether a Proposed Action could potentially result in significant adverse air quality impact if certain threshold criterions are met or exceeded. Proposed Action that do not meet or exceed the threshold criterions (screen out) are not expected to result in mobile source impacts.

### *Screening Analysis*

Project-Generated Traffic

Screening analyses for the project's peak hour auto traffic and peak hour heavy-duty diesel vehicle (HDDVs) traffic were conducted. Per the *CEQR Technical Manual*, a detailed analysis for carbon monoxide (CO) is required if the generate peak hour auto traffic or diversion of existing peak hour traffic would result in an increment of 170 auto trips (in this area of the city). A detailed analysis for particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$) is required if the generate peak hour HDDVs traffic or its equivalent in vehicular emissions, depending on the type of road, would be met or exceeded.

**Scenario A:** Per the transportation analysis for this project, the Proposed Actions Scenario A would generate a total of -1 (-1 cars and 0 trucks), 42 (40 cars and 2 trucks), 12 (12 cars and 0 trucks), and 32 (32 cars and 0 trucks) net vehicle trip ends during the AM, Midday, PM, and Saturday peak hour time periods, respectively. These peak-hour project generated traffics would not exceed the threshold of 170 vehicular trips (condition outlined in Sections 210 of Chapter 17 of *the CEQR Technical Manual*). Therefore, no CO detailed analysis was required.

The $PM_{2.5}$ equivalent truck calculation in vehicular emission screen depends on the type of road. Third Avenue is classified as a principal arterial roadway[2]. The *CEQR Technical Manual* threshold criterion for arterial roadways is 23 HDDVs. The HDDVs screen does not apply to passenger cars; however, the HDDVs screen assumed that all autos (passenger cars and passenger trucks combined) are LDGT1 class vehicles. The worst-case HDDVs or its equivalent in vehicular emissions would result in a maximum of 3 equivalent trucks. Table 17-3 shows the project-

[2] https://gis3.dot.ny.gov/html5viewer/?viewer=FC

generated traffic (inbound and outbound combined) and the results of the *CEQR Technical Manual* Equivalent Truck Calculation for each peak-hour period.

**Table 17-3: Scenario A - *CEQR Technical Manual* Equivalent Truck Calculations**

| Peak-Hour Period | Truck Per Hour | Auto Per Hour | Equivalent Truck |
|---|---|---|---|
| AM | 0 | -1 | 0 |
| MD | 2 | 40 | 3 |
| PM | 0 | 12 | 1 |
| Sat MD | 0 | 32 | 1 |

As seen in Table 17-3, the Proposed Actions Scenario A $PM_{2.5}$ equivalent truck calculation in vehicular emission does not exceed the 23 HDDVs screening threshold criterion. Therefore, no detailed analysis was required.

**Scenario B:** Per the transportation analysis for this project, the Proposed Actions Scenario B would generate a total of 60 (60 cars and 0 trucks), 47 (47 cars and 0 trucks), 81 (81 cars and 0 trucks), and 39 (39 cars and 0 trucks) net vehicle trip ends during the AM, Midday, PM, and Saturday peak hour time periods, respectively.

The peak-hour project generated traffics would not exceed the threshold of 170 vehicular trips (condition outlined in Sections 210 of Chapter 17 of *the CEQR Technical Manual*). Therefore, no CO detailed analysis was required.

The $PM_{2.5}$ equivalent truck calculation in vehicular emission screen depends on the type of road. Third Avenue is classified as a principal arterial roadway[3]. The *CEQR Technical Manual* threshold criterion for arterial roadways is 23 HDDVs. The HDDVs screen does not apply to passenger cars; however, the HDDVs screen assumed that all autos (passenger cars and passenger trucks combined) are LDGT1 class vehicles. The worst-case HDDVs or its equivalent in vehicular emissions would result in a maximum of 4 equivalent trucks. As such, the Proposed Actions Scenario B $PM_{2.5}$ equivalent truck calculation in vehicular emission does not exceed the HDDVs screening threshold criterions at any roadway. Therefore, no detailed analysis was required.

Parking Garage

Based on CEQR guidelines, the maximum capacity of a parking facility is evaluated against a threshold capacity to determine whether a detailed analysis is required. The threshold capacity, per the Department of City Planning, is 85 new off-street parking spaces. If the threshold is met or exceeded, a detailed analysis is warranted. The proposed project would result in no (0) new off-street parking spaces. Therefore, no detailed air quality analysis was required.

Existing Sources

According to the *CEQR Technical Manual*, projects that would result in new sensitive uses within 200 feet of an atypical roadway or near other significant mobile source of pollutant may result in significant adverse mobile source air quality impacts.

[3] https://gis3.dot.ny.gov/html5viewer/?viewer=FC8

The Affected Area is located approximately 840 feet north-east of the Gowanus Expressway, and no mother significant mobile source of pollutant is located near the Affected Area. Therefore, no analysis was required, and no impact was predicted from existing mobile sources of pollutant.

## HVAC SYSTEMS

### *Introduction*

Per the *CEQR Technical Manual*, the HVAC analysis considers the potential for emissions from the HVAC system of the proposed project to significantly impact existing land uses (project-on-existing), and the potential of the proposed project to significantly impact each other (project-on-project). Based on CEQR guidelines, a preliminary screening analysis is to be conducted as a first step to predict whether the heat and hot water systems 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.

### *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).

According to 15 RCNY 2-15, no new boiler or burner installations may use No. 6 or No. 4 fuel oils. Therefore, only No. 2 fuel oil or natural gas could be used as the types of fuel used in the HVAC systems, where No. 2 fuel oil is the highest-emitting fuel. Therefore, use of No. 2 fuel oil was assumed for the screening analyses.

If the actual distance between a stack and the affected building is greater than the threshold distance for a building size, than that building passes the screening analysis (and no adverse significant impact is predicted). However, if the actual distance is less than the threshold distance for a building, than there is a potential for an adverse significant impact and a detailed analysis would be required. In addition, 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 each Development Site is adjacent to at least one other Development Site (less than 30 feet distance, and less than the applicable screening analysis distance), Projected Development Sites on each block were combined to a single building for the project-on-project screening analyses. The following screening analyses were performed:

<u>Scenario A</u>

1. Block 1020 Development Sites on Block 1026 Development Sites: cumulative project-on-project screening analysis (Sites 1, 2, 6, and 7 on Sites 3, 4, and 5). Projected Development Sites 1, 2, 6, and 7 as a single 95 feet tall, 73,300 gsf, residential building. A distance of 55

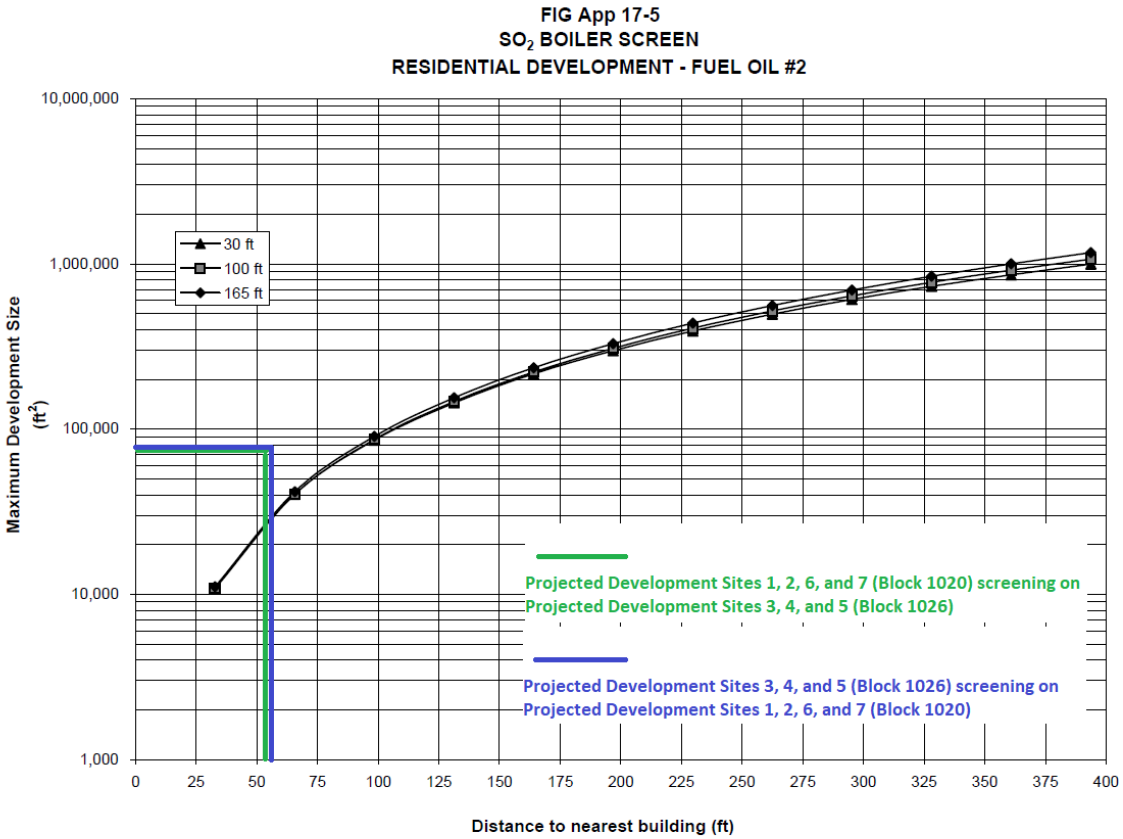
feet, the distance between Block 1020 and 1026, applied. Fuel oil #2 would be the type of fuel used in the buildings' HVAC systems.

2. Block 1020 Development Sites on Block 1026 Development Sites: cumulative project-on-project screening analysis (Sites 1, 2, 6, and 7 on Sites 3, 4, and 5). Projected Development Sites 3, 4, and 5 as a single 95 feet tall, 76,520 gsf, residential building. A distance of 55 feet, the distance between Block 1020 and 1026, applied. Fuel oil #2 would be the type of fuel used in the buildings' HVAC systems.

3. Project-on-existing screening analysis: cumulative impact, a single residential building, 95 feet high, containing 149,890 gsf of floor area. A distance of 400 feet, the *CEQR Technical manual* maximum distance, applied. Fuel oil #2 would be the type of fuel used in the buildings' HVAC systems.

Per the *CEQR Technical Manual*, the CEQR nomograph, depicted on Figure 17-5 of the *CEQR Technical Manual Appendices*, for a 30-foot high stack was used. This stationary source screen is a generic screen for a No. 2 fuel oil HVAC system, serving a residential building. The CEQR nomograph depict the size of the development versus distance below which the potential impact can occur and provides a conservative estimate of the threshold distance. Figures 17-1 (using Figure 17-5 of the *CEQR Technical Manual Appendices)* shows the Scenario A project-on-project screening analysis nomograph.

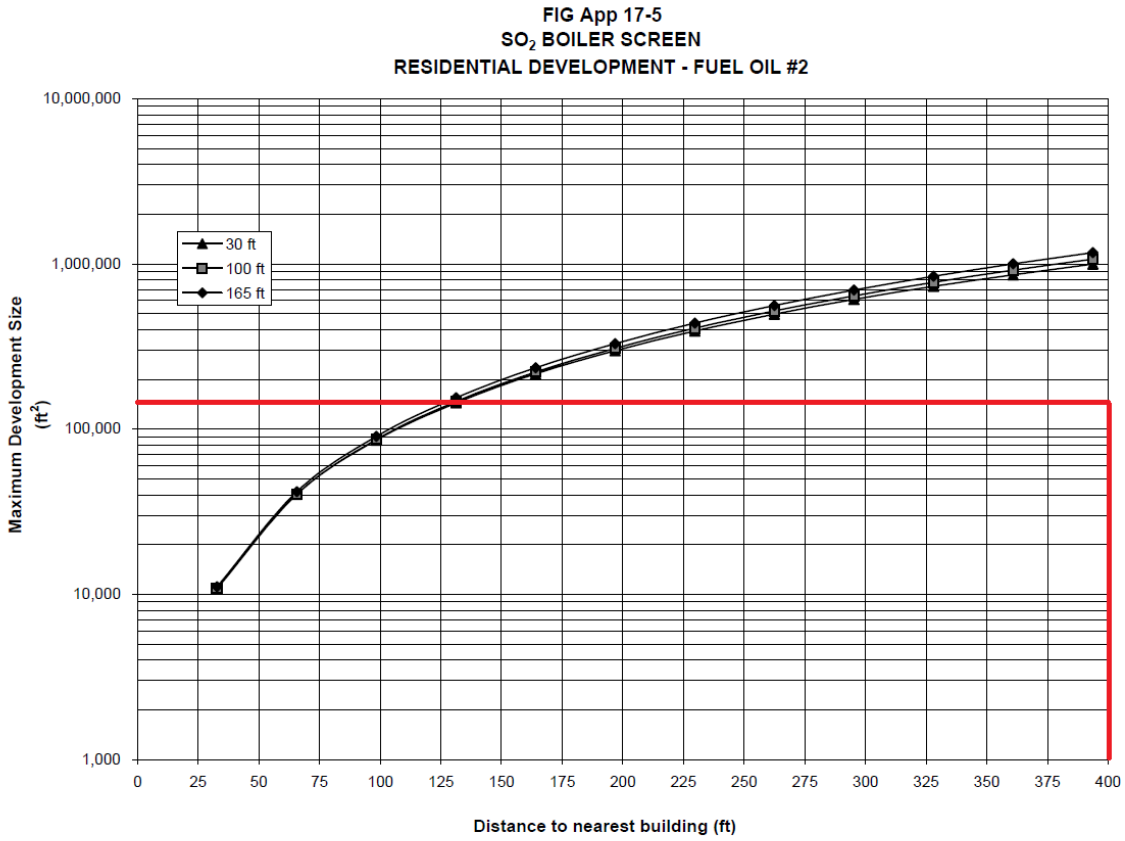
**Figure 17-1: Scenario A Project-on-Project Screening Analysis**



As seen in Figure 17-1 (using Figure 17-5 of the *CEQR Technical Manual Appendices*), the project-on-project failed the screening analysis. Therefore, a detailed dispersion analysis was required to assess the Scenario A's RWCDS buildings potential impact on each other.

Figures 17-2 (using Figure 17-5 of the *CEQR Technical Manual Appendices)* shows the Scenario A project-on-existing screening analysis nomograph. A distance of 400 feet between the source and receiving building was considered as there is no building 95 feet of higher within 400 feet of the Affected Area (according to geo metadata, obtained from the NYC Open Data Building Footprints shapefile[4], satellite imagery, and the Department of Building database for buildings that are currently under construction).

**Figure 17-2: Scenario A Project-on-Existing Screening Analysis**




As seen in Figure 17-2 (using Figure 17-5 of the *CEQR Technical Manual Appendices*), the project-on-existing passed the screening analysis. Therefore, no impact was predicted on existing land uses that are at least 95 feet or higher from the Projected Development Sites' HVAC systems; hence, no further analysis was required for the Scenario A's RWCDS buildings potential impact on existing land uses.

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

Scenario B

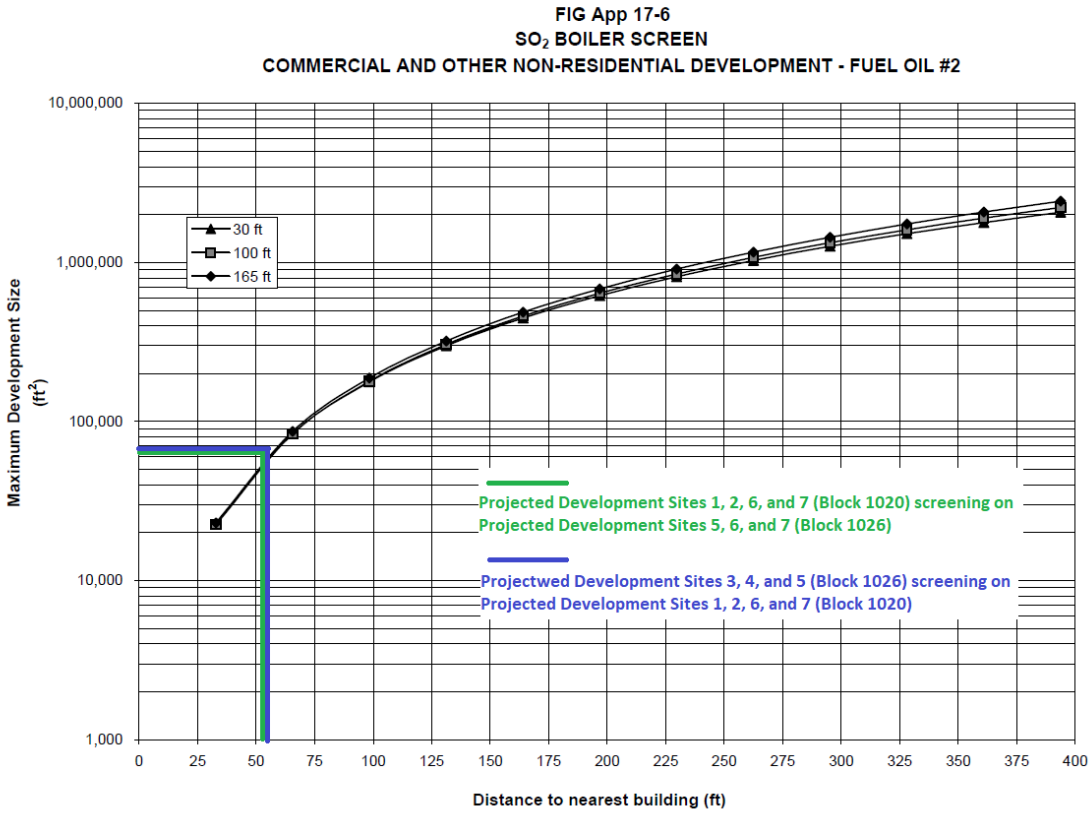
1. Block 1020 Development Sites on Block 1026 Development Sites: cumulative project-on-project screening analysis (Sites 1, 2, 6, and 7 on Sites 3, 4, and 5). Projected Development Sites 1, 2, 6, and 7 as a single 85 feet tall, 63,800 gsf, commercial building. A distance of 55 feet, the distance between Block 1020 and 1026, applied. Fuel oil #2 would be the type of fuel used in the buildings' HVAC systems.

2. Block 1020 Development Sites on Block 1026 Development Sites: cumulative project-on-project screening analysis (Sites 1, 2, 6, and 7 on Sites 3, 4, and 5). Projected Development Sites 3, 4, and 5 as a single 85 feet tall, 65,236 gsf, commercial building. A distance of 55 feet, the distance between Block 1020 and 1026, applied. Fuel oil #2 would be the type of fuel used in the buildings' HVAC systems.

3. Project-on-existing screening analysis: cumulative impact, a single commercial building, 85 feet high, containing 129,036 gsf of floor area. A distance of 400 feet, the *CEQR Technical manual* maximum distance, applied. Fuel oil #2 would be the type of fuel used in the buildings' HVAC systems.

Per the *CEQR Technical Manual*, the CEQR nomograph, depicted on Figure 17-6 of the *CEQR Technical Manual Appendices*, for a 30-foot high stack was used. This stationary source screen is a generic screen for a No. 2 fuel oil HVAC system, serving a non-residential building. The CEQR nomograph depict the size of the development versus distance below which the potential impact can occur and provides a conservative estimate of the threshold distance. Figures 17-3 (using Figure 17-6 of the *CEQR Technical Manual Appendices)* shows the Scenario B project-on-project screening analysis nomograph.

**Figure 17-3: Scenario B Project-on-Project Screening Analysis**

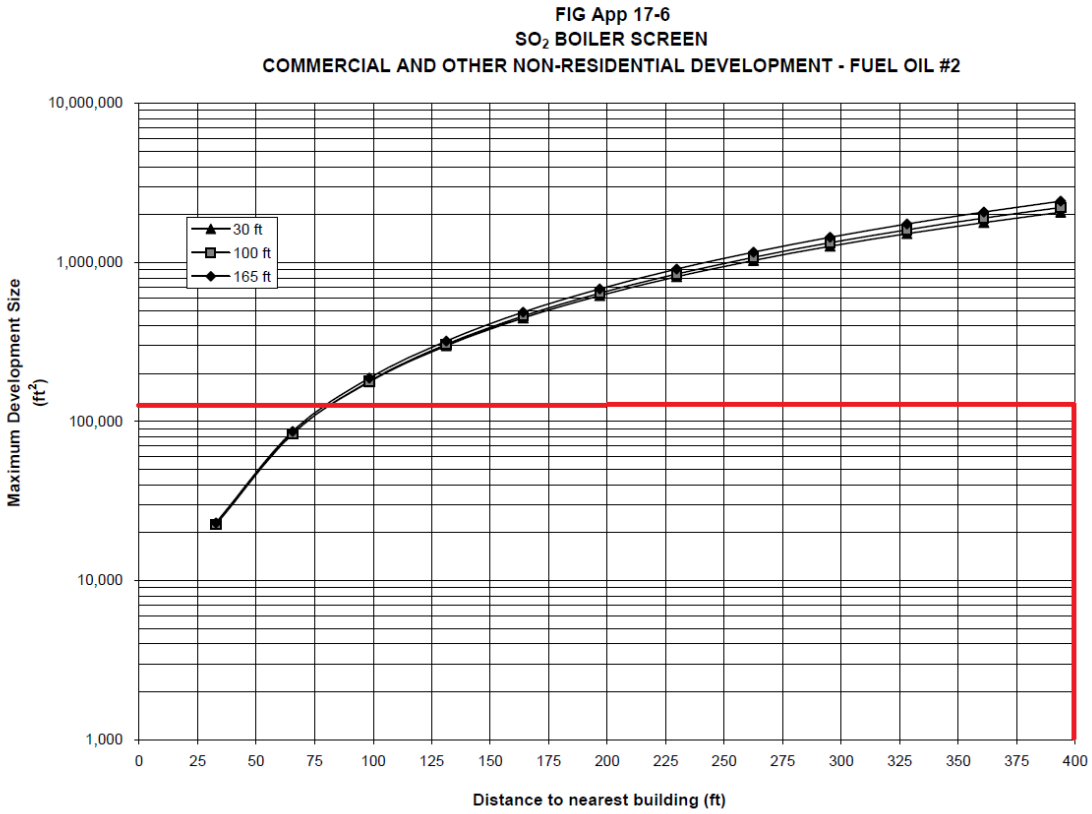



As seen in Figure 17-3 (using Figure 17-6 of the *CEQR Technical Manual Appendices*), the Scenario B project-on-project failed the screening analysis. Therefore, a detailed dispersion analysis was required to assess the Scenario B's RWCDS buildings potential impact on each other.

Figures 17-4 (using Figure 17-6 of the *CEQR Technical Manual Appendices)* shows the Scenario B project-on-existing screening analysis nomograph. A distance of 400 feet between the source and receiving building was considered as there is no building 85 feet of higher within 400 feet of the Affected Area (according to geo metadata, obtained from the NYC Open Data Building Footprints shapefile[5], satellite imagery, and the Department of Building database for buildings that are currently under construction).

**Figure 17-4: Scenario B Project-on-Existing Screening Analysis**

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




As seen in Figure 17-4 (using Figure 17-6 of the *CEQR Technical Manual Appendices*), the Scenario B project-on-existing passed the screening analysis. Therefore, no impact was predicted on existing land uses that are at least 85 feet or higher from the Projected Development Sites' HVAC systems; hence, no further analysis was required for the Scenario B's RWCDS buildings potential impact on existing land uses.

***Detailed Analysis***

Methodology

The EPA's AERMOD modeling system version 18081 was used to predict pollutants' concentrations. In accordance with CEQR guidance, this analysis was conducted assuming stack tip downwash and elimination of calms. Models specified flat terrain, urban dispersion surface roughness, and population of 2,000,000. The Building Profile Input Program (BPIP) was run with the downwash effect enabled.

All analyses were conducted using the latest five consecutive years of meteorological data (2014-2018). Surface data was obtained from LGA Airport, upper air data was obtained from Brookhaven station, New York. The meteorology data, processed by Lakes Environmental Software, was processed using AERMET version 18081, AERMINUTE version 15272, and AERSURFACE version 13016. No data filling was conducted as the raw data quality was more than sufficient for the modeling purposes (99.47 percent of raw data). These meteorological data provided 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 9.4 meters was specified per Lakes Environmental Software.

The pollutants of concern of oil #2 fueled boilers are $SO_2$, $PM_{2.5}$, and $NO_2$. The Projected Development Sites boilers' energy intensities were calculated from the annual fuel usage, the developments' gross floor area, and the developments' usage (residential use for Scenario A's RWCDS buildings and commercial use for Scenario B's buildings). Pertinent values were obtained from the *CEQR Technical Manual Appendices*, the assumption that all fuel would be consumed during the 100-day (or 2,400 hour) heating season, and emission factors from the EPA's AP-42 manual for external combustion sources.

The diameters of the stacks and the exhausts' exit velocities of boilers with energy intensities less than 1-million Btu were assumed to be 0.0 feet and 0.001 meter per second, respectively, based on values obtained from the *CEQR Technical Manual*. The diameters of the stacks and exhaust exit velocities of boilers with energy intensities greater or equal to 1-million Btu were estimated based on values obtained from the New York City Department of Environmental Protection (DEP) "CA Permit" database for the corresponding boiler sizes (i.e., rated heat input or million Btu per hour). All the stacks exit temperatures were assumed to be 300°F (423°K), which is appropriate for boilers. HVAC stacks were placed 3 feet above the rooflines, based on the New York City Building Code (Building Code)[6]. In addition, the stacks of source buildings were initially situated as close as possible to the receiving building, and a stack set back distance from the receiving building was applied if an impact was predicted.

Projected Development Site 5 RWCDS building, both Scenario A and B, was modeled as a building that covers its lot area excluding the lot area where the 5-story commercial building fronting Third Avenue is located. All other Development Site RWCDS buildings were modeled as buildings that cover all their lot areas. All buildings were modeled at their maximum allowable height. Buildings in the surrounding area (buildings on the blocks on both sides of Third Avenue between 10th and 14th Streets) were accounted for the downwash effect on plums dispersions (BPIP).

Receptors on the receiving building were placed all around the receiving building envelope, at 10 feet horizontal increments and on all floor levels. Ground floor receptors were placed at a height of 6 feet above grade. Second floor receptors were placed at a height of 21 feet, assuming a 15 feet high ground floor level. Receptors on the third to the top floors of the receiving building were place 6 feet above each floor level, assuming 10 feet high floor levels.

The $SO_2$, annual $NO_2$, and Scenario B $PM_{2.5}$ were evaluated with generic emissions of 1 gram per second and maximum predicted concentrations. The concentration from each source building was added to predict the cumulative concentrations. The 1-hour $NO_2$ concentrations of Scenario A impact on Projected Development Sites 1, 5, 6, and 7 were evaluated with a Tier 3 approach and NAAQS design value of 8th highest concentration. Other models were run with the calculated emission rates, where the cumulative concentrations evaluated within the models.

Scenario A

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https://www1.nyc.gov/assets/buildings/apps/pdf_viewer/viewer.html?file=2014CC_FGC_Chapter5_Chimneys_and_Vents.pdf&section=conscode_2014

Table 17-4 shows the Scenario A RWCDS HVAC systems calculated emission rates, both short-term and annual.

**Table 17-4: Scenario A RWCDS Buildings Estimated Short-term and Annual Emission Rates**

| Site ID | Development Floor Area (gsf) | Boiler's Energy Intensity (MMBtu) | Pollutant | Short-term Emission Rate (g/s) | Annual Emission Rate (g/s) |
|---|---|---|---|---|---|
| Projected Development Site 1 | 24,288 | 0.61 | $NO_2$ | 9.69E-03 | 2.65E-03 |
| | | | $PM_{2.5}$ | 1.03E-03 | 2.83E-04 |
| | | | $SO_2$ | 1.03E-04 | 2.83E-05 |
| Projected Development Site 2 | 15,180 | 0.38 | $NO_2$ | 6.06E-03 | 1.66E-03 |
| | | | $PM_{2.5}$ | 6.45E-04 | 1.77E-04 |
| | | | $SO_2$ | 6.45E-05 | 1.77E-05 |
| Projected Development Site 3 | 15,180 | 0.38 | $NO_2$ | 6.06E-03 | 1.66E-03 |
| | | | $PM_{2.5}$ | 6.45E-04 | 1.77E-04 |
| | | | $SO_2$ | 6.45E-05 | 1.77E-05 |
| Projected Development Site 4 | 21,191 | 0.53 | $NO_2$ | 8.46E-03 | 2.32E-03 |
| | | | $PM_{2.5}$ | 9.00E-04 | 2.47E-04 |
| | | | $SO_2$ | 9.00E-05 | 2.47E-05 |
| Projected Development Site 5 | 40,149 | 1.01 | $NO_2$ | 1.60E-02 | 4.39E-03 |
| | | | $PM_{2.5}$ | 1.71E-03 | 4.67E-04 |
| | | | $SO_2$ | 1.71E-04 | 4.67E-05 |
| Projected Development Site 6 | 10,120 | 0.25 | $NO_2$ | 4.04E-03 | 1.11E-03 |
| | | | $PM_{2.5}$ | 4.30E-04 | 1.18E-04 |
| | | | $SO_2$ | 4.30E-05 | 1.18E-05 |
| Projected Development Site 7 | 23,782 | 0.60 | $NO_2$ | 9.49E-03 | 2.60E-03 |
| | | | $PM_{2.5}$ | 1.01E-03 | 2.77E-04 |
| | | | $SO_2$ | 1.01E-04 | 2.77E-05 |

The impacts on Projected Development Site 1 and 6 required stack(s) setback distance(s). These stacks' setback distances were:

- The impact on Projected Development Site 1 was modeled with Projected Development Site 7 stack setback distance of 40 feet from the lot line facing 11th Street (Projected Development Site 6).
- The impact on Projected Development Site 6 was modeled with Projected Development Site 1 stack setback distance of 20 feet from the lot line facing 2nd Avenue (Projected Development Site 6) and Projected Development Site 7 stack setback distance of 60 feet from the lot line facing 11th Street (Projected Development Site 6).

These stacks setback distances were specified in the E-Designation language, where Projected Development Site 7 specified the greatest stack setback distance.

Scenario B

Table 17-5 shows the Scenario B RWCDS HVAC systems calculated emission rates, both short-term and annual.

**Table 17-5: Scenario B RWCDS Buildings Estimated Short-term and Annual Emission Rates**

| Site ID | Development Floor Area (gsf) | Boiler's Energy Intensity (MMBtu) | Pollutant | Short-term Emission Rate (g/s) | Annual Emission Rate (g/s) |
|---|---|---|---|---|---|
| Projected Development Site 1 | 24,288 | 0.61 | $NO_2$ | 5.36E-03 | 1.47E-03 |
| | | | $PM_{2.5}$ | 5.70E-04 | 1.56E-04 |
| | | | $SO_2$ | 5.70E-05 | 1.56E-05 |
| Projected Development Site 2 | 13,200 | 0.33 | $NO_2$ | 2.91E-03 | 7.97E-04 |
| | | | $PM_{2.5}$ | 3.10E-04 | 8.49E-05 |
| | | | $SO_2$ | 3.10E-05 | 8.49E-06 |
| Projected Development Site 3 | 13,200 | 0.33 | $NO_2$ | 2.91E-03 | 7.97E-04 |
| | | | $PM_{2.5}$ | 3.10E-04 | 8.49E-05 |
| | | | $SO_2$ | 3.10E-05 | 8.49E-06 |
| Projected Development Site 4 | 18,427 | 0.46 | $NO_2$ | 4.06E-03 | 1.11E-03 |
| | | | $PM_{2.5}$ | 4.33E-04 | 1.19E-04 |
| | | | $SO_2$ | 4.33E-05 | 1.19E-05 |
| Projected Development Site 5 | 50,149 | 1.26 | $NO_2$ | 1.11E-02 | 3.03E-03 |
| | | | $PM_{2.5}$ | 1.18E-03 | 3.23E-04 |
| | | | $SO_2$ | 1.18E-04 | 3.23E-05 |
| Projected Development Site 6 | 15,180 | 0.38 | $NO_2$ | 3.35E-03 | 9.17E-04 |
| | | | $PM_{2.5}$ | 3.56E-04 | 9.77E-05 |
| | | | $SO_2$ | 3.56E-05 | 9.77E-06 |
| Projected Development Site 7 | 23,782 | 0.60 | $NO_2$ | 5.24E-03 | 1.44E-03 |
| | | | $PM_{2.5}$ | 5.58E-04 | 1.53E-04 |
| | | | $SO_2$ | 5.58E-05 | 1.53E-05 |

Scenario A - Results of Dispersion Analyses

As previously mentioned, each pollutant averaging time was modeled twice, with building wake effect enabled/disabled. The predicted concentration is the highest concentration of these. The Tier 1 $NO_2$ modeled concentrations were added to the background concentrations. The Tier 3 $NO_2$ 1-hour concentration included the background concentration within the model. The $SO_2$ modeled concentrations were added to the background concentrations. The $PM_{2.5}$ 24-hour and annual averaging times modeled concentrations were compared with the NYC Guidelines threshold criterions, *de minimis*, for stationary sources. Result of the Scenario A HVAC dispersions analyses are shown in Table 17-6.

**Table 17-6: Scenario A - HVAC Dispersion Analysis Results**

| Pollutant and Averaging Time | Modeled Concentration ($\mu g/m^3$) | Background Concentration ($\mu g/m^3$) | Evaluated Concentration [(1)] ($\mu g/m^3$) | Threshold Concentration ($\mu g/m^3$) | Threshold Standard |
|---|---|---|---|---|---|
| **Impact on Projected Development Site 1** | | | | | |
| **1-hour $NO_2$** | 177.97 | | **178** | **188** | NAAQS |
| **Annual $NO_2$** | 1.52 | 29.8 | **31** | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 3.31 | N.A. | **3.31** | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.12 | N.A. | **0.12** | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 3.34 | 14.8 | **18** | **196** | NAAQS |

| | | | | | |
|---|---|---|---|---|---|
| **Annual $SO_2$** | 0.02 | 1.5 | **2** | **80** | NAAQS |
| **Impact on Projected Development Site 2** | | | | | |
| **1-hour $NO_2$** | 74.34 | 105.7 | **180** | **188** | NAAQS |
| **Annual $NO_2$** | 1.42 | 29.8 | **31** | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 1.54 | N.A. | **1.54** | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.10 | N.A. | **0.10** | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 2.98 | 14.8 | **18** | **196** | NAAQS |
| **Annual $SO_2$** | 0.02 | 1.5 | **2** | **80** | NAAQS |
| **Impact on Projected Development Site 3** | | | | | |
| **1-hour $NO_2$** | 50.38 | 105.7 | **156** | **188** | **185** |
| **Annual $NO_2$** | 1.03 | 29.8 | **31** | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 1.50 | N.A. | **1.50** | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.08 | N.A. | **0.08** | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 1.86 | 14.8 | **17** | **196** | NAAQS |
| **Annual $SO_2$** | 0.01 | 1.5 | **2** | **80** | NAAQS |
| **Impact on Projected Development Site 4** | | | | | |
| **1-hour $NO_2$** | 42.83 | 105.7 | **148** | **188** | NAAQS |
| **Annual $NO_2$** | 0.78 | 29.8 | **31** | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 1.37 | N.A. | **1.37** | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.06 | N.A. | **0.06** | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 1.24 | 14.8 | **16** | **196** | NAAQS |
| **Annual $SO_2$** | 0.01 | 1.5 | **2** | **80** | NAAQS |
| **Impact on Projected Development Site 5** | | | | | |
| **1-hour $NO_2$** | 156.46 | | **156** | **188** | NAAQS |
| **Annual $NO_2$** | 2.38 | 29.8 | **32** | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 3.39 | N.A. | **3.39** | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.15 | N.A. | **0.15** | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 4.64 | 14.8 | **19** | **196** | NAAQS |
| **Annual $SO_2$** | 0.03 | 1.5 | **2** | **80** | NAAQS |
| **Impact on Projected Development Site 6** | | | | | |
| **1-hour $NO_2$** | 186.01 | | **186** | **188** | NAAQS |
| **Annual $NO_2$** | 2.05 | 29.8 | **100** | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 3.20 | N.A. | **3.20** | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.14 | N.A. | **0.14** | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 4.43 | 14.8 | **19** | **196** | NAAQS |
| **Annual $SO_2$** | 0.02 | 1.5 | **2** | **80** | NAAQS |
| **Impact on Projected Development Site 7** | | | | | |
| **1-hour $NO_2$** | 165.19 | | **165** | **188** | NAAQS |
| **Annual $NO_2$** | 1.77 | 29.8 | **32** | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 3.59 | N.A. | **3.59** | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.15 | N.A. | **0.15** | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 4.45 | 14.8 | **19** | **196** | NAAQS |
| **Annual $SO_2$** | 0.02 | 1.5 | **2** | **80** | NAAQS |

1. Evaluated concentration rounded to applicable significant number. $PM_{2.5}$ annual rounding per guidance from the Department of City Planning (conservative approach).

As seen in Table 17-6, the $NO_2$ and $SO_2$ predicted concentrations do not exceed the NAAQS and the $PM_{2.5}$ concentrations do not exceed the NYC *de minimis*. Therefore, with (E) Designations in place, the emissions of the Development Sites HVAC systems would not pose significant adverse impacts to another Development Site.

As previously mentioned, the Projected Development Sites 1 and 7 required stack setback distances. These stacks setback distances were specified in the E-Designation language.

Scenario B - Results of Dispersion Analyses

As previously mentioned, each pollutant averaging time was modeled twice, with building wake effect enabled/disabled. The predicted concentration is the highest concentration of these. The $NO_2$ and $SO_2$ modeled concentrations were added to the background concentrations. The $PM_{2.5}$ 24-hour and annual averaging times modeled concentrations were compared with the NYC Guidelines threshold criterions, *de minimis*, for stationary sources. Result of the Scenario B HVAC dispersions analyses are shown in Table 17-7.

**Table 17-7: Scenario B - HVAC Dispersion Analysis Results**

| Pollutant and Averaging Time | Modeled Concentration ($\mu g/m^3$) | Background Concentration ($\mu g/m^3$) | Evaluated Concentration [(1)] ($\mu g/m^3$) | Threshold Concentration ($\mu g/m^3$) | Threshold Standard |
|---|---|---|---|---|---|
| **Impact on Projected Development Site 1** | | | | | |
| **1-hour $NO_2$** | 74.79 | 105.7 | 180 | **188** | NAAQS |
| **Annual $NO_2$** | 0.89 | 29.8 | 31 | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 3.73 | N.A. | 3.73 | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.09 | N.A. | 0.09 | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 2.75 | 14.8 | 18 | **196** | NAAQS |
| **Annual $SO_2$** | 0.01 | 1.5 | 30 | **80** | NAAQS |
| **Impact on Projected Development Site 2** | | | | | |
| **1-hour $NO_2$** | 46.05 | 105.7 | 152 | **188** | NAAQS |
| **Annual $NO_2$** | 1.16 | 29.8 | 31 | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 3.64 | N.A. | 3.64 | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.12 | N.A. | 0.12 | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 2.18 | 14.8 | 17 | **196** | NAAQS |
| **Annual $SO_2$** | 0.01 | 1.5 | 30 | **80** | NAAQS |
| **Impact on Projected Development Site 3** | | | | | |
| **1-hour $NO_2$** | 79.02 | 105.7 | 185 | **188** | **185** |
| **Annual $NO_2$** | 0.97 | 29.8 | 31 | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 3.28 | N.A. | 3.28 | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.10 | N.A. | 0.10 | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 2.47 | 14.8 | 17 | **196** | NAAQS |
| **Annual $SO_2$** | 0.01 | 1.5 | 30 | **80** | NAAQS |
| **Impact on Projected Development Site 4** | | | | | |
| **1-hour $NO_2$** | 77.90 | 105.7 | 184 | **188** | NAAQS |
| **Annual $NO_2$** | 0.81 | 29.8 | 31 | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 2.66 | N.A. | 2.66 | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.09 | N.A. | 0.09 | **0.3** | *de minimis* |

| | | | | | |
|---|---|---|---|---|---|
| **1-hour $SO_2$** | 2.11 | 14.8 | 17 | **196** | NAAQS |
| **Annual $SO_2$** | 0.01 | 1.5 | 30 | **80** | NAAQS |
| **Impact on Projected Development Site 5** | | | | | |
| **1-hour $NO_2$** | 79.14 | 105.7 | 185 | **188** | NAAQS |
| **Annual $NO_2$** | 1.39 | 29.8 | 31 | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 4.36 | N.A. | 4.36 | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.15 | N.A. | 0.15 | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 3.04 | 14.8 | 18 | **196** | NAAQS |
| **Annual $SO_2$** | 0.01 | 1.5 | 30 | **80** | NAAQS |
| **Impact on Projected Development Site 6** | | | | | |
| **1-hour $NO_2$** | 78.05 | 105.7 | 184 | **188** | NAAQS |
| **Annual $NO_2$** | 1.05 | 29.8 | 31 | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 3.77 | N.A. | 3.77 | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.11 | N.A. | 0.11 | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 2.37 | 14.8 | 17 | **196** | NAAQS |
| **Annual $SO_2$** | 0.01 | 1.5 | 30 | **80** | NAAQS |
| **Impact on Projected Development Site 7** | | | | | |
| **1-hour $NO_2$** | 74.28 | 105.7 | 180 | **188** | NAAQS |
| **Annual $NO_2$** | 1.48 | 29.8 | 31 | **100** | NAAQS |
| **24-hour $PM_{2.5}$** | 5.10 | N.A. | 5.10 | **7.90** | *de minimis* |
| **Annual $PM_{2.5}$** | 0.16 | N.A. | 0.16 | **0.3** | *de minimis* |
| **1-hour $SO_2$** | 3.77 | 14.8 | 19 | **196** | NAAQS |
| **Annual $SO_2$** | 0.02 | 1.5 | 30 | **80** | NAAQS |

1. Evaluated concentration rounded to applicable significant number. $PM_{2.5}$ annual rounding per guidance from the Department of City Planning (conservative approach).

As seen in Table 17-7, the $NO_2$ and $SO_2$ predicted concentrations do not exceed the NAAQS and the $PM_{2.5}$ concentrations do not exceed the NYC *de minimis*. Therefore, with (E) Designations in place, the emissions of the Development Sites HVAC systems would not pose significant adverse impacts to another Development Site.

**(E) Designation**

**Block 1020, Lot 36 (Projected Development Site 1, Applicant-owned):** ***Any new residential/commercial development or enlargement on the above-referenced property must ensure that the HVAC stack is located at the highest tier or at least 98 feet above grade, and is at least 20 feet from the western lot line facing 2nd Avenue to avoid any potential significant adverse air quality impacts.***

**Block 1020, Lots 43, 44 (Projected Development Site 2):** ***Any new residential/commercial development or enlargement on the above-referenced property must ensure that the HVAC stack is located at the highest tier or at least 98 feet above grade to avoid any potential significant adverse air quality impacts.***

**Block 1026, Lots 35, 36 (Projected Development Site 3):** ***Any new residential/commercial development or enlargement on the above-referenced property must ensure that the HVAC stack is located at the highest tier or at least 98 feet above grade to avoid any potential significant adverse air quality impacts.***

**Block 1026, Lots 40, 42 (Projected Development Site 4):** ***Any new residential/commercial development or enlargement on the above-referenced property must ensure that the HVAC stack is located at the highest tier or at least 98 feet above grade to avoid any potential significant adverse air quality impacts.***

**Block 1026, Lot 32 (Projected Development Site 5, Applicant-owned):** ***Any new residential/commercial development or enlargement on the above-referenced property must ensure that the HVAC stack is located at the highest tier or at least 98 feet above grade to avoid any potential significant adverse air quality impacts.***

**Block 1020, Lot 34 (Projected Development Site 6):** ***Any new residential/commercial development or enlargement on the above-referenced property must ensure that the HVAC stack is located at the highest tier or at least 98 feet above grade to avoid any potential significant adverse air quality impacts.***

**Block 1020, Lot 45 (Projected Development Site 7):** ***Any new residential/commercial development or enlargement on the above-referenced property must ensure that the HVAC stack is located at the highest tier or at least 98 feet above grade, and is at least 60 feet from the northern lot line facing 11th Street to avoid any potential significant adverse air quality impacts.***

## INDUSTRIAL SOURCE

### *Introduction*

Per the *CEQR Technical Manual*, projects that would result in new uses (particularly schools, hospitals, parks, and residences) within 400 feet of manufacturing processing facilities, may result in potentially significant adverse impacts related to stationary sources. The analysis first determines if there are any existing manufacturing uses (in the 400 feet study area) with exhaust stacks, vents, or other emission sources that may have the potential to adversely affect the uses introduced by the project. An air dispersion analysis is then conducted for existing industrial source located in the study area; else no analysis is required.

Existing manufacturing uses with exhaust stacks, vents, or other emission sources that may have the potential to adversely affect the uses introduced by the project were identified by reviewing the New York City Department of Environmental Protection (DEP) online Clean Air Tracking System (CATS) database, the NYS Department of Environmental Conservation database (map application DECinfo Locator), and through field observation / site investigation. The field observation took place on August 15, 2019. The potential toxics air emission sources identified in the study were: Two auto body repair facilities, one woodworking facility, one metal processing facility, and four ironwork facilities. The results of the study are summarized below:

A few autos related (auto body or auto mechanic) facilities operate in the study area:

- The Prima Automotive, located at 490 Third Avenue (Block 1014, Lot 51), which has an expired DEP processing permit PB015006 registered to the Tillary Collision and Repair, was identified as an auto mechanic facility. This was observed in the fieldwork observation and confirmed with an employee during the fieldwork. Therefore, no toxics air emission was expected from the facility.

- The John Auto Collision, located at 136 14th Street (Block 1040, Lot 13), has an expired DEP permit PB045005. The permit situates the spray booth stack at the back of the building and at least 420 feet from the Affected Area. Therefore, no analysis for this facility was required.

- The auto facility located at 542 Third Avenue (Block 1032, Lot 37) was identified as an auto mechanic facility. This was observed in the fieldwork observation and confirmed with the manager during the fieldwork. Therefore, no toxics air emission was expected from the facility.

- The Prestige Autobody and Restoration facility, located at 538 Third Avenue (A.K.A 150 13th Street) (Block 1032, Lot 33), was identified as an active auto body repair facility. The Department of Building database shows that the facility installed a spray booth in 2013.

- The DEP permit PB469303, which is registered to the auto body facility Masters Auto Body, expired in 2015. A new 6-story mixed-use building is currently under construction at the location (Block 1021, Lot 1).

- The facility located at 509 Third Avenue (Block 1021, Lot 3), Dionicio Minaya, was observed as an auto mechanic facility and no odor was detected. However, a company personal indicated that auto body repair is done in the facility (some facilities conduct auto body repair but send vehicles to be painted elsewhere). The facility could not be located in the NYS Vehicle Safe Facility database[7]. As a conservative approach, the facility was included in the air dispersion analysis.

- No other auto facility was identified as an auto body repair facility.

A few ironwork facilities operate in the study area:

- The Iron Work facility, located at 194 10th Street (Block 1014, Lot 42); Iron Works facility, located at 132 12th Street (Block 1026, Lot 28); DVS Iron Works facility, located at 117 14th Street (Block 1032, Lot 42). No telltale signs of spray-painting activity were observed at the facilities which was also confirmed verbally.

- The Custom Fixture facility, located at 129 13th Street (Block 1026, Lot 48) was identified as an ironwork facility. A few machines were observed through the open gate. No telltale signs of spray-painting activity were observed at the facilities which was also confirmed verbally. The DOB database shows that the facility has no mechanical unit, such as a stack, installed.

In addition, the Cameo Metal Products and Gala Architectural Woodworking facilities have active DEP processing permits:

- DEP permit PB019207 for the operation of a spray booth is registered to the Gala Architectural Woodworking facility. The spray booth is located at 112 12th Street (Block 1026, Lot 18).

- DEP permit PW003919 for the operation of woodworking equipment and dust collectors is registered to the Gala Architectural Woodworking facility. The equipment is located at 112 12th Street (Block 1026, Lot 18).

[7] http://opendatany.com/vehicle-facility.php?q=509+3rd+Avenue%2C+Brooklyn

- DEP permit PW004919 for the operation of woodworking equipment and dust collectors is registered to the Gala Architectural Woodworking facility. The equipment is located at 103 13th Street (Block 1026, Lot 52).

- The Cameo Metal Products, located at 137 12th Street (Block 1020, Lot 52) has two active DEP permits. Permit PA042782 is for the operation of a spray booth; permit PA045782 is for the processing of metal.

No other likely manufacturing processing emission source was identified in the study area.

***Emission Sources***

Iron Work Facilities

Emission for each of the four ironworks facilities (was obtained from the DEP permit of the Kendi Iron Works facility. Kendi Iron Works, located at 236 Johnson Avenue (Block 3073, Lot 5) is an iron work facility. The facility has an expired as of April 2012 DEP operational permit PB039705. The DEP permit PB039705 is for the fabrication and welding of metal. Emissions are produced at 4 stations of welding and metal fabrication. The facility activity rate is 8 hours per day, 250 day per year. The contaminant associated with the operation is total particulate, with a New York State identification number NY149-00-0, which is particulate matter. According to the EPA AP-42 manual, most of the particulate matter produced by welding is submicron in size and, as such, is considered to be all $PM_{10}$ (i.e., particles # 10 micrometers in aerodynamic diameter). The emission rates are:

- 0.002 pounds per hour (lbs/hr), 4 pounds per year (lbs/yr).

The ironwork facilities, Iron Work facility located at 198 10th Street (Block 1014, Lot 43), Iron Works facility located at 132 12th Street (Block 1026, Lot 28), the DVS Iron Works facility located at 117 14th Street (Block 1032, Lot 42), and the Custom Fixture facility located at 129 13th Street (Block 1026, Lot 48), were simulated as area sources, simulating multiple equipment emitted indoor.

Cameo Metal Products

Cameo Metal Products Emission Point associated with the DEP permit PA045782 is for the polishing of metal. Aluminum dust, CAS No. 7429-90-5, is emitted from the polishing processing activity. The activity rate is 4 hour per day, 200 day per year, where the maximum operation by season is 30 percent. Emission are controlled by a cyclone collector with 90 percent control efficiency. The Aluminum dust was also analyzed as $PM_{10}$ and $PM_{2.5}$ combined. The particle size distribution was obtained from the EPA AP-42 manual. The DEP permit situates the stack close to the north-west corner of the building and 220 feet from the Affected Area. The Aluminum dust emission rates are:

- 0.512 lbs/hr (0.614 lbs/hr adjusted to 30 percent seasonal variation), 409.6 lbs/yr.

- The average 24-hour emission rate was calculated as 0.102 lb/hr (4 hr/day activity rate).

Cameo Metal Products Emission Point associated with the DEP permit PA042782 is for spray paint processing activity. Toluene, CAS No. 108-88-3, is emitted from the spray-painting processing activity. The activity rate is 8 hour per day, 200 day per year, where the maximum

operation by season is 40 percent. Emission are controlled with a 50 percent control efficiency. The DEP permit situates the stack in the center of the building and at its north edge, 162 feet from the Affected Area. The Toluene emission rates are:

- 0.15 lbs/hr (0.24 lbs/hr adjusted to 40 percent seasonal variation), 240 lbs/yr.

Auto Body Facilities

Both the Dionicio Minaya and Prestige Autobody and Restoration facilities operate with no DEP permits. The contaminants associated with auto body spray booths are solids (particulates) and solvents. Solvents are the VOC (volatile organic compounds) which evaporate during the spraying activity and while the coating substance dries. The solids that bind to the sprayed item dries to a hard surface. The coatings contain 30 to 85 percent solvents by weight and this amount is regulated by the EPA and NYSDEC. Per the DEP guidance and as outlined in the EPA AP-42, the analysis assumes that all VOCs are emitted. Each VOC contaminant is analyzed with the SGC/AGC guideline concentration. Particulates are fluid or solids particles grouped together. Particulates concentrations are collectively evaluated with the NAAQS and *de minimis* threshold concentrations.

A review of numerous DEP permits for auto body facilities shows that most operate 4-6 hours per day (hr/day), 200-250 days per year (day/yr), and spray a maximum of 1.0 gallon per hour (gal/hr) and 750 gallon per year. Per guidance from the NYC Department of City Planning (DCP) for similar projects, the maximum solids emission from these facilities are 0.065 lb/hr, 97.6 lb/yr; the maximum volatile organic compounds (VOC) emission are 3.1 lb/hr, 4,650 lb/yr.

Emissions of solids were analyzed as $PM_{10}$ and $PM_{2.5}$, based on DEP guidance. The particle size distribution was obtained from the EPA AP-42, *Appendix B1, Page B.1-12, Particle Size Distribution Data and Sized Emission Factors for Selected Sources, Table 4.2.2.8 Automobile and Light-Duty Track Surface Coating Operations, Automobile Spray Booths*. Table 17-8 shows the $PM_{10}$ and $PM_{2.5}$ emission rates.

**Table 17-8: $PM_{10}$/$PM_{2.5}$ Emission Rates from each of the Spray Booth/Area of the Dionicio Minaya and Prestige Autobody and Restoration facilities**

| Contaminant | Emission Rate | | Activity Rate | Fraction of Particle Size | Emission Rate | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Daily Average | | Annual | |
| | lb/hr | lb/yr | hr/day | Percent | lb/hr | g/s | lb/yr | g/s |
| $PM_{2.5}$ | 0.065 | 97.6 | 6 | 28.6 | 4.65E-03 | 5.86E-04 | 27.9 | 4.01E-04 |
| $PM_{10}$ | | | | 46.7 | 7.59E-03 | 9.56E-04 | 45.6 | 6.56E-04 |

The 6 hours (the maximum hour per day) activity rate coupled with the hourly emission rate were used to calculate the particulates hourly average emission rate for the short-term analysis. This translated to $PM_{10}$/$PM_{2.5}$ combined average hourly emission rate of 0.016 lb/hr.

The mixture of different compounds, identified collectively as VOC, have no guideline values in the NYSDEC DAR-1 database. The mixture comprises of compounds of varying toxicities. As the composition of the coating substance was not known, a representative composition by percent weight was obtained from the generic report provided by the DCP. The report analyzed the emissions of auto body facilities operating without a DEP permit and the VOC chemicals that

makeup the representative paint, and each chemical quantity in percentage weight. The VOC chemicals by percentage weight and the facility 1-hour and annual total VOC emissions were used to calculate each chemical emission rates. The ingredients that make up the representative paint, along with their Chemical Abstract Service (CAS) number, by percent weight and the hourly and annual emission rates are presented in Table 17-9.

**Table 17-9: VOC Short-term and Annual Emission Rates from Each of the Spray Booth/Area Activities of the Dionicio Minaya and Prestige Autobody and Restoration facilities (Generic Report Provided by the DCP)**

| Contaminant name | CAS No. | Percent Weight | 1-Hour | | Annual | |
|---|---|---|---|---|---|---|
| | | | lb/hr | g/s | lb/yr | g/s |
| Acetone | 67-64-1 | 43% | 1.33E+00 | 1.68E-01 | 1999.5 | 2.88E-02 |
| Aromatic Petroleum Distillate | 64742-94-5 | 10% | 3.10E-01 | 3.91E-02 | 465.0 | 6.69E-03 |
| Butane | 106-97-8 | 11% | 3.41E-01 | 4.30E-02 | 511.5 | 7.36E-03 |
| Ethanol | 64-17-5 | 2% | 6.20E-02 | 7.81E-03 | 93.0 | 1.34E-03 |
| Ethyl 3-Ethoxypropionate | 763-69-9 | 9% | 2.79E-01 | 3.52E-02 | 418.5 | 6.02E-03 |
| Ethylbenzene | 100-41-4 | 5% | 1.55E-01 | 1.95E-02 | 232.5 | 3.34E-03 |
| Methyl Ethyl Ketone | 78-93-3 | 8% | 2.48E-01 | 3.12E-02 | 372.0 | 5.35E-03 |
| N-Butyl Acetate | 123-86-4 | 5% | 1.55E-01 | 1.95E-02 | 232.5 | 3.34E-03 |
| Propane | 74-98-6 | 11% | 3.41E-01 | 4.30E-02 | 511.5 | 7.36E-03 |
| Stoddard Solvent | 8052-41-3 | 10% | 3.10E-01 | 3.91E-02 | 465.0 | 6.69E-03 |
| Toluene | 108-88-3 | 10% | 3.10E-01 | 3.91E-02 | 465.0 | 6.69E-03 |
| Xylene | 1330-20-7 | 10% | 3.10E-01 | 3.91E-02 | 465.0 | 6.69E-03 |

Gala Architectural Woodworking

Three DEP permits are registered to the Gala Architectural Woodworking facility. Permit PB019207 is for the spray-painting of woodworking items. Permits PW003919 and PW004919 are for woodworking equipment and dust collectors. All these emission sources emit to the outside air.

Per the DEP permit PB019207, the spray-painting activity rate is 4 hr/day, 250 day/yr. The spray booth stack is located 280 feet from the Affected Area. Particulate emissions are controlled by an 80 percent fiberglass filter. The operation consumes 1.0 gallon per hour. The contaminants listed in the certificate are solids (NY identification number NY075-00-0), four specific contaminants identified as volatile organic (VOC) compounds, and miscellaneous VOC. Three other contaminants specified in the Material Safety Data Sheet (MSDS) included in the permit. The solids are the particulates, which are $PM_{10}$ and $PM_{2.5}$ combined. The particulates emission rates are:

- 0.06 lbs/hr, 60 lbs/yr. The 24-hour hourly averaged emission rate is 0.01 lbs/hr.

The specific contaminants listed in the certificate and those specified in the MSDS are shown in Table 17-10. The coating compound properties and the percent weight of the chemicals listed in the MSDS was used to calculate these chemicals emission rates.

**Table 17-10: Gala Architectural Woodworking VOC Short-term and Annual Emission Rates**

| Contaminant name | CAS No. | 1-Hour | | Annual | |
|---|---|---|---|---|---|
| | | lb/hr | g/s | lb/yr | g/s |
| Ethyle Alcohol (Ethanol) | 64-17-5 | 1.14 | 1.44E-01 | 1140 | 1.64E-02 |
| N-Butyl Acetate | 123-86-4 | 0.76 | 9.58E-02 | 760 | 1.09E-02 |
| Toluene | 108-88-3 | 0.76 | 9.58E-02 | 760 | 1.09E-02 |
| Xylene | 1330-20-7 | 0.38 | 4.79E-02 | 380 | 5.47E-03 |
| Cellulose Nitrate (5% weight) | 9004-70-0 | 0.381 | 4.80E-02 | 381 | 5.48E-03 |
| N-Butanol (1% weight) | 71-36-3 | 0.0762 | 9.61E-03 | 76.2 | 1.10E-03 |
| Isopropanol (1% weight) | 67-63-0 | 0.0762 | 9.61E-03 | 76.2 | 1.10E-03 |

In addition, the DEP permit listed miscellaneous VOC emission rates of:

- 2.54 lbs/hr, 254 lbs/yr.

As the chemicals that make up the miscellaneous VOC were not know, the chemical compositions were obtained from the DEP permit PB026315 of Two Seven, a large woodworking facility located at 221 McKibbin Street in Brooklyn (Block 3082, Lot 73). Table 17-11 shows the chemicals emission rates that make up the miscellaneous VOC total emission rates.

**Table 17-11: Gala Architectural Woodworking the Chemicals Emission Rates that make up the miscellaneous VOC total emission rates**

| Contaminant name | CAS No. | Percent Weight | 1-Hour | | Annual | |
|---|---|---|---|---|---|---|
| | | | lb/hr | g/s | lb/yr | g/s |
| Butyl Acetate, Iso | 110-19-0 | 17.8% | 0.4517 | 5.70E-02 | 45.2 | 6.50E-04 |
| Diacetone Alcohol | 123-42-2 | 11.1% | 0.2831 | 3.57E-02 | 28.3 | 4.07E-04 |
| Ethyl Acetate | 141-78-6 | 3.3% | 0.0829 | 1.05E-02 | 8.3 | 1.19E-04 |
| Ethylbenzene | 100-41-4 | 9.4% | 0.2393 | 3.02E-02 | 23.9 | 3.44E-04 |
| Methyl Alcohol | 67-56-1 | 0.4% | 0.0114 | 1.44E-03 | 1.1 | 1.64E-05 |
| Methyl Ethyl Ketone | 78-93-3 | 46.8% | 1.1896 | 1.50E-01 | 119.0 | 1.71E-03 |
| Naphtha Medium Aliphatic | 64742-88-7 | 3.6% | 0.0920 | 1.16E-02 | 9.2 | 1.32E-04 |
| Propylene Glycol Ether Acetate | 108-65-6 | 7.3% | 0.1850 | 2.33E-02 | 18.5 | 2.66E-04 |
| Toluene Diisocyanate | 584-84-9 | 0.2% | 0.0050 | 6.36E-04 | 0.5 | 7.26E-06 |

The permits PW003919 and PW004919 are for woodworking equipment connected to dust collectors. The permit PW003919 is associated with the building located at 114 12th Street (Block 1026, Lot 18). The permit PW004919 is associated with the building located at 103 13th Street (Block 1026, Lot 52). Nine woodworking machinery are associated with permit PW003919, and four machineries are associated with permit PW004919. Each peace of machinery is connected to dust collectors. The emissions associated with each permit application are emitted through a common stack (stack for each permit). The overall emission per machinery is 5 pounds per hour, during 1 hour per day, 220 day per year activity rates. Emissions are controlled with filter(s) with 50 percent control efficiencies.

***AERMOD Detailed Analysis***

The EPA's AERMOD modeling system version 18081 was used to predict pollutants' concentrations from all the facilities. This analysis was conducted assuming stack tip downwash and elimination of calms. Models specified flat terrain, urban dispersion surface roughness, and population of 2,000,000. The Building Profile Input Program (BPIP) was run with the downwash effect enabled. The meteorology data used for the analysis was the same data used in thee HVAC detailed analysis.

Receptors on the receiving building were placed all around the receiving building envelope, at 10 feet horizontal increments and on all floor levels. Ground floor receptors were placed at a height of 6 feet above grade.

The stack of the Prestige Auto Body & Repair (Block 1032, Lot 33) was located where it was observed in the fieldwork observation, approximately 70 feet south of the lot line facing 13th Street. The *CEQR Technical Manual* default values of stack height above roof, stack's diameter, exit velocity, and exit temperature were applied as the actual parameters were not known (default values of 3 feet above the roof, 0-meter diameter, 0.001 meter per second exit velocity, and 293 Kelvin exit temperature, respectively).

The stack of the Dionicio Minaya (Block 1021, Lot 3) auto body facility was located approximately 20 feet west of the lot line facing Third Avenue as the front part of the facility had two vehicles lifts there. The *CEQR Technical Manual* default values were applied for the other parameters.

The ironwork facilities Custom Fixtures, Iron Work, Iron Works, and DVS Iron Works processing activities were modeled as area source 6 feet above grade. The emission source of the Custom Fixture was located in the half of the building close to the Affected Area.

The locations of the Gala Architectural Woodworking stacks were obtained from the DEP permit applications (PB019207, PW003919, and PW004919). The spray booth stack parameters were obtained from its DEP certificate PB019207. The woodworking equipment, which are connected to dust collectors, stacks were placed in areas nearest to the Affected Area. The *CEQR Technical Manual* default stack parameters were specified in the model.

Particulate matter $PM_{10}$ and $PM_{2.5}$ were modeled with the actual emission rates. The cumulative output concentrations were calculated within the AERMOD model. The 1-hour Ethyl 3-Ethoxypropionate CAS No. 763-69-9, which are emitted by the auto body facilities, was modeled with the actual emission rates, emission during work hours (8:00-17:00), and AERMOD cumulative output concentration.

Other noncriteria pollutants (other than 1-hour Ethyl 3-Ethoxypropionate CAS No. 763-69-9) were predicted with generic 1.0 gram per second emission rates from each source. The cumulative concentration of each pollutant averaging time was calculated by adding the concentration from each source.

***Dispersion Analysis Results***

The criteria pollutants $PM_{10}$ and $PM_{2.5}$ cumulative concentrations are presented in Table 17-12. The results are the maximum concentrations between the downwash effect options.

**Table 17-12: $PM_{10}$ and $PM_{2.5}$ Dispersion Analyses Results**

| Pollutant | Predicted Conc. (µg/m³) | Background Conc. (µg/m³) | Total Conc. (µg/m³) | Threshold Criteria (µg/m³) | Threshold Standard |
|---|---|---|---|---|---|
| $PM_{10}$ 24-hour | 6.3 | 40 | **46** | **150** | NAAQS |
| $PM_{2.5}$ 24-hour | 2.33 | N.A. | **2.33** | **7.90** | *de minimis* |
| $PM_{2.5}$ Annual | 0.24 | N.A. | **0.24** | **0.3** | *de minimis* |

As seen in Table 17-12, the $PM_{2.5}$ predicted concentrations do not exceed the *de minimis* threshold concentrations, and the $PM_{10}$ predicted concentration does not exceed the NAAQS.

The dispersion analysis results from each facility of the noncriteria pollutants concentrations are presented in Table 17-13.

**Table 17-13: Noncriteria Pollutants Dispersion Analyses Results**

| Contaminant Name | CAS No. | 1-Hour | SGC | Annual | AGC |
|---|---|---|---|---|---|
| | | µg/m³ | µg/m³ | µg/m³ | µg/m³ |
| **Gala Architectural Woodworking** | | | | | |
| Ethyle Alcohol (Ethanol) | 64-17-5 | 145.9 | --- | 0.87 | 45000.0 |
| N-Butyl Acetate | 123-86-4 | 97.3 | 95000.0 | 0.58 | 17000.0 |
| Toluene | 108-88-3 | 97.3 | 37000.0 | 0.58 | 5000.0 |
| Xylene | 1330-20-7 | 48.6 | 22000.0 | 0.29 | 100.0 |
| Cellulose Nitrate | 9004-70-0 | 48.8 | No CAS | 0.29 | No CAS |
| N-Butanol | 71-36-3 | 9.8 | --- | 0.058 | 1500.0 |
| Isopropanol | 67-63-0 | 9.8 | 98000.0 | 0.06 | 7000.0 |
| Butyl Acetate, Iso | 110-19-0 | 57.8 | --- | 0.03 | 565.0 |
| Diacetone Alcohol | 123-42-2 | 36.2 | --- | 0.02 | 570.0 |
| Ethyl Acetate | 141-78-6 | 10.6 | --- | 0.01 | 3400.0 |
| Ethylbenzene | 100-41-4 | 30.6 | --- | 0.018 | 1000.0 |
| Methyl Alcohol | 67-56-1 | 1.5 | 33000.0 | 0.001 | 4000.0 |
| Methyl Ethyl Ketone | 78-93-3 | 152.3 | 13000.0 | 0.1 | 5000.0 |
| Naphtha Medium | 64742-88-7 | 11.8 | --- | 0.01 | 3200.0 |
| Propylene Glcol Ether | 108-65-6 | 23.7 | 55000.0 | 0.01 | 2000.0 |
| Toulene Diisocyanate | 584-84-9 | 0.6 | 14.0 | 0.000 | 0.1 |
| **Prestige Auto Body & Repair** | | | | | |
| Acetone | 67-64-1 | 790.8 | 180000.0 | 5.8 | 30000.0 |
| Aromatic Petroleum | 64742-94-5 | 183.9 | --- | 1.4 | 100.0 |
| Butane | 106-97-8 | 202.3 | 238000.0 | 1.5 | --- |
| Ethanol | 64-17-5 | 36.8 | --- | 0.3 | 45000.0 |
| Ethyl 3- | 763-69-9 | 93.0 | 140.0 | 1.2 | 64.0 |
| Ethylbenzene | 100-41-4 | 92.0 | --- | 0.7 | 1000.0 |
| Methyl Ethyl Ketone | 78-93-3 | 147.1 | 13000.0 | 1.1 | 5000.0 |
| N-Butyl Acetate | 123-86-4 | 92.0 | 95000.0 | 0.7 | 17000.0 |
| Propane | 74-98-6 | 202.3 | --- | 1.5 | 43000.0 |
| Stoddard Solvent | 8052-41-3 | 183.9 | --- | 1.4 | 900.0 |

| | | | | | |
|---|---|---|---|---|---|
| Toluene | 108-88-3 | 183.9 | 37000.0 | 1.4 | 5000.0 |
| Xylene | 1330-20-7 | 183.9 | 22000.0 | 1.4 | 100.0 |
| **Dionicio Minaya** | | | | | |
| Acetone | 67-64-1 | 724.6 | 180000 | 4.4 | 30000.0 |
| Aromatic Petroleum | 64742-94-5 | 168.5 | --- | 1.0 | 100.0 |
| Butane | 106-97-8 | 185.4 | 238000.0 | 1.1 | --- |
| Ethanol | 64-17-5 | 33.7 | --- | 0.2 | 45000.0 |
| Ethyl 3- | 763-69-9 | 107.2 | 140.0 | 0.9 | 64.0 |
| Ethylbenzene | 100-41-4 | 84.3 | --- | 0.5 | 1000.0 |
| Methyl Ethyl Ketone | 78-93-3 | 134.8 | 13000.0 | 0.8 | 5000.0 |
| N-Butyl Acetate | 123-86-4 | 84.3 | 95000.0 | 0.5 | 17000.0 |
| Propane | 74-98-6 | 185.4 | --- | 1.1 | 43000.0 |
| Stoddard Solvent | 8052-41-3 | 168.5 | --- | 1.0 | 900.0 |
| Toluene | 108-88-3 | 168.5 | 37000.0 | 1.0 | 5000.0 |
| Xylene | 1330-20-7 | 168.5 | 22000.0 | 1.0 | 100.0 |
| **Cameo Metal Products PA045782** | | | | | |
| Aluminum Dust | 07429-90-5 | 155.5 | -- | 0.5 | 2.4 |
| **Cameo Metal Products PA042782** | | | | | |
| Toluene | 108-88-3 | 123.8 | 37000.0 | 0.7 | 5000.0 |

As seen in Table 17-14, the independent impact concentrations from each facility are less than the SGC/AGC threshold concentrations. However, some chemicals are emitted from multiple facilities. Table 17-14 shows the cumulative dispersion analysis results of the noncriteria pollutants.

**Table 17-14: Noncriteria Pollutants Cumulative Dispersion Analyses Results**

| Contaminant Name | CAS No. | 1-Hour | SGC | Annual | AGC |
|---|---|---|---|---|---|
| | | µg/m³ | µg/m³ | µg/m³ | µg/m³ |
| Ethanol | 64-17-5 | 216.4 | --- | 1.3 | 45000.0 |
| Methyl Alcohol | 67-56-1 | 1.5 | 33000.0 | 0.001 | 4000.0 |
| Isopropanol | 67-63-0 | 9.8 | 98000.0 | 0.1 | 7000.0 |
| Acetone | 67-64-1 | 1515.4 | 180000.0 | 10.2 | 30000.0 |
| N-Butanol | 71-36-3 | 9.8 | --- | 0.1 | 1500.0 |
| Propane | 74-98-6 | 387.7 | --- | 2.6 | 43000.0 |
| Methyl Ethyl Ketone | 78-93-3 | 434.2 | 13000.0 | 2.0 | 5000.0 |
| Ethylbenzene | 100-41-4 | 206.8 | --- | 1.2 | 1000.0 |
| Butane | 106-97-8 | 387.7 | 238000.0 | 2.6 | --- |
| Propylene Glcol Ether | 108-65-6 | 23.7 | 55000.0 | 0.01 | 2000.0 |
| Toluene | 108-88-3 | 573.6 | 37000.0 | 3.6 | 5000.0 |
| Butyl Acetate, Iso | 110-19-0 | 57.8 | --- | 0.03 | 565.0 |
| Diacetone Alcohol | 123-42-2 | 36.2 | --- | 0.02 | 570.0 |
| N-Butyl Acetate | 123-86-4 | 273.5 | 95000.0 | 1.8 | 17000.0 |
| Ethyl Acetate | 141-78-6 | 10.6 | --- | 0.01 | 3400.0 |
| Toulene Diisocyanate | 584-84-9 | 0.6 | 14.0 | 0.0004 | 0.1 |

| | | | | | |
|---|---|---|---|---|---|
| Ethyl 3-Ethoxypropionate | 763-69-9 | 107.3 | 140.0 | 2.1 | 64.0 |
| Xylene | 1330-20-7 | 401.1 | 22000.0 | 2.7 | 100.0 |
| Stoddard Solvent | 8052-41-3 | 352.4 | --- | 2.4 | 900.0 |
| Cellulose Nitrate | 9004-70-0 | 48.8 | No CAS | 0.3 | No CAS |
| Naphtha Medium | 64742-88-7 | 11.8 | --- | 0.01 | 3200.0 |
| Aromatic Petroleum | 64742-94-5 | 352.4 | --- | 2.4 | 100.0 |
| Aluminum Dust | 07429-90-5 | 155.5 | -- | 0.5 | 2.4 |

As seen in Table 17-14, the predicted 1-hour and annual concentrations do not exceed the SGA/AGC guideline criterions. Therefore, no significant adverse air quality impacts are predicted from industrial sources.

**Major/Large Source**

Introduction

Per the *CEQR Technical Manual*, projects that would introduce new uses near major sources, large sources, and odor producing facilities may result in potentially significant adverse air quality impacts. The study area considers major sources, large sources, and odor producing facilities within 1,000 feet of the proposed project. Major emission sources are identified as those sources located at Title V facilities that require Prevention of Significant Deterioration permits; large emission sources are identified as sources located at facilities which require a State facility permit. Other sources, such as solid waste or medical waste incinerators, cogeneration facilities, asphalt and concrete plants, are also considered major sources. Odor producing facilities are operations that have the potential to cause discomfort, such as: solid waste management facilities, water pollution control plants (i.e., sewage treatment plants), and incinerators.

The NYSDEC online database[8] was reviewed on May 2019 to identify Title V or Air State facilities in the study area (both issued and draft permits). No existing large combustion sources, such as power plants, cogeneration facilities, etc., located within 1,000 feet of the Affected Area were identified. The nearest large source facility is the NYC Department of Sanitation, Hamilton Avenue Marine Transfer Station solid waste transfer station, located south of the Gowanus Expressway and 1,040 feet from the Affected Area. The Hamilton Asphalt Plant is located just west of the NYC-DOS, Hamilton Avenue MTS and at least 1,100 feet from Affected Area. As such, no analysis was warranted.

## CONCLUSION

No significant adverse mobile or stationary source air quality impacts were predicted in the analysis. The increases in traffic volumes associated with the Proposed Actions would not result in any significant adverse air quality impacts. The Proposed Actions would not create a new stationary air quality source that would adversely affect the surrounding area. Under the Proposed Actions, an (E) Designation (E-617) is proposed to avoid adverse air quality impacts on existing land uses with respect to heating systems sources.

[8] http://www.dec.ny.gov/chemical/32249.html

Based on this assessment, including implementation of institutional or engineering control(s), there is no reason to believe that the conditions associated with the Proposed Actions would result in any significant adverse air quality impacts.

# 19. NOISE

## INTRODUCTION

Equity Environmental Engineering, LLC (Equity) conducted noise monitoring on Tuesday, June 18, and Tuesday June 25, 2019. in support of a Zoning Map Amendment that would establish an C4-4A district within an area currently zoned M2-1. The affected area is the Third Avenue frontage of Blocks 1020 and 1026, located on the west side of Third Avenue between 11th and 13th Streets in the Gowanus section of Brooklyn Community District 6. The affected area consists of Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45; and Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, 42.

Third Avenue is a two-way street with two moving north-bound lanes, one moving south-bound lane, and a bike with as well as curbside parking. 11th Street is a one-way street with one moving lane and curbside parking. 12th Street is a one-way street with one moving lane and curbside parking. Local intersections are controlled by traffic signals and stop signs. The elevated tracks of the IND F train are located approximately 330' north of the Affected Area.

The Proposed Action would allow noise-sensitive residential and community facility development in an area where such use is not permitted under existing zoning, as well as allowing commercial development at an increased density. Although the applicant's intended development is a five-story commercial building on Block 1020, Lot 6, the Proposed Action would allow for development of noise-sensitive land uses on this site and other sites within the affected area. Therefore, an assessment of the potential for adverse effects on project occupants from ambient noise is warranted. The projected development would not create a significant stationary 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. Therefore, this noise assessment is limited to an assessment of ambient noise that could adversely affect occupants of the development. The predominant noise source at the Affected Area is vehicular traffic on surrounding streets.

## FRAMEWORK OF NOISE ANALYSIS

Noise is defined as any unwanted sound, and sound is defined as any pressure variation that the human ear can detect. Humans can detect a large range of sound pressures, from 20 to 20 million micropascals, but only those air pressure variations occurring within a particular 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.

Because the human ear can detect such a wide range of sound pressures, sound pressure is converted to sound pressure level (SPL), which is measured in units called decibels (dB). The decibel is a relative measure of the sound pressure with respect to a standardized reference quantity. Because the dB scale is logarithmic, a relative increase of 10 dB represents a sound pressure that is 10 times higher. However, humans do not perceive a 10-

dB increase as 10 times louder. Instead, they perceive it as twice as loud.

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 frequency weightings used are the A- and C-weightings. 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-weighting is the most commonly used for environmental measurements, and sound levels measured using this weighting are denoted as dBA. The letter "A" indicates that the 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.

**Table 19-1: 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* | |

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 Leq than low noise levels. Leq has an advantage over other descriptors because Leq values from various noise sources can be added and subtracted to determine cumulative noise levels.

- Lmax is the highest SPL measured during a given period of time. It is useful in evaluating Leqs for time periods that have an especially wide range of 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 (LX). 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.

## NOISE STANDARDS AND GUIDELINES

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Quality Review (CEQR) noise exposure guidelines for exterior noise levels. As shown in Table 19-2 below, noise standards classify noise exposure into four categories based on noise level limits and land use, for vehicular traffic, rail, and aircraft noise sources: Acceptable, Marginally Acceptable, Marginally Unacceptable and Clearly Unacceptable, Table 19-3 of the *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise exposure levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA ($L_{10}$ *or Ldn, depending on the source*) or below.

## Table 19-2: Noise Exposure Guidelines for Use in City Environmental Impact Review

| Receptor Type | Time Period | Acceptable General External Exposure | Airport[3] Exposure | Marginally Acceptable General External Exposure | Airport[3] Exposure | Marginally Unacceptable General External Exposure | Airport[3] Exposure | Clearly Unacceptable General External Exposure | Airport[3] Exposure |
|---|---|---|---|---|---|---|---|---|---|
| 1.Outdoor area requiring serenity and quiet[2] | | $L_{10} \leq 55$ dBA | Ldn < 60 dBA | | Ldn < 60 dBA | | Ldn < 60 dBA | | Ldn < 75 dBA |
| 2. Hospital, Nursing Home | | $L_{10} \leq 55$ dBA | | 55<$L_{10}$≤65 dBA | | 65<$L_{10}$≤80 dBA | | $L_{10}$>80dBA | |
| 3. Residence, residential hotel or motel | 7 am to 10 pm | $L_{10}$≤65dBA | | 65<$L_{10}$≤70 dBA | | 70<$L_{10}$≤80 dBA | | $L_{10}$>80dBA | |
| | 10 pm to 7 am | L10≤55dBA | | 55<$L_{10}$≤70 dBA | | 70<$L_{10}$≤80 dBA | | $L_{10}$>80dBA | |
| 4. School, museum, library, court house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility | | Same as Residential Day (7 AM-10 PM) | | Same as Residential Day (7 AM-10 PM) | | Same as Residential Day (7 AM- 10 PM) | | Same as Residential Day (7 AM –10 PM) | |
| 5. Commercial or office | | Same as Residential Day (7 AM-10 PM) | | Same as Residential Day (7 AM-10 PM) | | Same as Residential Day (7 AM –10 PM) | | Same as Residential Day (7 AM-10 PM) | |
| 6. Industrial, public areas only[4] | Note 4 | Note 4 | | Note 4 | | Note 4 | | Note 4 | |

Source: New York City Department of Environmental Protection (adopted policy 1983).

**Notes:**

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

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

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

3 One may use the FAA-approved $L_{dn}$ contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.

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

## Table 19-3 CEQR TM: Attenuation Values to Achieve Acceptable Interior Noise Levels

| | Marginally Unacceptable | | | | Clearly Unacceptable |
|---|---|---|---|---|---|
| Noise Level with Proposed Project | 70 < $L_{10}$ ≤ 73 | 73 < $L_{10}$ ≤ 76 | 76 < $L_{10}$ ≤ 78 | 78 < $L_{10}$ ≤ 80 | 80 < $L_{10}$ |
| Attenuation[1] | (i) 28 dB(A) | (ii) 31 dB(A) | (iii) 33 dB(A) | (iv) 35 dB(A) | 36 + ($L_{10}$ - 80)[2] dB(A) |

Source: New York City of Environmental Protection

**Notes:**

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

2 Required attenuation values increase by 1 dB(A) increments for $L_{10}$ values greater than 80 dBA.

## MEASUREMENT LOCATION AND EQUIPMENT

Because the predominant noise sources in the area of the proposed project consist of vehicular traffic and elevated train movements, noise monitoring was conducted during peak weekday vehicular travel periods (AM, Midday, PM) on a typical midweek day. Pursuant to *CEQR Technical Manual* Methodology, measurements were conducted for a 1-hour period during each of the peak periods at each monitoring location at the Project Area: Location One (1) was at ground level at the Third Avenue frontage at the corner of 11th Street; Location Two (2) was taken on 12th Street approximately 50 feet west of 3rd Avenue. The noise monitoring locations are shown in Figure 19-1 and Photographs 19-1 and 19-2, below.

Noise monitoring was conducted using a using Type 1 Casella CEL-633C sound meters 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 traffic around the Project Area constitute a worst-case condition for noise. Noise meter calibration certification and back up data are provided in Appendix A.

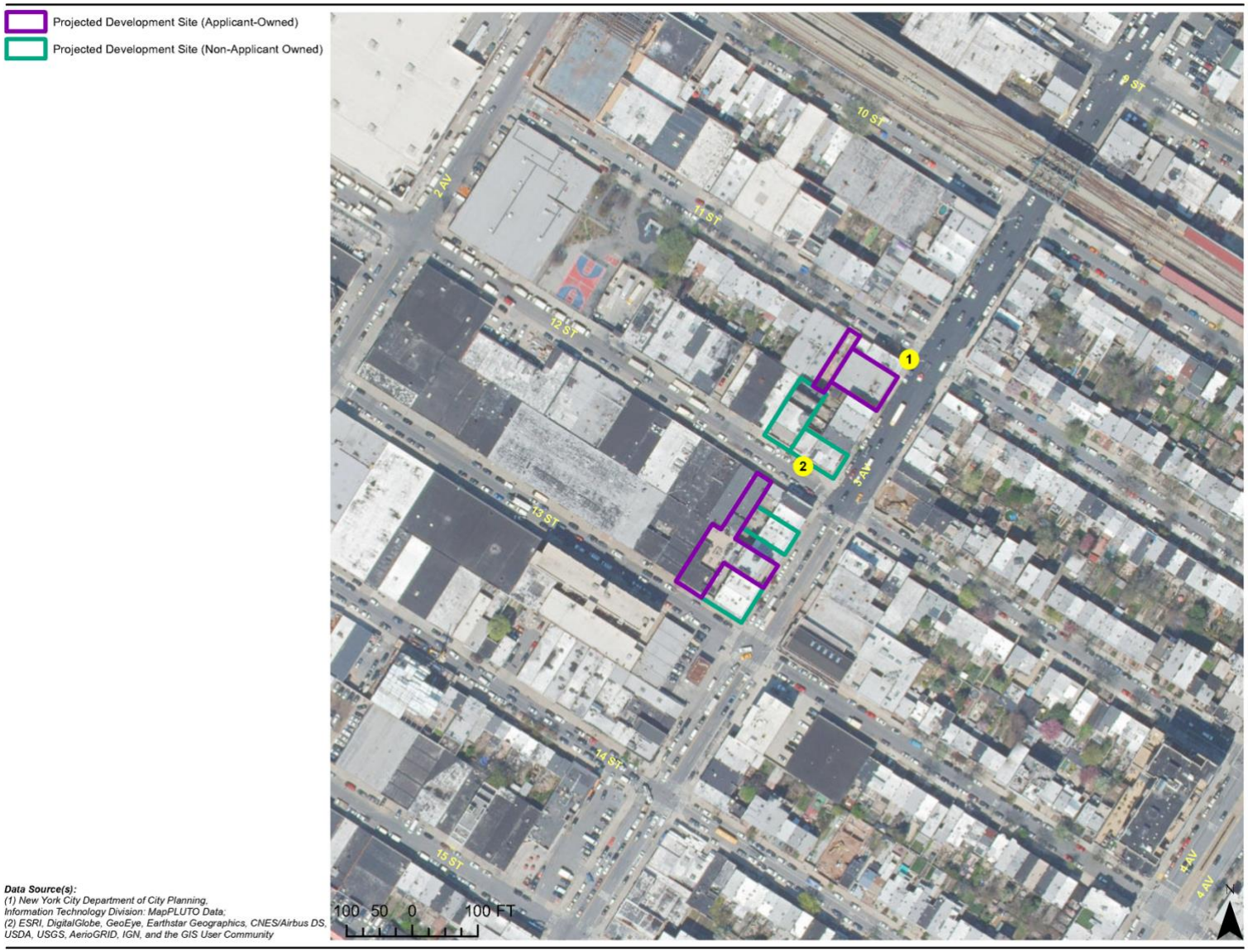
**Photo 19-1:** ***Noise Monitoring Location One (1)***
***3rd Avenue and 11th Street***



**Photo 19-2:** ***Noise Monitoring Location Two (2)***
***12th Street approx. 50 feet west of 3rd Avenue***



**Figure 19-1: Noise Monitoring Location**



## MEASUREMENT CONDITIONS

Monitoring was conducted during typical midweek conditions, on Tuesday, June 18th, and Tuesday, June 25th, 2019. The weather was dry with intermittent rain and wind speeds were moderate during all monitoring periods. The sound meter was calibrated before and after each monitoring session.

## EXISTING CONDITIONS

Based on the noise measurements, the predominant source of noise is vehicular traffic.

***Tables 19-4 and 19-5*** *below contain the results for the measurements taken at the Project Site:*

**Table 19-4**
*Noise Levels (dB) at Location 1*

*Tuesday, June 18th, 2019*

| Time | **7:46 am – 8:46 am** | **12:05 pm – 1:07 pm** | **4:30 pm – 5:32 pm** |
|---|---|---|---|
| $L_{max}$ | 105.9 | 88.8 | 94.7 |
| $L_{10}$ | **72.0** | **71.0** | **72.5** |
| $L_{eq}$ | **73.7** | 68.5 | **70.3** |
| $L_{50}$ | 67.0 | 66.0 | 66.5 |
| $L_{90}$ | 60.0 | 62.0 | 59.5 |
| $L_{min}$ | 53.9 | 51.8 | 53.0 |

Note: **Bold** denotes $L_{10}$ or $L_{eq}$ noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

**Table 19-5**
*Noise Levels (dB) at Location 2*

*Tuesday, June 18th, 2019*

| Time | **7:40 am – 8:40 am** | **12:00 pm – 1:03 pm** | **4:30 pm – 5:30 pm** |
|---|---|---|---|
| $L_{max}$ | 87.7 | 95.1 | 90.4 |
| $L_{10}$ | **70.5** | **71.0** | 64.5 |
| $L_{eq}$ | 67.4 | 68.5 | 63.9 |
| $L_{50}$ | 64.5 | 65.0 | 59.0 |
| $L_{90}$ | 57.5 | 57.5 | 54.5 |
| $L_{min}$ | 52.7 | 48.9 | 50.0 |

Note: **Bold** denotes $L_{10}$ or $L_{eq}$ noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

***Table 19-7 and 19-8*** *below contains the traffic counts and vehicle classifications during each monitoring period for 20 minutes:*

| Table 19-6<br>***Location 1:*** *Traffic volumes and vehicle classification at Location 1* | | | |
|---|---|---|---|
| | **7:46 am – 8:46 am** | **12:05 pm – 1:07 pm** | **4:30 pm – 5:32 pm** |
| **Car/ Taxi** | 176 | 126 | 162 |
| **Van/Light Truck/SUV** | 250 | 176 | 194 |
| **Medium Truck** | 18 | 8 | 25 |
| **Heavy Truck** | 26 | 32 | 28 |
| **Bus** | 16 | 12 | 17 |
| **Train** | 20 | 22 | 20 |

| Table 19-7<br>***Location 1:*** *Traffic volumes and vehicle classification at Location 3* | | | |
|---|---|---|---|
| | **7:40 am – 8:40 am** | **12:00 pm – 1:03 pm** | **4:30 pm – 5:30 pm** |
| **Car/ Taxi** | 8 | 7 | 37 |
| **Van/Light Truck/SUV** | 30 | 16 | 53 |
| **Medium Truck** | 9 | 1 | 3 |
| **Heavy Truck** | 1 | 0 | 0 |
| **Bus** | 0 | 0 | 0 |
| **Train** | 0 | 0 | 0 |

## CONCLUSION

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 $L_{eq}$ at Location One (1) of the subject property was 73.7 dB(A) during the morning monitoring period. The highest recorded $L_{10}$ at Location Two (2) of the subject property was 71.0 dB(A) during the midday monitoring period.

Based on the above, and assuming train noise with a direct line-of-sight would create similar noise levels to those at Noise Monitoring Location 1, an E-Designation for noise is recommend. The text of the E-Designation (E-617) would be as follows:

> **Block 1020, Lot 36 (Projected Development Site 1)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on all facades to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide 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 1020, Lots 43 and 44 (Projected Development Site 2)**: To ensure an acceptable interior noise environment, future residential/commercial office uses

must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and the facades facing 11th Street and the facades facing 2nd Avenue and 28 dBA of attenuation on the facades facing 12th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide 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 1026, Lots 35 and 36 (Projected Development Site 3)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and 28 dBA of attenuation on the facades facing 12th Street and the facades facing 2nd Avenue and the facades facing 13th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide 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 1026, Lots 40 and 42 (Projected Development Site 4)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and 28 dBA of attenuation on the facades facing 12th Street and the facades facing 2nd Avenue and the facades facing 13th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide 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 1026, Lot 32 (Projected Development Site 5)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and 28 dBA of attenuation on the facades facing 12th Street and the facades facing 2nd Avenue and the facades facing 13th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide 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 1020, Lot 34 (Projected Development Site 6)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must

provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and the facades facing 11th Street and the facades facing 2nd Avenue and 28 dBA of attenuation on the facades facing 12th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide 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 1020, Lot 45 (Projected Development Site 7)**: To ensure an acceptable interior noise environment, future residential/commercial office uses must provide a closed-window condition with a minimum of 31 dBA window/wall attenuation on the facades facing 3rd Avenue and the facades facing 11th Street and the facades facing 2nd Avenue and 28 dBA of attenuation on the facades facing 12th Street to maintain an interior noise level not greater than 45 dBA for residential uses or not greater than 50 dBA for commercial office uses. To provide closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning.

With the above E-Designation in place no significant adverse noise impacts are anticipated and no further analysis is necessary.

# AGENCY CORRESPONDENCE

Landmarks Preservation Commission

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

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

# ENVIRONMENTAL REVIEW

**Project number:** DEPARTMENT OF CITY PLANNING / LA-CEQR-K
**Project:** 506 THIRD AVENUE
**Date Received:** 6/26/2019

**Properties with no Architectural or Archaeological significance:**

1) 500 3 AVENUE, BBL: 3010200035
2) 506 3 AVENUE, BBL: 3010200036
3) 508 3 AVENUE, BBL: 3010200039
4) 510 3 AVENUE, BBL: 3010200040
5) 514 3 AVENUE, BBL: 3010200042
6) 516 3 AVENUE, BBL: 3010200043
7) 518 3 AVENUE, BBL: 3010200044
8) 149 12 STREET, BBL: 3010200045
9) 530 3 AVENUE, BBL: 3010260032
10) 520 3 AVENUE, BBL: 3010260033
11) 522 3 AVENUE, BBL: 3010260034
12) 524 3 AVENUE, BBL: 3010260035
13) 526 3 AVENUE, BBL: 3010260036
14) 528 3 AVENUE, BBL: 3010260037
15) 534 3 AVENUE, BBL: 3010260040
16) 536 3 AVENUE, BBL: 3010260042

Gina Santucci

6/28/2019

SIGNATURE DATE

Gina Santucci, Environmental Review Coordinator

**File Name:** 34321_FSO_DNP_06282019.docx

**Vincent Sapienza, P.E.**
*Commissioner*

**Angela Licata**
*Deputy Commissioner of Sustainability*

59-17 Junction Blvd.
Flushing, NY 11373

Tel. (718) 595-4398
Fax (718) 595-4422
alicata@dep.nyc.gov

April 19, 2021

Katherine Glass
Senior Project Manager
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

**Re: 506 Third Avenue Rezoning**
**Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45; and**
**Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, and 42**
**CEQR # 20DCP129K**

Dear Ms. Glass:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the March 2021 Environmental Assessment Statement (EAS) and the January 2019 and March 2021 Phase I Environmental Site Assessments (Phase I) prepared by Environmental Studies Corp. on behalf of PAB 3rd Avenue Holdings LLC (applicant) for the above referenced project. It is our understanding that the applicant is seeking a zoning map amendment and zoning text amendment from the New York City Department of City Planning (DCP) to facilitate the development of a five-story commercial office building at Block 1020, Lot 36 (Projected Development Site 1) in the Gowanus neighborhood of Brooklyn Community District 6. In addition to Projected Development Site 1, the applicant controls Block 1026, Lot 32 (Projected Development Site 5), anticipated for expansion under the proposed actions, and Block 1020, Lot 34 (Projected Development Site 6), anticipated for redevelopment under the proposed actions. In total, the proposed zoning map amendment affects 82,951 square feet (sf) of lot area, of which 57,471 sf (10 tax lots) are anticipated to be redeveloped in the future with the Proposed Actions. The Proposed Actions would affect the following tax blocks and lots: Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45; Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, and 42. The Proposed Actions consist of a zoning map amendment from M2-1 to C4-4A and a zoning text amendment to designate the Project Area as a Mandatory Inclusionary Housing (MIH) Area, pursuant to an amendment of Appendix F of the New York City Zoning Resolution. Under the Reasonable Worst Case Development Scenario, four projected development sites (Projected Development Site 2: Block 1020, Lots 43 and 44; Projected Development Site 3: Block 1026, Lots 35 and 36; Projected Development Site 4: Block 1026, Lots 40 and 42; and Projected Development Site 7: Block 1020, Lot 45) which are not under the control or ownership of the applicant are anticipated for redevelopment.

**Projected Development Site 1: Block 1020, Lot 36**

The January 2019 Phase I report revealed that historical on-site and surrounding area land uses consisted of a variety of residential, commercial and industrial uses including mirror manufacturing, a ceramic laboratory, fuel oil company operations, paint manufacturing, leather works, paper products manufacturing, dye and color works, glue and adhesive manufacturing, machine shops, metal works, auto repair with buried gasoline tanks, a gasoline filling station, etc. Regulatory Databases identified 20 spills and 5 historical auto sites within 1/8 mile; 17 underground storage tank sites, 2 dry cleaners and 26 aboveground storage tank sites within 1/4 mile; 33 leaking storage tank sites within a 1/2 mile; and 5 manufactured gas plants within 1 mile of the subject property.

**Projected Development Sites 5 and 6: Block 1026, Lot 32 and Block 1020, Lot 34**

The March 2021 Phase I report revealed that historical on-site and surrounding area land uses consisted of a variety of residential, commercial and industrial uses including paint manufacturing, leather works, paper products manufacturing, dye and color works, glue and adhesive manufacturing, machine shops, metal works, gasoline filling stations, auto repair garages with underground gasoline tanks, etc. Regulatory Databases identified 20 spills and 5 historical auto sites within 1/8 mile; 17 underground storage tank sites, 2 dry cleaners and 26 aboveground storage tank sites within 1/4 mile; 33 leaking storage tank sites within a 1/2 mile; and 5 manufactured gas plants within 1 mile of the subject property.

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

**Projected Development Sites 1, 5, and 6: Block 1020, Lots 34 and 36; and Block 1026, Lot 32 (Sites under the control or ownership of the applicant)**

- Based on prior on-site and/or surrounding area land uses which could result in environmental contamination and testing is not physically possible during the CEQR process, DEP concurs with the EAS recommendation that an (E) Designation for hazardous materials should be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for the subject properties (Block 1020, Lots 34 and 36; and Block 1026, Lot 32). The (E) Designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance. Further hazardous materials assessments should be coordinated through the Mayor's Office of Environmental Remediation.

**Projected Development Sites 2, 3, 4, and 7: Block 1020, Lots 43, 44, and 45; and Block 1026, Lots 35, 36, 40, and 42 (Sites not under the control or ownership of the applicant)**

- Based on prior on-site and/or surrounding area land uses which could result in environmental contamination, DEP recommends that an (E) Designation for hazardous materials should be placed on the zoning map pursuant to Section 11-15 of the New York City Zoning Resolution for the subject properties (Block 1020, Lots 43, 44, and 45; and

Block 1026, Lots 35, 36, 40, and 42). The (E) Designation will ensure that testing and mitigation will be provided as necessary before any future development and/or soil disturbance. Further hazardous materials assessments should be coordinated through the Mayor's Office of Environmental Remediation.

- Block 1026, Lot 44 is not included in the proposed actions and not a projected development site. Therefore, an (E) Designation is not recommended for Block 1026, Lot 44 as described on page 60 of the EAS. The block and lots where (E) Designations are proposed should be consistent with the projected development sites and clarified in the EAS.

Future correspondence and submittals related to this project should include the following CEQR # **20DCP129K**. If you have any questions, you may contact Scott Davidow, P.G. at (718) 595-7716.

Sincerely,

Wei Yu
Deputy Director, Hazardous Materials

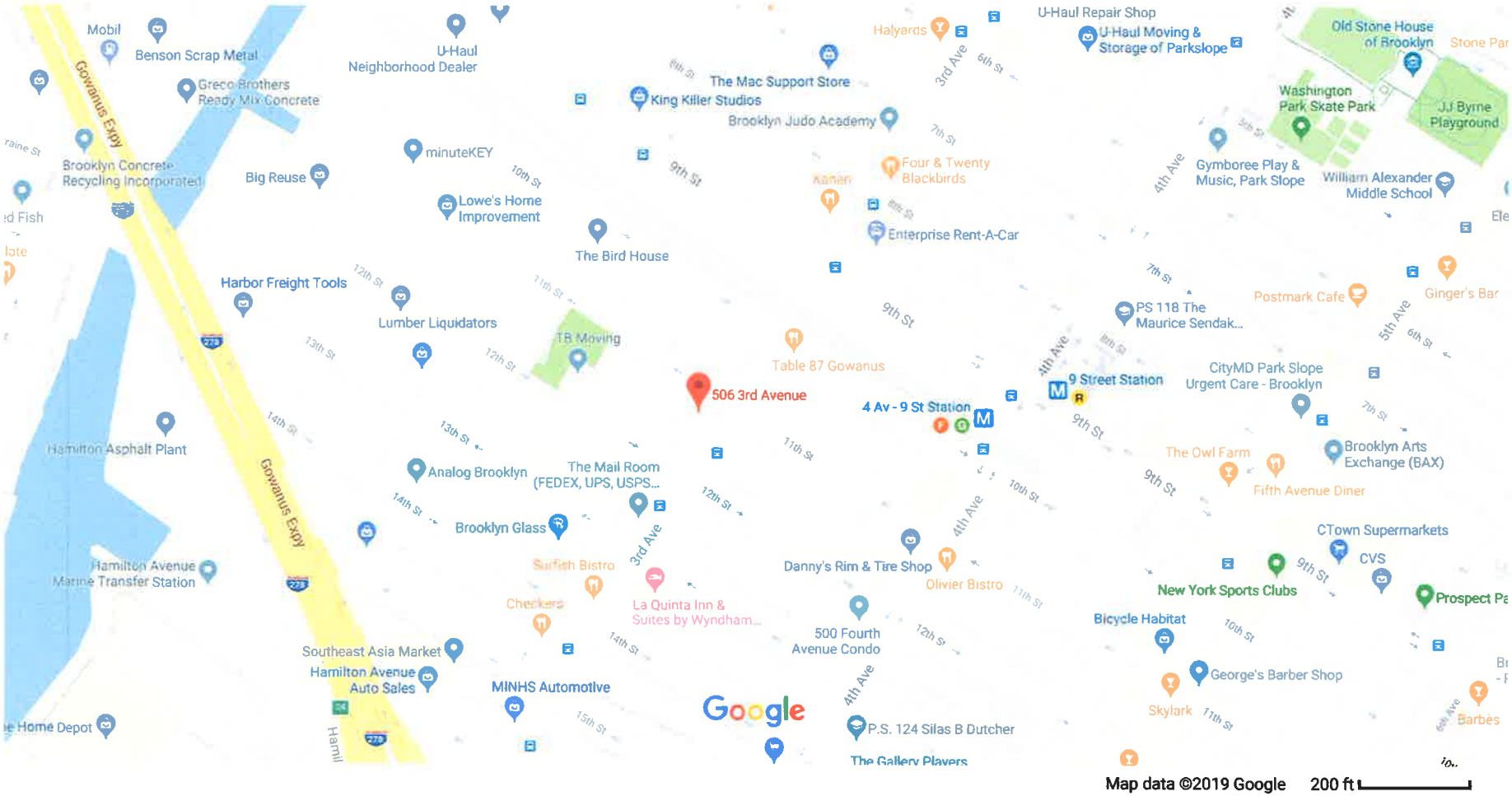
c: R. Weissbard
S. Davidow
T. Estesen
M. Wimbish
R. Lucas
O. Abinader (DCP)
M. Bertini (OER)

# TRANSPORTATION

## SUPPORT DATA

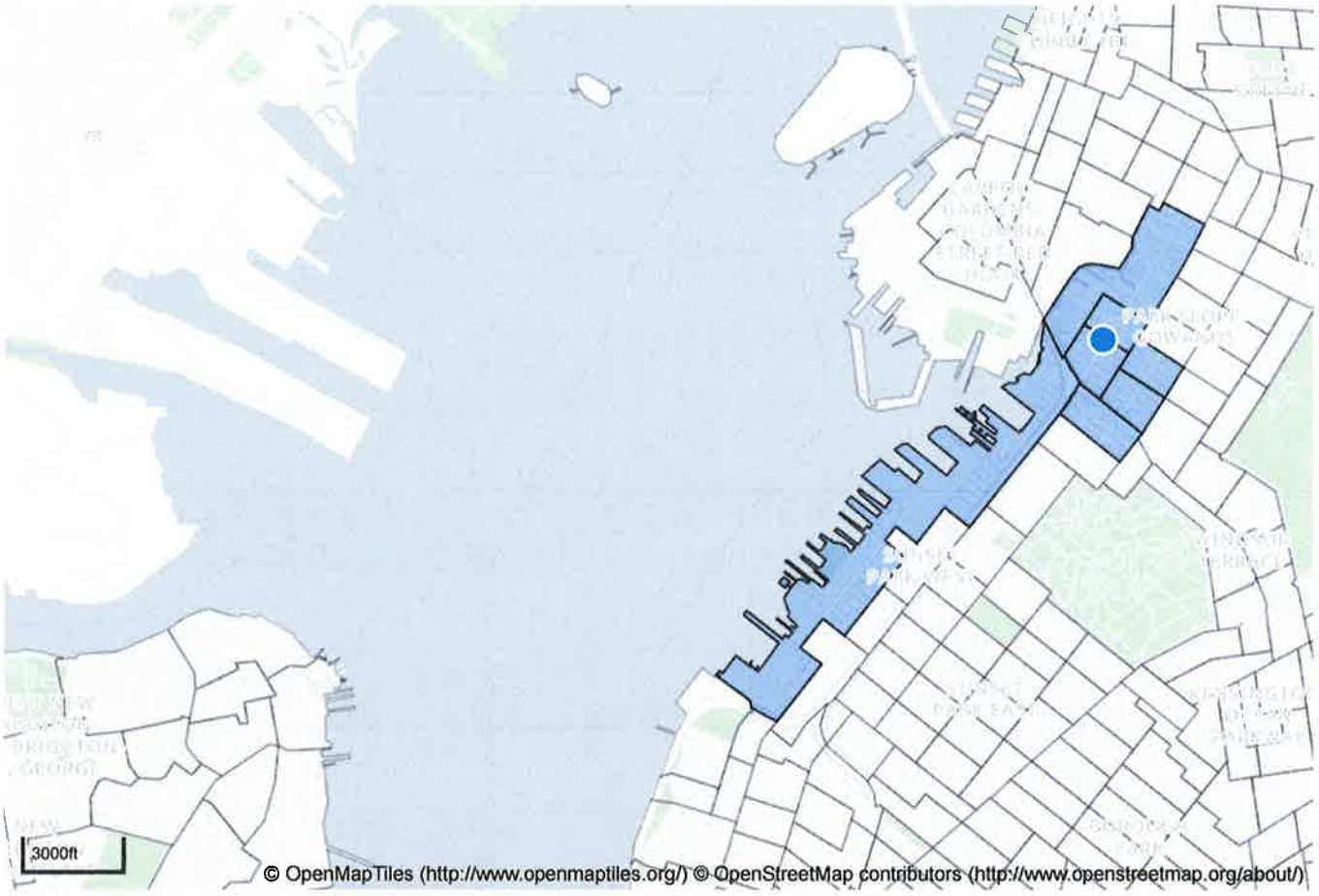
July 29, 2019

Google Maps 506 3rd Ave



NYC PLANNING (http://www1.nyc.gov/site/planning/index.page) **Population FactFinder (/)**

**Census Block** **Census Tract** **Neighborhood (NTA)** **PUMA**




Draw

Select individual census tracts to add them to the profile.

Polygon Radius

## View Profile

**7 Tracts**

Advanced Options

× Clear Selection

# Exhibit A

## Modal Split Data

**2013-2017 ACS 5-YEAR Journey-to-Work (JTW) for Census Tract numbers 18, 117, 119, 121, 139, 141 and 143 in Brooklyn NY**

***506 3rd Avenue, Brooklyn NY***

***2013-2017 ACS 5-Year, Journey-to-Work:***

| Census Tract | Total Workers | Car or Van Drive-Alone | Carpool | Bus | Street Car | Subway | R.R. | Ferry | Taxi | Motor cycle | Bicycle | Walked | Other Means | Worked @ Home | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **117** | **1847** | **161** | **72** | **39** | **0** | **1303** | **0** | **0** | **8** | **0** | **14** | **103** | **15** | **132** | 1,847 |
| **119** | **947** | **95** | **7** | **12** | **0** | **638** | **0** | **0** | **5** | **5** | **22** | **78** | **5** | **80** | 947 |
| **121** | **1227** | **177** | **12** | **30** | **5** | **769** | **0** | **0** | **5** | **0** | **24** | **59** | **8** | **138** | 1,227 |
| **139** | **2204** | **186** | **38** | **28** | **0** | **1593** | **0** | **0** | **0** | **0** | **119** | **143** | **0** | **97** | 2,204 |
| **141** | 1,938 | 117 | 127 | 16 | 9 | 1,321 | 7 | 0 | 0 | 0 | 88 | 56 | 16 | 181 | 1,938 |
| **143** | 2,349 | 315 | 94 | 34 | 0 | 1,323 | 0 | 0 | 0 | 7 | 32 | 288 | 30 | 226 | 2,349 |
| Total | 10,512 | 1,051 | 350 | 159 | 14 | 6,947 | 7 | 0 | 18 | 12 | 299 | 727 | 74 | 854 | 10,512 |
| | | ***0.100*** | ***0.033*** | ***0.015*** | ***0.00*** | ***0.661*** | ***0.001*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.03*** | ***0.069*** | ***0.01*** | ***0.081*** | ***1.00*** |

# Exhibit B

## Vehicle Occupancy Rate Information

**2013-2017 ACS 5-YEAR Journey-to-Work (JTW) for Census Tract numbers 18, 117, 119, 121, 139, 141 and 143 in Brooklyn NY**

2013-2017 ACS-5 Year (JTW), Vehicle Occupancy Rate:

| Census Tract | Total | Drove alone | Total carpool | carpool 2person | 3 Person | 4 Person | 5 or 6 Persor | 7 or more Person | Total |
|---|---|---|---|---|---|---|---|---|---|
| **18** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **117** | 233 | 161 | 72 | 53 | 19 | 0 | 0 | 0 | 72 |
| **119** | 102 | 95 | 7 | 7 | 0 | 0 | 0 | 0 | 7 |
| **121** | 189 | 177 | 12 | 0 | 0 | 0 | 0 | 12 | 12 |
| **139** | 224 | 186 | 38 | 28 | 9 | 0 | 0 | 1 | 38 |
| **141** | 244 | 117 | 127 | 79 | 11 | 37 | 0 | 0 | 127 |
| **143** | 409 | 315 | 94 | 94 | 0 | 0 | 0 | 0 | 94 |
| | 1,401 | 1,051 | | 131 | 13 | 9 | 0 | 2 | 1,206 |
| Vehicle Occupancy = | | | **1.16** | | | | | | |

## Modal Split Data summary

| | |
|---|---|
| **Auto** | **0.13** |
| **Taxi** | **0.00** |
| **Bus** | **0.02** |
| **Subway** | **0.66** |
| **Walk** | **0.07** |
| **Other** | **0.12** |
| **Total** | **1.00** |

U.S. Census Bureau

AMERICAN FactFinder

506 3rd Ave. B'Klyn NY

B08301

MEANS OF TRANSPORTATION TO WORK
Universe: Workers 16 years and over
2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

| | Census Tract 18, Kings County, New York | | Census Tract 117, Kings County, New York | | Census Tract 119, Kings County, New York | |
|---|---|---|---|---|---|---|
| | Estimate | Margin of Error | Estimate | Margin of Error | Estimate | Margin of Error |
| Total: | 0 | +/-11 | 1,847 | +/-239 | 947 | +/-123 |
| Car, truck, or van: | 0 | +/-11 | 233 | +/-124 | 102 | +/-67 |
| Drove alone | 0 | +/-11 | 161 | +/-103 | 95 | +/-65 |
| Carpooled: | 0 | +/-11 | 72 | +/-63 | 7 | +/-11 |
| In 2-person carpool | 0 | +/-11 | 53 | +/-44 | 7 | +/-11 |
| In 3-person carpool | 0 | +/-11 | 19 | +/-26 | 0 | +/-11 |
| In 4-person carpool | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| In 5- or 6-person carpool | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| In 7-or-more-person carpool | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Public transportation (excluding taxicab): | 0 | +/-11 | 1,342 | +/-262 | 650 | +/-96 |
| Bus or trolley bus | 0 | +/-11 | 39 | +/-34 | 12 | +/-13 |
| Streetcar or trolley car (carro publico in Puerto Rico) | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Subway or elevated | 0 | +/-11 | 1,303 | +/-260 | 638 | +/-99 |
| Railroad | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Ferryboat | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Taxicab | 0 | +/-11 | 8 | +/-14 | 5 | +/-7 |
| Motorcycle | 0 | +/-11 | 0 | +/-11 | 5 | +/-8 |
| Bicycle | 0 | +/-11 | 14 | +/-20 | 22 | +/-16 |
| Walked | 0 | +/-11 | 103 | +/-54 | 78 | +/-60 |

| | Census Tract 18, Kings County, New York | | Census Tract 117, Kings County, New York | | Census Tract 119, Kings County, New York | |
|---|---|---|---|---|---|---|
| | Estimate | Margin of Error | Estimate | Margin of Error | Estimate | Margin of Error |
| Other means | 0 | +/-11 | 15 | +/-24 | 5 | +/-8 |
| Worked at home | 0 | +/-11 | 132 | +/-80 | 80 | +/-36 |

| | Census Tract 121, Kings County, New York | | Census Tract 139, Kings County, New York | | Census Tract 141, Kings County, New York | |
|---|---|---|---|---|---|---|
| | Estimate | Margin of Error | Estimate | Margin of Error | Estimate | Margin of Error |
| Total: | 1,227 | +/-116 | 2,204 | +/-277 | 1,938 | +/-276 |
| Car, truck, or van: | 189 | +/-66 | 224 | +/-77 | 244 | +/-92 |
| Drove alone | 177 | +/-67 | 186 | +/-69 | 117 | +/-63 |
| Carpooled: | 12 | +/-19 | 38 | +/-44 | 127 | +/-73 |
| In 2-person carpool | 0 | +/-11 | 28 | +/-40 | 79 | +/-65 |
| In 3-person carpool | 0 | +/-11 | 9 | +/-15 | 11 | +/-17 |
| In 4-person carpool | 0 | +/-11 | 0 | +/-11 | 37 | +/-38 |
| In 5- or 6-person carpool | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| In 7-or-more-person carpool | 12 | +/-19 | 1 | +/-5 | 0 | +/-11 |
| Public transportation (excluding taxicab): | 804 | +/-104 | 1,621 | +/-232 | 1,353 | +/-200 |
| Bus or trolley bus | 30 | +/-47 | 28 | +/-30 | 16 | +/-17 |
| Streetcar or trolley car (carro publico in Puerto Rico) | 5 | +/-7 | 0 | +/-11 | 9 | +/-15 |
| Subway or elevated | 769 | +/-99 | 1,593 | +/-225 | 1,321 | +/-193 |
| Railroad | 0 | +/-11 | 0 | +/-11 | 7 | +/-10 |
| Ferryboat | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Taxicab | 5 | +/-8 | 0 | +/-11 | 0 | +/-11 |
| Motorcycle | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Bicycle | 24 | +/-18 | 119 | +/-69 | 88 | +/-114 |
| Walked | 59 | +/-39 | 143 | +/-77 | 56 | +/-36 |
| Other means | 8 | +/-12 | 0 | +/-11 | 16 | +/-19 |
| Worked at home | 138 | +/-71 | 97 | +/-64 | 181 | +/-107 |

| | Census Tract 143, Kings County, New York | |
|---|---|---|
| | Estimate | Margin of Error |
| Total: | 2,349 | +/-227 |
| Car, truck, or van: | 409 | +/-132 |
| Drove alone | 315 | +/-126 |
| Carpooled: | 94 | +/-81 |
| In 2-person carpool | 94 | +/-81 |
| In 3-person carpool | 0 | +/-11 |
| In 4-person carpool | 0 | +/-11 |
| In 5- or 6-person carpool | 0 | +/-11 |
| In 7-or-more-person carpool | 0 | +/-11 |
| Public transportation (excluding taxicab): | 1,357 | +/-216 |
| Bus or trolley bus | 34 | +/-28 |
| Streetcar or trolley car (carro publico in Puerto Rico) | 0 | +/-11 |
| Subway or elevated | 1,323 | +/-216 |
| Railroad | 0 | +/-11 |
| Ferryboat | 0 | +/-11 |
| Taxicab | 0 | +/-11 |
| Motorcycle | 7 | +/-12 |
| Bicycle | 32 | +/-30 |
| Walked | 288 | +/-115 |
| Other means | 30 | +/-42 |
| Worked at home | 226 | +/-107 |

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.

# Exhibit C

Modal Split Data

**2006-2010 ACS 5-YEAR Reverse-Journey-to-Work (R JTW) for Census Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brookly, NY**

***506 3rd Avenue, Brooklyn New York***

***2006-2010 ACS 5-Year, Reverse-Journey-to-Work:***

| Census Tract | Total Workers | Car or Van Drive-Alone | Carpool | Bus | Street Car | Subway | R.R. | Ferry | Bicycle | walk | taxi | motor cycle | Other Means | Worked @ Home | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | **13185** | **4855** | **1055** | **2015** | **25** | **3805** | **300** | **0** | **100** | **825** | **165** | **15** | **25** | **0** | 13,185 |
| **117** | **1195** | **455** | **135** | **35** | **0** | **340** | **20** | **0** | **0** | **110** | **20** | **0** | **0** | **80** | 1,195 |
| **119** | **4235** | **1745** | **195** | **230** | **25** | **1295** | **140** | **10** | **85** | **395** | **40** | **0** | **40** | **35** | 4,235 |
| **121** | **900** | **275** | **150** | **55** | **0** | **235** | **20** | **0** | **30** | **95** | **0** | **0** | **10** | **30** | 900 |
| **139** | **1445** | **415** | **80** | **190** | **0** | **420** | **15** | **0** | **10** | **200** | **0** | **0** | **0** | **115** | 1,445 |
| **141** | **1890** | **485** | **195** | **205** | **20** | **575** | **10** | **0** | **0** | **245** | **50** | **0** | **0** | **105** | 1,890 |
| 143 | 1,680 | 500 | 185 | 20 | 0 | 615 | 10 | 0 | 0 | 280 | 10 | 0 | 0 | 60 | 1,680 |
| Total | 24,530 | 8,730 | 1,995 | 2,750 | 70 | 7,285 | 515 | 10 | 225 | 2,150 | 285 | 15 | 75 | 425 | 24,530 |
| % Mode of Travel | | *0.356* | *0.081* | *0.112* | *0.00* | *0.297* | *0.021* | *0.00* | *0.01* | *0.09* | *0.01* | *0.001* | *0.00* | *0.017* | *1.00* |

# Exhibit D

Vehicle Occupancy Rate Data

2006-2010 ACS 5-YEAR Reverse-Journey-to-Work (R JTW) for Census Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brookly, NY

2006-2010 ACS-5 Year (RJTW), Vehicle Occupancy Rate:

| Census Tract | Total Drove Alone & Car Pool | Drove alone | Total car pool | 2person carpool | 3 Person carpool | 4 Person carpool | 5 or 6 Person carpool | 7 or more Person carpool | Total |
|---|---|---|---|---|---|---|---|---|---|
| **18** | 5910 | 4855 | 1055 | 775 | 105 | 80 | 95 | 0 | 1,055 |
| **117** | 590 | 455 | 135 | 135 | 0 | 0 | 0 | 0 | 135 |
| **119** | 1940 | 1745 | 195 | 165 | 30 | 0 | 0 | 0 | 195 |
| **121** | 425 | 275 | 150 | 85 | 65 | 0 | 0 | 0 | 150 |
| **139** | 495 | 415 | 80 | 60 | 20 | 0 | 0 | 0 | 80 |
| **141** | 680 | 485 | 195 | 195 | 0 | 0 | 0 | 0 | 195 |
| 143 | 685 | 500 | 185 | 60 | 0 | 30 | 60 | 35 | 185 |
| total | 10,725 | 8,730 | 1,995 | 1,475 | 220 | 110 | 155 | 35 | 1,995 |
| total car | | 8730 | | 738 | 73 | 28 | 28 | 5 | 9,602 |

## Modal Split summary

| | |
|---|---|
| Auto | **0.44** |
| Taxi | **0.01** |
| Bus | **0.11** |
| Subway | **0.32** |
| Walk | **0.09** |
| Other | **0.03** |
| Total | **1.00** |

Vehicle Occupancy = **1.12**

## Table 3.15-8: Transportation Planning Factors (Con't)

| Land Use: | Manufacturing | | Warehousing | | Mini-Warehouse | | Auto Care Center | | Office | | Gas Station (With Store) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trip Generation:** | (12) Weekday | (21) Saturday | (12) Weekday | (21) Saturday | (14) Weekday | (14) Saturday | (7) Weekday | (7) Saturday | (4) Weekday | (4) Saturday | (15, 16) Weekday | (15, 16) Saturday |
| Daily Person Trips | 4.5 per 1,000 gsf | 1.8 | 5.8 per 1,000 gsf | 1.4 | 4.0 per 1,000 gsf | 3.8 | 19.42 per 1,000 gsf | 19.42 | 18.0 per 1,000 gsf | 1.6 | 90.0 vehicle trips per fueling position | 90.0 |
| **Temporal Distribution:** | (4,12) | | (4,12) | | (3,4) | | (7,10) | | (1,4) | | (3) | |
| AM | 14.0% | | 17.0% | | 10.7% | | 13.2% | | 11.8% | | 6.2% | |
| MD | 19.0% | | 14.0% | | 11.0% | | 11.0% | | 15.0% | | 5.5% | |
| PM | 17.0% | | 13.0% | | 11.2% | | 14.2% | | 13.7% | | 8.2% | |
| | 11.4% | | 11.4% | | 11.4% | | 11.0% | | 15.0% | | 5.5% | |
| **In/Out Splits:** | (12,16) | | (12,20) | | (12) | | (7,17) | | (1,11) | | (3) | |
| | In | Out | In | Out | In | Out | In | Out | In | Out | In | Out |
| AM | 77% | 23% | 83% | 17% | 59% | 41% | 65% | 35% | 96% | 4% | 50% | 50% |
| MD | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 39% | 61% | 50% | 50% |
| PM | 36% | 64% | 25% | 75% | 51% | 49% | 50% | 50% | 5% | 95% | 50% | 50% |
| SAT MD | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 60% | 40% | 50% | 50% |
| **Modal Splits:** | (13) | | (13) | | (3) | | (7) | | (13) | | (3) | |
| Auto | 46% | | 46% | | 95% | | 85% | | 46% | | 100% | |
| Taxi | 2% | | 2% | | 0% | | 5% | | 2% | | n/a | |
| Bus | 16% | | 16% | | 0% | | 1% | | 16% | | n/a | |
| Subway | 29% | | 29% | | 0% | | 1% | | 29% | | n/a | |
| Walk | 7% | | 7% | | 5% | | 8% | | 7% | | n/a | |
| | 100.0% | | 100.0% | | 100.0% | | 100.0% | | 100.0% | | 100.0% | |
| **Vehicle Occupancy:** | (12) | | (12) | | (14) | | (7) | | (4) | | (3) | |
| Auto | 1.04 | | 1.04 | | 1.55 | | 1.30 | | 1.30 | | 1.00 | |
| Taxi | 2.00 | | 2.00 | | n/a | | 1.30 | | 1.40 | | n/a | |
| **Truck Trip Generation:** | (3) Weekday | (18) Saturday | (7) Weekday | (19) Saturday | Weekday | Saturday | (7) Weekday | (19) Saturday | (9) Weekday | (23) Saturday | (3) Weekday | (18) Saturday |
| | 0.52 per 1,000 gsf | 0.03 | 0.67 per 1,000 gsf | 0.03 | n/a | n/a | 0.89 per 1,000 gsf | 0.05 | 0.15 per 1,000 gsf | 0.01 | 0.35 vehicle trips per fueling position | 0.02 |
| | (3,10) | | (3,10) | | | | (7,10) | | (3,24) | | (3,10) | |
| AM | 14.0% | | 14.0% | | n/a | | 14.0% | | 9.6% | | 7.7% | |
| MD | 8.6% | | 9.0% | | n/a | | 9.0% | | 11.0% | | 11.0% | |
| PM | 1.0% | | 1.0% | | n/a | | 1.0% | | 1.0% | | 1.0% | |
| SAT MD | 8.6% | | 9.0% | | n/a | | 9.0% | | 11.0% | | 11.0% | |
| | In | Out | In | Out | In | Out | In | Out | In | Out | In | Out |
| | 50.0% | 50.0% | 50.0% | 50.0% | n/a | n/a | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% | 50.0% |

Sources:

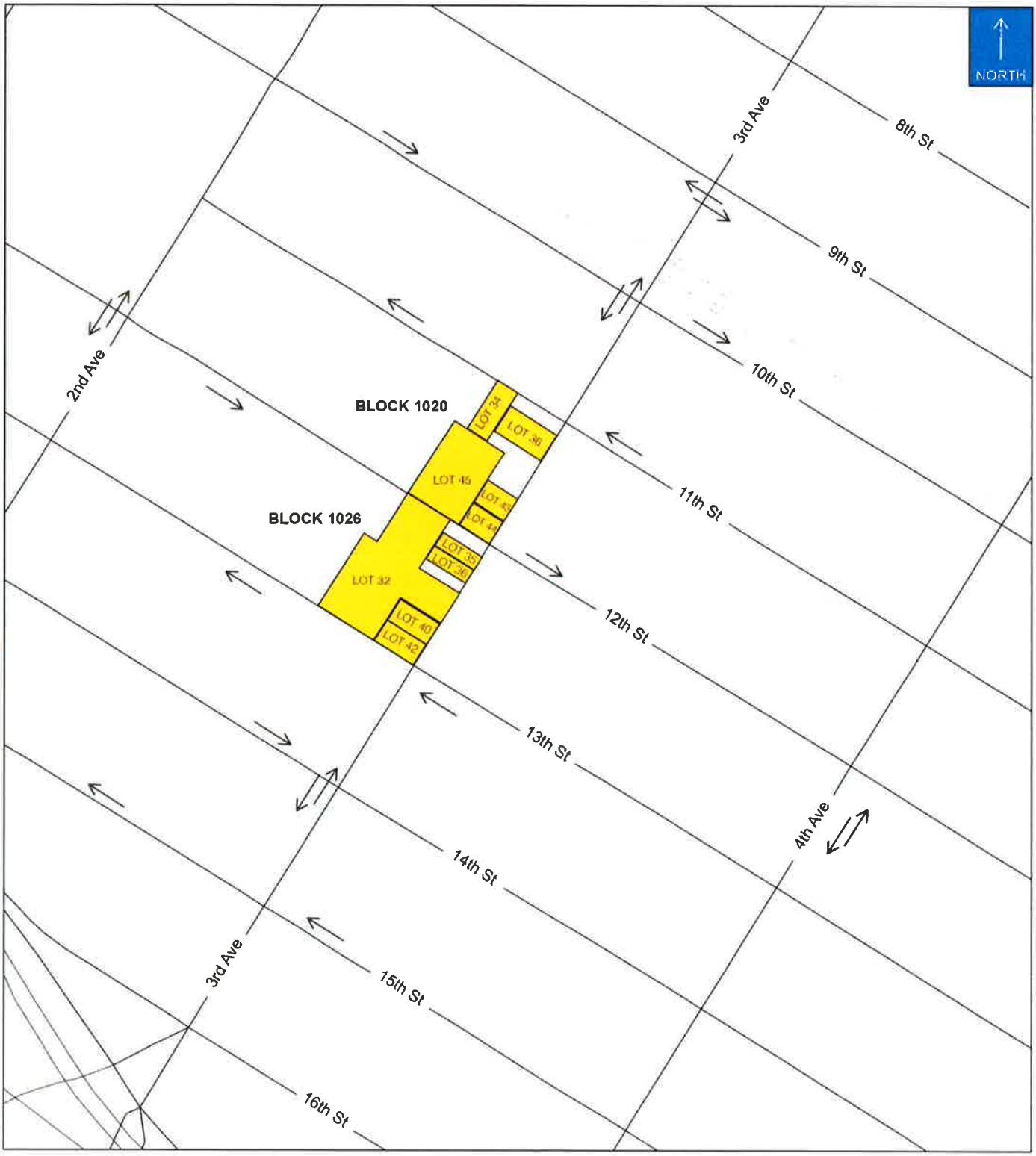
(1) Pushkarev & Zupan, "Urban Space for Pedestrians," 1975.
(2) 2000 US Census Journey-to-Work "Residence of Worker" data for Tracts 47, 49, 53.01, and 57.
(3) No. 7 Subway Extension - Hudson Yards Rezoning and Development Program FGEIS, 2004.
(4) Hunts Point Rezoning EAS, 2007.
(5) Melrose Commons Urban Renewal Amendments DEIS, 2007.
(6) Plaza at the Hub EAS, 2005.
(7) Greenpoint-Williamsburg Rezoning FEIS, 2005.
(8) Gateway Center at Bronx Terminal Market FEIS, 2005.
(9) FHWA, "Curbside Pickup and Delivery and Arterial Traffic Impacts," 1981.
(10) Assumes weekday MD temporal distribution for SAT MD.
(11) The Jamaica Plan FEIS, 2007.
(12) Port Morris/Bruckner Boulevard Rezoning Study EAS, 2004.
(13) 2000 US Census Reverse Journey-to-Work "Place of Work" data for Tracts 47, 49, 53.01, and 57.
(14) ITE Trip Generation, 7th Edition, Land Use Code 151: Mini-Warehouse.
(15) ITE Trip Generation, 7th Edition, Land Use Code 945: Gasoline/Service Station with Convenience Market.
(16) Pass-by trips assumed to be 45% based on ITE Trip Generation Handbook (1998).
(17) ITE Trip Generation, 7th Edition, Land Use Code 840: Automobile Care Center.
(18) ITE Trip Generation, 7th Edition, Land Use Code 140: Manufacturing.
(19) Assumes 5% of weekday trip generation rate.
(20) ITE Trip Generation, 7th Edition, Land Use Code 150: Warehouse.
(21) Saturday rate based on ITE Trip Generation rate variation between weekday and Saturday.
(22) Weekday trip generation rate assumed for Saturday as per Jamaica Plan FEIS, 2007.
(23) Atlantic Yards Arena and Redevelopment Project FEIS, 2006.
(24) Assumes 25% pass by trips as per Dutch Kills Rezoning Transportation Planning Assumptions

# 506-530 3rd Avenue, Brooklyn NY

*TRANSPORTATION APPENDIX*

*July 28, 2020*

506-530 3rd Avenue Mixed-Use Development Brooklyn NY



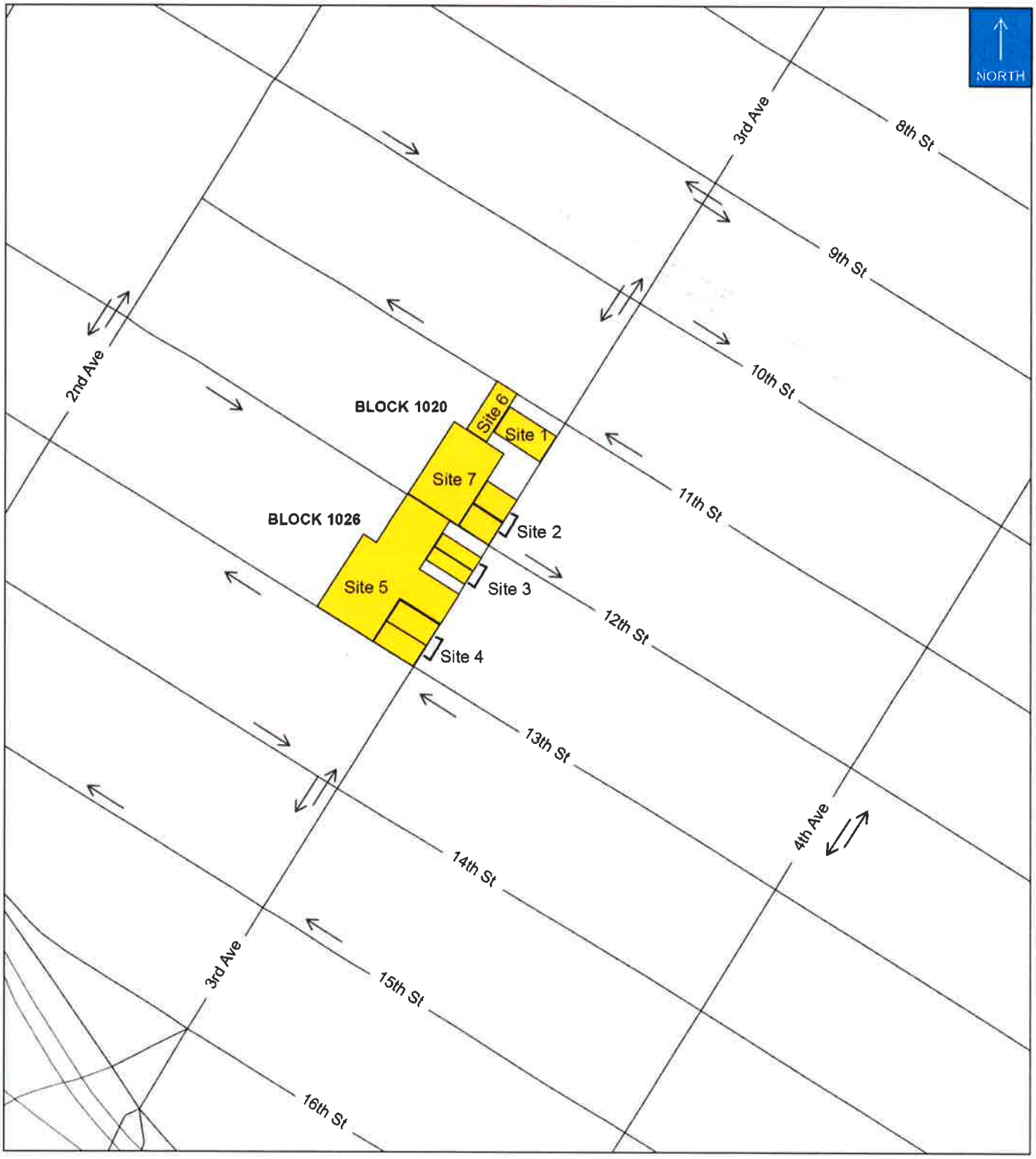

Projected Sites

Site 1 Block 1020, Lot 36
Site 2 Block 1020 Lots 43 & 44
Site 6 Block 1020, Lot 34
Site 7 Block 1020, Lot 45
Site 3 Block 1026, Lots 35 & 36
Site 4 Block 1026 Lots 40 & 42
Site 5 Block 1026, Lot 32

Project Study Area and Street Direction

Figure 1

3rd Avenue Mixed-Use Development Brooklyn NY

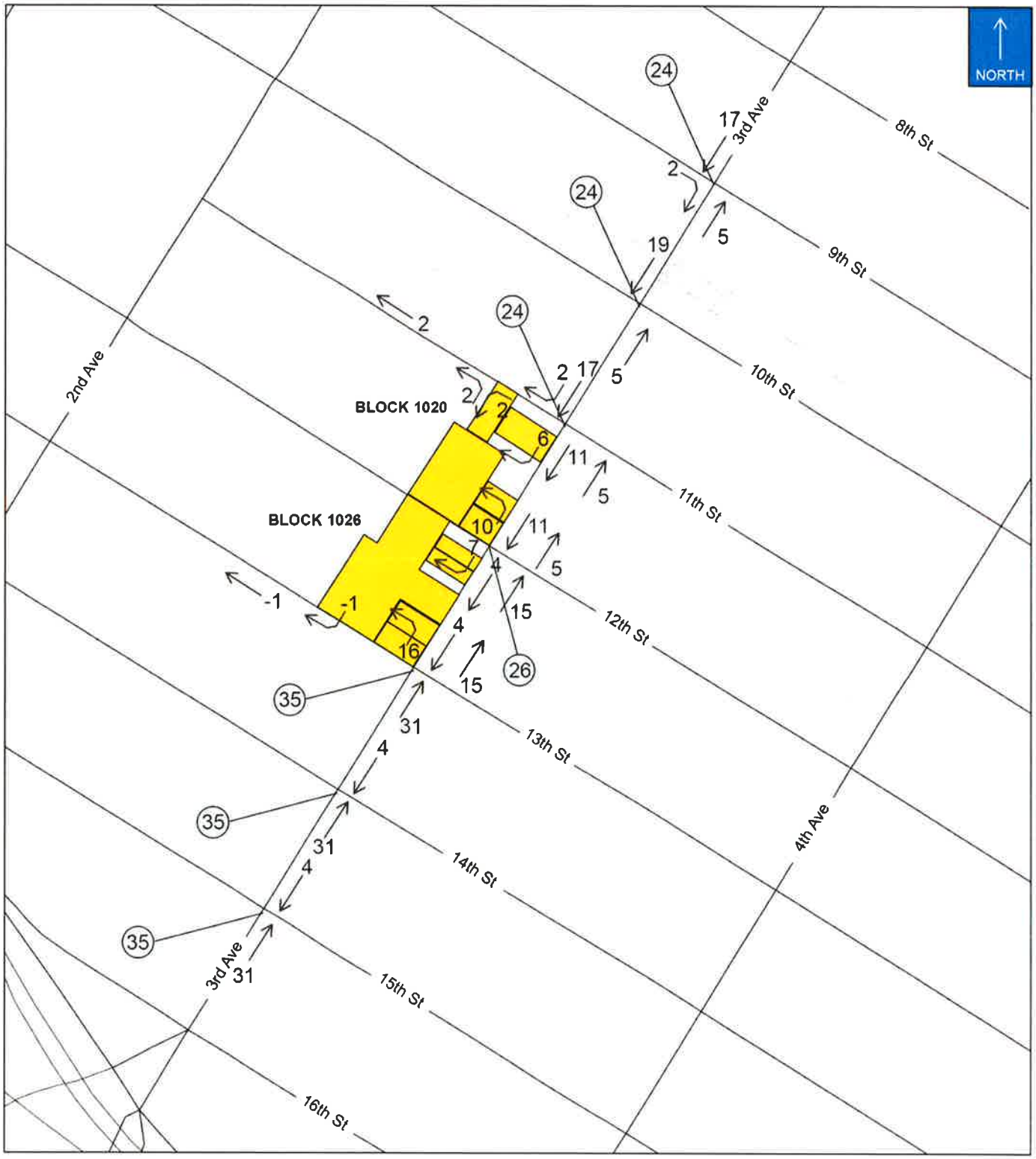



Projected Sites

Projected Sites and Street Direction

Figure 2

506-530 3rd Avenue Mixed-Use Development Brooklyn NY




Projected Sites

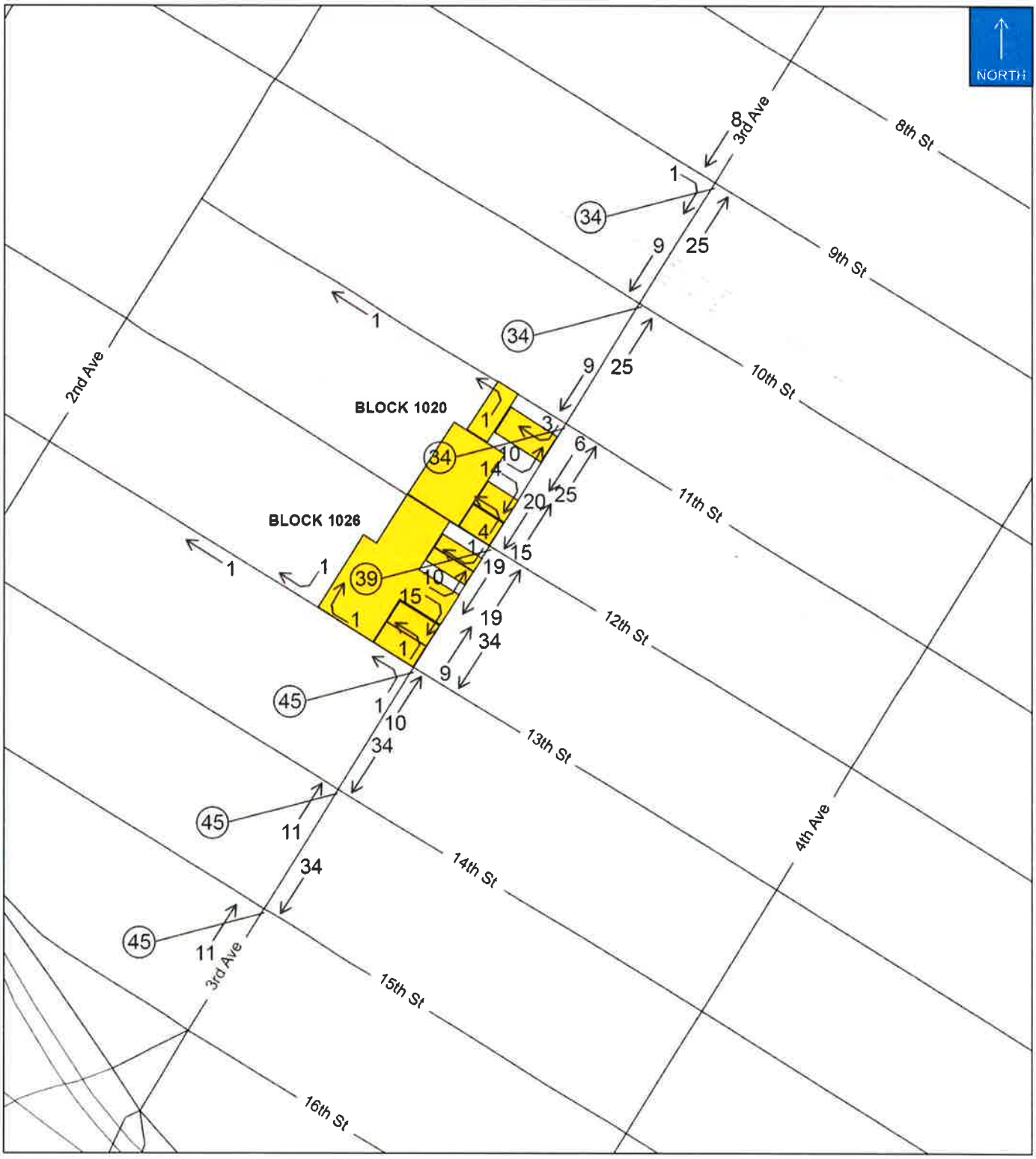
50 Inbound / 10 Outbound Trips

Project Increment Vehicular Trips

Weekday AM Peak Hour

Figure 3

506-530 3rd Avenue Mixed-Use Development Brooklyn NY




Project Sites

20 Inbound / 61 Outbound Trips

Project Increment Vehicular Trips

Weekday PM Peak Hour

Figure 4

# Table 3

506-530 3rd Avenue, Brooklyn NY
Development By Parcel

**Scenario A**

| | No-Action Scenario | | | | With-Action | | | Increment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Use/Block | Retail | Office | Light Indus. | d.u. | Retail | Office | d.u. | Retail | Office | Light Indus. | d.u. |
| **Block 1020** | 3,450 | 7,350 | 9,346 | 5 | 14,500 | - | 69 | 11,050 | (7,350) | (9,346) | 64 |
| Block 1026 | 3,500 | 11,750 | 8,900 | 21 | 7,188 | 10,000 | 72 | -<br>3,688 | (1,750) | (8,900) | 51 |
| Total | 6,950 | 19,100 | 18,246 | 26 | 21,688 | 10,000 | 141 | -<br>14,738 | (9,100) | (18,246) | 115 |

# Table 4

506-530 3rd Avenue, Brooklyn NY
Development By Parcel

**Scenario B**

| | No-Action Scenario | | | | With-Action | | | Increment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Use/Block | Retail | Office | Light Indus. | d.u. | Retail | Office | d.u. | Retail | Office | Light Indus. | d.u. |
| **Block 1020** | 3,450 | 7,350 | 9,346 | 5 | 14,500 | 49,300 | 0 | 11,050 | 41,950 | (9,346) | -5 |
| Block 1026 | 3,500 | 11,750 | 8,900 | 21 | 7,100 | 68,048 | 0 | -<br>3,600 | 56,298 | (8,900) | -21 |
| Total | 6,950 | 19,100 | 18,246 | 26 | 21,688 | 117,348 | - | -<br>14,738 | 98,248 | (18,246) | (26) |

Table 5 : Transportation Planning Factors_Scenario A

***506 3rd Avenue, Brooklyn NY- Total***

| Land Use: | Residential | Local Retail | Office | | Light Industrial | |
|---|---|---|---|---|---|---|
| | d.u. | gsf | gsf | | gsf | |
| Size/Units: | 115 | 14,738 | (9,100) | | (18,246) | |
| | (1) | (1) | (1) | | (4) | |
| Trip Generation: | | | | | | |
| Weekday | 8.075 | 205 | 18 | | 14.7 | |
| Saturday | 9.6 | 240 | 3.9 | | 2.2 | |
| | per d.u. | per 1,000gsf | per 1,000 gsf | | per 1,000 gsf | |
| Linked-Trip: | 0% | 25% | 0% | | 0% | |
| Temporal Distribution: | (1) | (1) | (1) | | (4) | |
| AM Peak Hour | 10% | 3% | 12% | | 13.2% | |
| MD Peak Hour | 5% | 19% | 15% | | 11% | |
| PM Peak Hour | 11% | 10% | 14% | | 14.2% | |
| Sat. MD Peak Hour | 8% | 10% | 17% | | 10.7% | |
| | (2) | (3) | (3) | (5) | (6) | (4) |
| Modal Split : | all periods | all periods | am/pm/sat. | midday | am/pm/sat | midday |
| Auto | 13.3% | 11% | 28.7% | 2% | 41% | 2% |
| Taxi | 0.2% | 0% | 4.9% | 1% | 1% | 3% |
| Subway | 66.2% | 3% | 32.1% | 7% | 32% | 6% |
| Bus | 1.6% | 2% | 12.7% | 7% | 6% | 6% |
| Walk & Other | 18.7% | 84% | 21.6% | 83% | 20% | 83% |
| Total | 100.0% | 100% | 100% | 100% | 100% | 100% |
| | (3) | (4) | (4) | | (4) | |
| In/Out Splits: | In/Out | In/Out | In/Out | | In/Out | |
| AM Peak Hour | 24/76 | 50/50 | 96/4 | | 88/12 | |
| MD Peak Hour | 50/50 | 50/50 | 39/61 | | 50/50 | |
| PM Peak Hour | 61/39 | 50/50 | 5/95 | | 12/88 | |
| Sat. MD Peak Hour | 45/55 | 55/45 | 60/40 | | 47/53 | |
| Vehicle Occupancy: | (2&3) | (3) | (5) | | (4) | |
| Auto | 1.162 | 1.2 | 1.26 | | 1.2 | |
| Taxi | 1.3 | 1.2 | 1.26 | | 1.2 | |
| Truck Trip Generation: | (1) | (1) | (1) | | (4) | |
| Weekday | 0.06 | 0.35 | 0.32 | | 0.67 | |
| Saturday | 0.02 | 0.04 | 0.01 | | 0.67 | |
| | per d.u. | per 1,000 gsf | per 1,000 gsf | | per 1,000 gsf | |
| | (1) | (1) | (1) | | (4) | |
| AM Peak Hour | 12% | 8% | 10% | | 14% | |
| MD Peak Hour | 9% | 11% | 11% | | 9% | |
| PM Peak Hour | 2% | 2% | 2% | | 1% | |
| Sat. MD Peak Hour | 9% | 11% | 11% | | 0% | |
| AM/MD/PM/Sat. MD | 50/50 | 50/50 | 50/50 | | 50/50 | |

Sources:

*(1)-2014 CEQR Technical Manual, Table 16-2.*

*(2)-2013-2017 (ACS)-Journey-to-Work (JTW)Census*

*Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brooklyn N.Y. (Exhibits A&B)*

*(3)_based on data provided by DOT.*

*(4)-East New York FEIS, Table 13-8.*

*(5)-25 Kent Avenue EAS.*

*(6)-2012-2016 (ACS)- Reverse-Journey-to-Work (RJTW)Census*

*Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brooklyn N.Y. (Exhibits C&D)*

**Table 6 : Estimated Person Trips_Scenario A**

***506 3rd Avenue, Brooklyn NY-Total***

| Land Use: | Residential | Local Retail | Office | Manufacturing | Total | subway trips |
|---|---|---|---|---|---|---|
| | d.u. | gsf | gsf | gsf | | bus trips |
| Size/Units: | 115 | 14,738 | (9,100) | (18,246) | | walk/other trips |
| Peak hour Trips | | | | | | pedestrian trips |
| AM Peak Hour | 93 | 68 | -20 | -35 | 106 | |
| Midday Peak Hour | 46 | 431 | -25 | -30 | 423 | |
| PM Peak Hour | 102 | 227 | -23 | -38 | 268 | |
| Saturday Midday Peak Hou | 88 | 265 | -6 | -4 | 343 | |
| **Person Trips:** | | | | | | |
| ***AM Peak Hour*** | | | | | | |
| Auto | 12 | 7 | -6 | -15 | 0 | |
| Taxi | 0 | 0 | -1 | 0 | -1 | |
| Subway | 61 | 2 | -6 | -11 | 46 | 46 |
| Bus | 1 | 1 | -2 | -2 | -2 | -2 |
| Walk & Other | 17 | 57 | -4 | -7 | 63 | 63 |
| Total | 93 | 68 | -20 | -35 | 106 | 107 |
| ***Midday Peak Hour*** | | | | | | |
| Auto | 6 | 47 | -1 | -1 | 51 | |
| Taxi | 0 | 0 | 0 | -1 | -1 | |
| Subway | 31 | 13 | -2 | -2 | 40 | 40 |
| Bus | 1 | 9 | -2 | -2 | 6 | 6 |
| Walk & Other | 9 | 362 | -20 | -24 | 325 | 325 |
| Total | 46 | 430 | -25 | -30 | 421 | 371 |
| ***PM Peak Hour*** | | | | | | |
| Auto | 14 | 25 | -7 | -16 | 16 | |
| Taxi | 0 | 0 | -1 | 0 | -1 | |
| Subway | 68 | 7 | -7 | -12 | 55 | 55 |
| Bus | 2 | 5 | -3 | -2 | 1 | 1 |
| Walk & Other | 19 | 190 | -5 | -8 | 197 | 197 |
| Total | 103 | 227 | -23 | -38 | 267 | 253 |
| ***Saturday Midday Peak Hour*** | | | | | | |
| Auto | 12 | 29 | -2 | -2 | 37 | |
| Taxi | 0 | 0 | 0 | 0 | 0 | |
| Subway | 58 | 8 | -2 | -1 | 63 | 63 |
| Bus | 1 | 5 | -1 | 0 | 6 | 6 |
| Walk & Other | 17 | 223 | -1 | -1 | 237 | 237 |
| Total | 88 | 265 | -6 | -4 | 343 | 306 |

**Table 7 : Estimated Vehicular Trips_Scenario A**

***506 3rd Avenue, Brooklyn NY-Total***

| Land Use: | Residential | Local Retail | Office | Manufacturing | Total |
|---|---|---|---|---|---|
| | d.u. | gsf | gsf | gsf | |
| Size/Units: | 115 | 14,738 | (9,100) | (18,246) | |
| **Vehicular Trips** | | | | | |
| AM Peak Hour | | | | | |
| Auto (Total) | 11 | 6 | -4 | -12 | 1 |
| Taxi | 0 | 0 | -1 | 0 | -1 |
| Taxi (Balanced) | 0 | 0 | -2 | 0 | -2 |
| Truck | 1 | 0 | 0 | -2 | -1 |
| Truck(Balanced) | 2 | 0 | 0 | -2 | 0 |
| Total | 13 | 6 | -6 | -14 | -1 |
| ***In/Out Trips*** | ***4/9*** | ***3/3*** | ***-5/-1*** | ***-12/-2*** | ***-10/9*** |
| Midday Peak Hour | | | | | |
| Auto (Total) | 5 | 39 | -1 | -1 | 42 |
| Taxi | 0 | 0 | 0 | -1 | -1 |
| Taxi (Balanced) | 0 | 0 | 0 | -2 | -2 |
| Truck | 1 | 1 | 0 | -1 | 1 |
| Truck(Balanced) | 2 | 2 | 0 | -2 | 2 |
| Total | 7 | 41 | -1 | -5 | 42 |
| ***In/Out Trips*** | ***4/3*** | ***20/21*** | ***0/-1*** | ***-3/-2*** | ***21/21*** |
| PM Peak Hour | | | | | |
| Auto (Total) | 12 | 21 | -6 | -13 | 14 |
| Taxi | 0 | 0 | -1 | 0 | -1 |
| Taxi (Balanced) | 0 | 0 | -2 | 0 | -2 |
| Truck | 0 | 0 | 0 | 0 | 0 |
| Truck(Balanced) | 0 | 0 | 0 | 0 | 0 |
| Total | 12 | 21 | -8 | -13 | 12 |
| ***In/Out Trips*** | ***7/5*** | ***10/11*** | ***-1/-7*** | ***-2/-11*** | ***14/-2*** |
| Saturday Midday Peak Hour | | | | | |
| Auto (Total) | 10 | 24 | -1 | -1 | 32 |
| Taxi | 0 | 0 | 0 | 0 | 0 |
| Taxi (Balanced) | 0 | 0 | 0 | 0 | 0 |
| Truck | 0 | 0 | 0 | 0 | 0 |
| Truck(Balanced) | 0 | 0 | 0 | 0 | 0 |
| Total | 10 | 24 | -1 | -1 | 32 |
| ***In/Out Trips*** | ***5/5*** | ***13/11*** | ***-1/0*** | ***-0/-1*** | ***17/15*** |

## Table 8 : Transportation Planning Factors_Scenario B

***Parcels in Block 1020***

| Land Use: | Residential | Local Retail | Office | | Light Industrial | |
|---|---|---|---|---|---|---|
| | d.u. | gsf | gsf | | gsf | |
| Size/Units: | (5) | 11,050 | 41,950 | | (9,346) | |
| | (1) | (1) | (1) | | (4) | |
| Trip Generation: | | | | | | |
| Weekday | 8.075 | 205 | 18 | | 14.7 | |
| Saturday | 9.6 | 240 | 3.9 | | 2.2 | |
| | per d.u. | per 1,000gsf | per 1,000 gsf | | per 1,000 gsf | |
| Linked-Trip: | 0% | 25% | 0% | | 0% | |
| Temporal Distribution: | (1) | (1) | (1) | | (4) | |
| AM Peak Hour | 10% | 3% | 12% | | 13.2% | |
| MD Peak Hour | 5% | 19% | 15% | | 11% | |
| PM Peak Hour | 11% | 10% | 14% | | 14% | |
| Sat. MD Peak Hour | 8% | 10% | 17% | | 10.7% | |
| | (2) | (3) | (3) | (5) | (6) | (4) |
| Modal Split : | all periods | all periods | am/pm/sat | midday | am/pm/sat | midday |
| Auto | 13.3% | 11% | 28.7% | 2% | 41% | 2% |
| Taxi | 0.2% | 0% | 4.9% | 1% | 1% | 3% |
| Subway | 66.2% | 3% | 32.1% | 7% | 32% | 6% |
| Bus | 1.6% | 2% | 12.7% | 7% | 6% | 6% |
| Walk & Other | 18.7% | 84% | 21.6% | 83% | 20% | 83% |
| Total | 100.0% | 100% | 100% | 100% | 100% | 100% |
| | (3) | (3) | (3) | | (4) | |
| In/Out Splits: | In/Out | In/Out | In/Out | | In/Out | |
| AM Peak Hour | 24/76 | 50/50 | 96/4 | | 88/12 | |
| MD Peak Hour | 50/50 | 50/50 | 39/61 | | 50/50 | |
| PM Peak Hour | 61/39 | 50/50 | 5/95 | | 12/88 | |
| Sat. MD Peak Hour | 45/55 | 55/45 | 60/40 | | 47/53 | |
| Vehicle Occupancy: | (2&3) | (3) | (5) | | (4) | |
| Auto | 1.162 | 1.2 | 1.26 | | 1.2 | |
| Taxi | 1.3 | 1.2 | 1.26 | | 1.2 | |
| Truck Trip Generation: | (1) | (1) | (1) | | (4) | |
| Weekday | 0.06 | 0.35 | 0.32 | | 0.67 | |
| Saturday | 0.02 | 0.04 | 0.01 | | 0.67 | |
| | per d.u. | per 1,000 gsf | per 1,000 gsf | | per 1,000 gsf | |
| | (1) | (1) | (1) | | (4) | |
| AM Peak Hour | 12% | 8% | 10% | | 14% | |
| MD Peak Hour | 9% | 11% | 11% | | 9% | |
| PM Peak Hour | 2% | 2% | 2% | | 1% | |
| Sat. MD Peak Hour | 9% | 11% | 11% | | 0.0% | |
| AM/MD/PM/Sat. MD | 50/50 | 50/50 | 50/50 | | 50/50 | |

Sources:

*(1)-2014 CEQR Technical Manual, Table 16-2.*

*(2)-2013-2017 (ACS)-Journey-to-Work (JTW)Census*

*Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brooklyn N.Y. (Exhibits A&B)*

*(3)-Based on data provided by DOT.*

*(4)_East New York Rezoning FEIS, Table 13.8.*

*(5)-25 Kent Avenue EAS.*

*(6)-2012-2016 (ACS)- Reverse-Journey-to-Work (RJTW)Census*

*Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brooklyn N.Y. (Exhibits C&D)*

**Table 9 : Estimated Person Trips_Scenario B**

***Parcels in Block 1020***

| Land Use: | Residential | Local Retail | Office | Light Industrial | Total | subway trips |
|---|---|---|---|---|---|---|
| | d.u. | gsf | gsf | gsf | | bus trips |
| Size/Units: | (5) | 11,050 | 41,950 | (9,346) | | walk/other trips |
| Peak hour Trips | | | | | | pedestrian trips |
| AM Peak Hour | -4 | 51 | 91 | -18 | 119 | |
| Midday Peak Hour | -2 | 323 | 113 | -15 | 419 | |
| PM Peak Hour | -4 | 170 | 106 | -20 | 252 | |
| Saturday Midday Peak Hou | -4 | 199 | 28 | -2 | 221 | |
| **Person Trips:** | | | | | | |
| ***AM Peak Hour*** | | | | | | |
| Auto | -1 | 6 | 26 | -7 | 24 | |
| Taxi | 0 | 0 | 4 | 0 | 4 | |
| Subway | -3 | 2 | 29 | -6 | 22 | 22 |
| Bus | 0 | 1 | 12 | -1 | 11 | 11 |
| Walk & Other | -1 | 43 | 20 | -4 | 58 | 58 |
| Total | -4 | 51 | 91 | -18 | 120 | 92 |
| ***Midday Peak Hour*** | | | | | | |
| Auto | 0 | 36 | 2 | 0 | 38 | |
| Taxi | 0 | 0 | 1 | 0 | 1 | |
| Subway | -1 | 10 | 8 | -1 | 15 | 15 |
| Bus | 0 | 6 | 8 | -1 | 13 | 13 |
| Walk & Other | 0 | 271 | 94 | -13 | 352 | 352 |
| Total | -2 | 323 | 113 | -15 | 420 | 381 |
| ***PM Peak Hour*** | | | | | | |
| Auto | -1 | 19 | 30 | -8 | 40 | |
| Taxi | 0 | 0 | 5 | 0 | 5 | |
| Subway | -3 | 5 | 34 | -6 | 30 | 30 |
| Bus | 0 | 3 | 13 | -1 | 16 | 16 |
| Walk & Other | -1 | 143 | 23 | -4 | 161 | 161 |
| Total | -5 | 170 | 105 | -20 | 251 | 206 |
| ***Saturday Midday Peak Hour*** | | | | | | |
| Auto | -1 | 22 | 8 | -1 | 28 | |
| Taxi | 0 | 0 | 1 | 0 | 1 | |
| Subway | -3 | 6 | 9 | -1 | 12 | 12 |
| Bus | 0 | 4 | 4 | 0 | 7 | 7 |
| Walk & Other | -1 | 167 | 6 | 0 | 172 | 172 |
| Total | -4 | 199 | 28 | -2 | 221 | 191 |

## Table 10 : Estimated Vehicular Trips_Scenario B

***Parcels in Block 1020***

| Land Use: | Residential | Local Retail | Office | Light Industrial | |
|---|---|---|---|---|---|
| | d.u. | gsf | gsf | gsf | Total |
| Size/Units: | (5) | 11,050 | 41,950 | (9,346) | |
| **Vehicular Trips** | | | | | |
| AM Peak Hour | | | | | |
| Auto (Total) | 0 | 5 | 21 | -6 | 20 |
| Taxi | 0 | 0 | 4 | 0 | 4 |
| Taxi (Balanced) | 0 | 0 | 8 | 0 | 8 |
| Truck | 0 | 0 | 1 | -1 | 0 |
| Truck(Balanced) | 0 | 0 | 2 | -2 | 0 |
| Total | 0 | 5 | 31 | -8 | 28 |
| ***In & Out*** | ***0/0*** | ***3/2*** | ***25/6*** | ***-6/-2*** | ***22/6*** |
| Midday Peak Hour | | | | | |
| Auto (Total) | 0 | 30 | 2 | 0 | 32 |
| Taxi | 0 | 0 | 1 | 0 | 1 |
| Taxi (Balanced) | 0 | 0 | 2 | 0 | 2 |
| Truck | 0 | 0 | 1 | -1 | 0 |
| Truck(Balanced) | 0 | 0 | 2 | -2 | 0 |
| Total | 0 | 30 | 6 | -2 | 34 |
| ***In & Out*** | ***0/0*** | ***15/15*** | ***3/3*** | ***-1/-1*** | ***17/17*** |
| PM Peak Hour | | | | | |
| Auto (Total) | -1 | 16 | 24 | -7 | 32 |
| Taxi | 0 | 0 | 4 | 0 | 4 |
| Taxi (Balanced) | 0 | 0 | 8 | 0 | 8 |
| Truck | 0 | 0 | 0 | 0 | 0 |
| Truck(Balanced) | 0 | 0 | 0 | 0 | 0 |
| Total | -1 | 16 | 32 | -7 | 40 |
| ***In & Out*** | ***-1/0*** | ***8/8*** | ***5/27*** | ***-1/-6*** | ***11/29*** |
| Saturday Midday Peak Hour | | | | | |
| Auto (Total) | 0 | 18 | 6 | -1 | 23 |
| Taxi | 0 | 0 | 1 | 0 | 1 |
| Taxi (Balanced) | 0 | 0 | 2 | 0 | 2 |
| Truck | 0 | 0 | 0 | 0 | 0 |
| Truck(Balanced) | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 18 | 8 | -1 | 25 |
| ***In & Out*** | ***0/0*** | ***10/8*** | ***5/3*** | ***-1/0*** | ***14/11*** |

Table 11 : Transportation Planning Factors_Scenario B

***Parcels in Block 1026***

| Land Use: | Residential | Local Retail | Office | | Light Industrial | |
|---|---|---|---|---|---|---|
| | d.u. | gsf | gsf | | gsf | |
| Size/Units: | (21) | 3,688 | 56,298 | | (8,900) | |
| | (1) | (1) | (1) | | (4) | |
| Trip Generation: | | | | | | |
| Weekday | 8.075 | 205 | 18 | | 14.7 | |
| Saturday | 9.6 | 240 | 3.9 | | 2.2 | |
| | per d.u. | per 1,000gsf | per 1,000 gsf | | per 1,000 gsf | |
| Linked-Trip: | 0% | 25% | 0% | | 0% | |
| Temporal Distribution: | (1) | (1) | (1) | | (4) | |
| AM Peak Hour | 10% | 3% | 12% | | 13.2% | |
| MD Peak Hour | 5% | 19% | 15% | | 11% | |
| PM Peak Hour | 11% | 10% | 14% | | 14% | |
| Sat. MD Peak Hour | 8% | 10% | 17% | | 10.7% | |
| | (2) | (3) | (3) | (5) | (6) | (4) |
| Modal Split : | all periods | all periods | am/pm/sat | midday | am/pm/sat | midday |
| Auto | 13.3% | 11% | 28.7% | 2% | 41% | 2% |
| Taxi | 0.2% | 0% | 4.9% | 1% | 1% | 3% |
| Subway | 66.2% | 3% | 32.1% | 7% | 32% | 6% |
| Bus | 1.6% | 2% | 12.7% | 7% | 6% | 6% |
| Walk & Other | 18.7% | 84% | 21.6% | 83% | 20% | 83% |
| Total | 100.0% | 100% | 100% | 100% | 100% | 100% |
| | (3) | (3) | (3) | | (4) | |
| In/Out Splits: | In/Out | In/Out | In/Out | | In/Out | |
| AM Peak Hour | 24/76 | 50/50 | 96/4 | | 88/12 | |
| MD Peak Hour | 50/50 | 50/50 | 39/61 | | 50/50 | |
| PM Peak Hour | 61/39 | 50/50 | 5/95 | | 12/88 | |
| Sat. MD Peak Hour | 45/55 | 55/45 | 60/40 | | 47/53 | |
| Vehicle Occupancy: | (2&3) | (3) | (5) | | (4) | |
| Auto | 1.162 | 1.2 | 1.26 | | 1.2 | |
| Taxi | 1.3 | 1.2 | 1.26 | | 1.2 | |
| Truck Trip Generation: | (1) | (1) | (1) | | (4) | |
| Weekday | 0.06 | 0.35 | 0.32 | | 0.67 | |
| Saturday | 0.02 | 0.04 | 0.01 | | 0.67 | |
| | per d.u. | per 1,000 gsf | per 1,000 gsf | | per 1,000 gsf | |
| | (1) | (1) | (1) | | (4) | |
| AM Peak Hour | 12% | 8% | 10% | | 14% | |
| MD Peak Hour | 9% | 11% | 11% | | 9% | |
| PM Peak Hour | 2% | 2% | 2% | | 1% | |
| Sat. MD Peak Hour | 9% | 11% | 11% | | 0.0% | |
| AM/MD/PM/Sat. MD | 50/50 | 50/50 | 50/50 | | 50/50 | |

Sources:

*(1)-2014 CEQR Technical Manual, Table 16-2.*

*(2)-2013-2017 (ACS)-Journey-to-Work (JTW)Census*

*Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brooklyn N.Y. (Exhibits A&B)*

*(3)-Based on data provided by DOT.*

*(4)_East New York Rezoning FEIS, Table 13.8.*

*(5)-25 Kent Avenue EAS.*

*(6)-2012-2016 (ACS)- Reverse-Journey-to-Work (RJTW)Census*

*Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brooklyn N.Y. (Exhibits C&D)*

**Table 12 : Estimated Person Trips_Scenario B**

***Parcels in Block 1026***

| Land Use: | Residential | Local Retail | Office | Light Industrial | Total | subway trips |
|---|---|---|---|---|---|---|
| | d.u. | gsf | gsf | gsf | | bus trips |
| Size/Units: | (21) | 3,600 | 56,298 | (8,900) | | walk/other trips |
| Peak hour Trips | | | | | | pedestrian trips |
| AM Peak Hour | -17 | 17 | 122 | -17 | 104 | |
| Midday Peak Hour | -8 | 108 | 152 | -14 | 237 | |
| PM Peak Hour | -19 | 57 | 142 | -19 | 161 | |
| Saturday Midday Peak Hou | -16 | 66 | 37 | -2 | 85 | |
| **Person Trips:** | | | | | | |
| ***AM Peak Hour*** | | | | | | |
| Auto | -2 | 2 | 35 | -7 | 28 | |
| Taxi | 0 | 0 | 6 | 0 | 6 | |
| Subway | -11 | 1 | 39 | -6 | 23 | 23 |
| Bus | 0 | 0 | 15 | -1 | 14 | 14 |
| Walk & Other | -3 | 14 | 26 | -3 | 34 | 34 |
| Total | -17 | 17 | 122 | -17 | 105 | 71 |
| ***Midday Peak Hour*** | | | | | | |
| Auto | -1 | 12 | 3 | 0 | 14 | |
| Taxi | 0 | 0 | 2 | 0 | 1 | |
| Subway | -6 | 3 | 11 | -1 | 7 | 7 |
| Bus | 0 | 2 | 11 | -1 | 12 | 12 |
| Walk & Other | -2 | 90 | 126 | -12 | 203 | 203 |
| Total | -8 | 108 | 152 | -14 | 237 | 222 |
| ***PM Peak Hour*** | | | | | | |
| Auto | -2 | 6 | 41 | -8 | 37 | |
| Taxi | 0 | 0 | 7 | 0 | 7 | |
| Subway | -12 | 2 | 46 | -6 | 29 | 29 |
| Bus | 0 | 1 | 18 | -1 | 18 | 18 |
| Walk & Other | -3 | 48 | 31 | -4 | 71 | 71 |
| Total | -18 | 56 | 142 | -19 | 161 | 118 |
| ***Saturday Midday Peak Hour*** | | | | | | |
| Auto | -2 | 7 | 11 | -1 | 15 | |
| Taxi | 0 | 0 | 2 | 0 | 2 | |
| Subway | -11 | 2 | 12 | -1 | 3 | 3 |
| Bus | 0 | 1 | 5 | 0 | 6 | 6 |
| Walk & Other | -3 | 56 | 8 | 0 | 60 | 60 |
| Total | -16 | 66 | 37 | -2 | 85 | 69 |

**Table 13 : Estimated Vehicular Trips_Scenario B**

***Parcels in Block 1026***

| Land Use: | Residential | Local Retail | Office | Light Industrial | |
|---|---|---|---|---|---|
| | d.u. | gsf | gsf | gsf | Total |
| Size/Units: | (21) | 3,600 | 56,298 | (8,900) | |
| **Vehicular Trips** | | | | | |
| AM Peak Hour | | | | | |
| Auto (Total) | -2 | 2 | 28 | -6 | 22 |
| Taxi | 0 | 0 | 5 | 0 | 5 |
| Taxi (Balanced) | 0 | 0 | 10 | 0 | 10 |
| Truck | 0 | 0 | 2 | -1 | 1 |
| Truck(Balanced) | 0 | 0 | 2 | -2 | 0 |
| Total | -2 | 2 | 40 | -8 | 32 |
| ***In & Out*** | ***0/-2*** | ***1/1*** | ***33/7*** | ***-6/-2*** | ***28/4*** |
| Midday Peak Hour | | | | | |
| Auto (Total) | -1 | 10 | 2 | 0 | 11 |
| Taxi | 0 | 0 | 1 | 0 | 1 |
| Taxi (Balanced) | 0 | 0 | 2 | 0 | 2 |
| Truck | 0 | 0 | 2 | -1 | 1 |
| Truck(Balanced) | 0 | 0 | 2 | -2 | 0 |
| Total | -1 | 10 | 6 | -2 | 13 |
| ***In & Out*** | ***-1/0*** | ***5/5*** | ***3/3*** | ***-1/-1*** | ***6/7*** |
| PM Peak Hour | | | | | |
| Auto (Total) | -2 | 5 | 33 | -7 | 29 |
| Taxi | 0 | 0 | 6 | 0 | 6 |
| Taxi (Balanced) | 0 | 0 | 12 | 0 | 12 |
| Truck | 0 | 0 | 0 | 0 | 0 |
| Truck(Balanced) | 0 | 0 | 0 | 0 | 0 |
| Total | -2 | 5 | 45 | -7 | 41 |
| ***In & Out*** | ***-1/-1*** | ***3/2*** | ***8/37*** | ***-1/-6*** | ***9/32*** |
| Saturday Midday Peak Hour | | | | | |
| Auto (Total) | -2 | 6 | 9 | -1 | 12 |
| Taxi | 0 | 0 | 1 | 0 | 1 |
| Taxi (Balanced) | 0 | 0 | 2 | 0 | 2 |
| Truck | 0 | 0 | 0 | 0 | 0 |
| Truck(Balanced) | 0 | 0 | 0 | 0 | 0 |
| Total | -2 | 6 | 11 | -1 | 14 |
| ***In & Out*** | ***-1/-1*** | ***3/3*** | ***6/5*** | ***0/-1*** | ***8/6*** |

# Table 14

506-530 3rd Avenue Development Person and Vehicular Trip-Ends by projected Sites

| Peak Hour | Scenario A | | Scenario B | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Projected Sites | Blocks 1020 & 1026 | | Block 1020 | | Block 1026 | | Total | | |
| | Person Trips | Vehicular Trips | Person Trips | Vehicular Trips | Person Trips | Vehicular Trips | Person Trips | Vehicular Trips | |
| Weekday | | | | In & Out | | | | | |
| AM Peak Hour | 106 | -1 | 120 | 22 /6 | 105 | 28/4 | 225 | 50/10 | 60 |
| Midday Peak Hour | 421 | 42 | 420 | 17/17 | 237 | 6/7 | 657 | 23/24 | 47 |
| PM Peak Hour | 267 | 12 | 251 | 11/29 | 161 | 9/32 | 412 | 20/61 | 81 |
| Saturday | | | | | | | | | |
| Midday Peak Hour | 343 | 32 | 221 | 14/11 | 85 | 8/6 | 306 | 22/17 | 39 |

***Source:Transportation Planning Factors Tables 5 thru 13 (See Transportation Appendix).***

# Table 15

506-530 3rd Avenue Development Subway and Bus Trip-Ends by projected Sites

| | Transit Trips | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Peak Hour | Scenario A | | Scenario B | | | | | |
| Projected Sites | Blocks 1020 & 1026 | | Block 1020 | | Block 1026 | | Total | |
| | Subway Trips | Bus Trips | Subway Trips | Bus Trips | Subway Trips | Bus Trips | Subway Trips | Bus Trips |
| Weekday | | | | | | | | |
| AM Peak Hour | 46 | -2 | 22 | 11 | 23 | 14 | 45 | 25 |
| Midday Peak Hour | 40 | 6 | 15 | 13 | 7 | 12 | 22 | 25 |
| PM Peak Hour | 55 | 1 | 30 | 16 | 29 | 18 | 59 | 34 |
| Saturday | | | | | | | | |
| Midday Peak Hour | 63 | 6 | 12 | 7 | 3 | 6 | 15 | 13 |

***Source:Transportation Planning Factors Tables 5 thru 13 (See Transportation Appendix).***

# Table 16

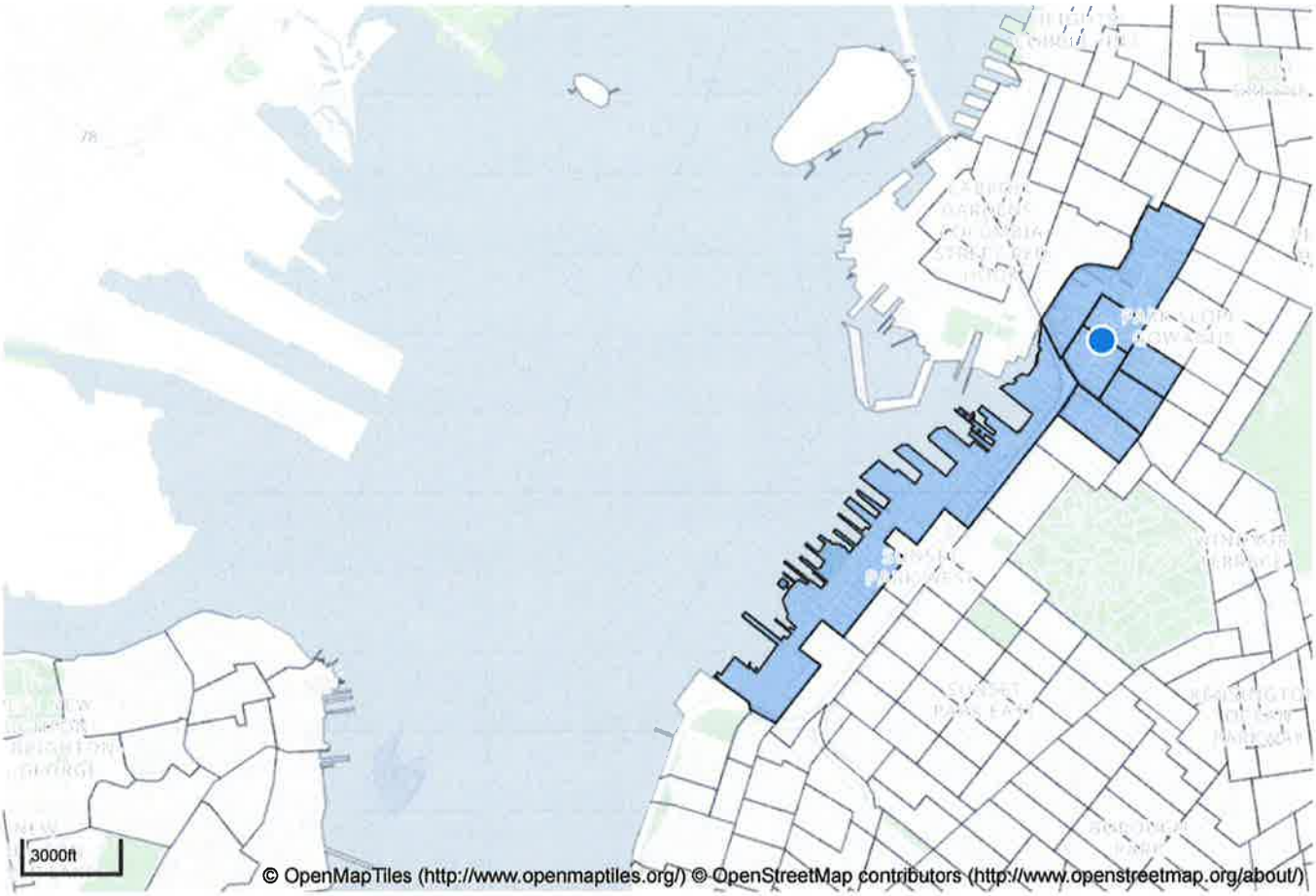
506-530 3rd Avenue Development Pedestrian Trip-Ends by projected Sites

| Peak Hour Projected Sites | Scenario A | Scenario B | | |
|---|---|---|---|---|
| | Blocks 1020 & 1026 Pedestrian Trips | Block 1020 Pedestrian Trips | Block 1026 Pedestrian Trips | Total Pedestrian Trips |
| Weekday | | | | |
| AM Peak Hour | 107 | 92 | 71 | 163 |
| Midday Peak Hour | 371 | 381 | 222 | 603 |
| PM Peak Hour | 253 | 206 | 118 | 324 |
| Saturday | | | | |
| Midday Peak Hour | 306 | 191 | 69 | 260 |

***Source:Transportation Planning Factors Tables 5 thru 13 (See Transportation Appendix).***

NYC PLANNING (http://www1.nyc.gov/site/planning/index.page) **Population FactFinder (/)**

**Census Block** **Census Tract** **Neighborhood (NTA)** **PUMA**




Draw

Select individual census tracts to add them to the profile.

Polygon Radius

## View Profile

**7 Tracts**

Advanced Options

× Clear Selection

AMERICAN FactFinder

506 3rd Ave. Bklyn NY

B08301

MEANS OF TRANSPORTATION TO WORK
Universe: Workers 16 years and over
2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

| | Census Tract 18, Kings County, New York | | Census Tract 117, Kings County, New York | | Census Tract 119, Kings County, New York | |
|---|---|---|---|---|---|---|
| | Estimate | Margin of Error | Estimate | Margin of Error | Estimate | Margin of Error |
| Total: | 0 | +/-11 | 1,847 | +/-239 | 947 | +/-123 |
| Car, truck, or van: | 0 | +/-11 | 233 | +/-124 | 102 | +/-67 |
| Drove alone | 0 | +/-11 | 161 | +/-103 | 95 | +/-65 |
| Carpooled: | 0 | +/-11 | 72 | +/-63 | 7 | +/-11 |
| In 2-person carpool | 0 | +/-11 | 53 | +/-44 | 7 | +/-11 |
| In 3-person carpool | 0 | +/-11 | 19 | +/-26 | 0 | +/-11 |
| In 4-person carpool | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| In 5- or 6-person carpool | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| In 7-or-more-person carpool | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Public transportation (excluding taxicab): | 0 | +/-11 | 1,342 | +/-262 | 650 | +/-96 |
| Bus or trolley bus | 0 | +/-11 | 39 | +/-34 | 12 | +/-13 |
| Streetcar or trolley car (carro publico in Puerto Rico) | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Subway or elevated | 0 | +/-11 | 1,303 | +/-260 | 638 | +/-99 |
| Railroad | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Ferryboat | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Taxicab | 0 | +/-11 | 8 | +/-14 | 5 | +/-7 |
| Motorcycle | 0 | +/-11 | 0 | +/-11 | 5 | +/-8 |
| Bicycle | 0 | +/-11 | 14 | +/-20 | 22 | +/-16 |
| Walked | 0 | +/-11 | 103 | +/-54 | 78 | +/-60 |

| | Census Tract 18, Kings County, New York | | Census Tract 117, Kings County, New York | | Census Tract 119, Kings County, New York | |
|---|---|---|---|---|---|---|
| | Estimate | Margin of Error | Estimate | Margin of Error | Estimate | Margin of Error |
| Other means | 0 | +/-11 | 15 | +/-24 | 5 | +/-8 |
| Worked at home | 0 | +/-11 | 132 | +/-80 | 80 | +/-36 |

| | Census Tract 121, Kings County, New York | | Census Tract 139, Kings County, New York | | Census Tract 141, Kings County, New York | |
|---|---|---|---|---|---|---|
| | Estimate | Margin of Error | Estimate | Margin of Error | Estimate | Margin of Error |
| Total: | 1,227 | +/-116 | 2,204 | +/-277 | 1,938 | +/-276 |
| Car, truck, or van: | 189 | +/-66 | 224 | +/-77 | 244 | +/-92 |
| Drove alone | 177 | +/-67 | 186 | +/-69 | 117 | +/-63 |
| Carpooled: | 12 | +/-19 | 38 | +/-44 | 127 | +/-73 |
| In 2-person carpool | 0 | +/-11 | 28 | +/-40 | 79 | +/-65 |
| In 3-person carpool | 0 | +/-11 | 9 | +/-15 | 11 | +/-17 |
| In 4-person carpool | 0 | +/-11 | 0 | +/-11 | 37 | +/-38 |
| In 5- or 6-person carpool | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| In 7-or-more-person carpool | 12 | +/-19 | 1 | +/-5 | 0 | +/-11 |
| Public transportation (excluding taxicab): | 804 | +/-104 | 1,621 | +/-232 | 1,353 | +/-200 |
| Bus or trolley bus | 30 | +/-47 | 28 | +/-30 | 16 | +/-17 |
| Streetcar or trolley car (carro publico in Puerto Rico) | 5 | +/-7 | 0 | +/-11 | 9 | +/-15 |
| Subway or elevated | 769 | +/-99 | 1,593 | +/-225 | 1,321 | +/-193 |
| Railroad | 0 | +/-11 | 0 | +/-11 | 7 | +/-10 |
| Ferryboat | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Taxicab | 5 | +/-8 | 0 | +/-11 | 0 | +/-11 |
| Motorcycle | 0 | +/-11 | 0 | +/-11 | 0 | +/-11 |
| Bicycle | 24 | +/-18 | 119 | +/-69 | 88 | +/-114 |
| Walked | 59 | +/-39 | 143 | +/-77 | 56 | +/-36 |
| Other means | 8 | +/-12 | 0 | +/-11 | 16 | +/-19 |
| Worked at home | 138 | +/-71 | 97 | +/-64 | 181 | +/-107 |

| | Census Tract 143, Kings County, New York | |
|---|---|---|
| | Estimate | Margin of Error |
| Total: | 2,349 | +/-227 |
| Car, truck, or van: | 409 | +/-132 |
| Drove alone | 315 | +/-126 |
| Carpooled: | 94 | +/-81 |
| In 2-person carpool | 94 | +/-81 |
| In 3-person carpool | 0 | +/-11 |
| In 4-person carpool | 0 | +/-11 |
| In 5- or 6-person carpool | 0 | +/-11 |
| In 7-or-more-person carpool | 0 | +/-11 |
| Public transportation (excluding taxicab): | 1,357 | +/-216 |
| Bus or trolley bus | 34 | +/-28 |
| Streetcar or trolley car (carro publico in Puerto Rico) | 0 | +/-11 |
| Subway or elevated | 1,323 | +/-216 |
| Railroad | 0 | +/-11 |
| Ferryboat | 0 | +/-11 |
| Taxicab | 0 | +/-11 |
| Motorcycle | 7 | +/-12 |
| Bicycle | 32 | +/-30 |
| Walked | 288 | +/-115 |
| Other means | 30 | +/-42 |
| Worked at home | 226 | +/-107 |

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.

# Exhibit A

## Modal Split Data

**2013-2017 ACS 5-YEAR Journey-to-Work (JTW) for Census Tract numbers 18, 117, 119, 121, 139, 141 and 143 in Brooklyn NY**

***506 3rd Avenue, Brooklyn NY***

***2013-2017 ACS 5-Year, Journey-to-Work:***

| Census Tract | Total Workers | Car or Van Drive-Alone | Carpool | Bus | Street Car | Subway | R.R. | Ferry | Taxi | Motor cycle | Bicycle | Walked | Other Means | Worked @ Home | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | 0 |
| **117** | **1847** | **161** | **72** | **39** | **0** | **1303** | **0** | **0** | **8** | **0** | **14** | **103** | **15** | **132** | 1,847 |
| **119** | **947** | **95** | **7** | **12** | **0** | **638** | **0** | **0** | **5** | **5** | **22** | **78** | **5** | **80** | 947 |
| **121** | **1227** | **177** | **12** | **30** | **5** | **769** | **0** | **0** | **5** | **0** | **24** | **59** | **8** | **138** | 1,227 |
| **139** | **2204** | **186** | **38** | **28** | **0** | **1593** | **0** | **0** | **0** | **0** | **119** | **143** | **0** | **97** | 2,204 |
| **141** | 1,938 | 117 | 127 | 16 | 9 | 1,321 | 7 | 0 | 0 | 0 | 88 | 56 | 16 | 181 | 1,938 |
| **143** | 2,349 | 315 | 94 | 34 | 0 | 1,323 | 0 | 0 | 0 | 7 | 32 | 288 | 30 | 226 | 2,349 |
| Total | 10,512 | 1,051 | 350 | 159 | 14 | 6,947 | 7 | 0 | 18 | 12 | 299 | 727 | 74 | 854 | 10,512 |
| | | ***0.100*** | ***0.033*** | ***0.015*** | ***0.00*** | ***0.661*** | ***0.001*** | ***0.00*** | ***0.00*** | ***0.00*** | ***0.03*** | ***0.069*** | ***0.01*** | ***0.081*** | ***1.00*** |

# Exhibit B

## Vehicle Occupancy Rate Information

**2013-2017 ACS 5-YEAR Journey-to-Work (JTW) for Census Tract numbers 18, 117, 119, 121, 139, 141 and 143 in Brooklyn NY**

2013-2017 ACS-5 Year (JTW), Vehicle Occupancy Rate:

| Census Tract | Total | Drove alone | Total carpool | 2person carpool | 3 Person carpool | 4 Person carpool | 5 or 6 Persor carpool | 7 or more Person carpool | Total |
|---|---|---|---|---|---|---|---|---|---|
| **18** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **117** | 233 | 161 | 72 | 53 | 19 | 0 | 0 | 0 | 72 |
| **119** | 102 | 95 | 7 | 7 | 0 | 0 | 0 | 0 | 7 |
| **121** | 189 | 177 | 12 | 0 | 0 | 0 | 0 | 12 | 12 |
| **139** | 224 | 186 | 38 | 28 | 9 | 0 | 0 | 1 | 38 |
| **141** | 244 | 117 | 127 | 79 | 11 | 37 | 0 | 0 | 127 |
| **143** | 409 | 315 | 94 | 94 | 0 | 0 | 0 | 0 | 94 |
| | 1,401 | 1,051 | | 131 | 13 | 9 | 0 | 2 | 1,206 |
| Vehicle Occupancy = | | | **1.162** | | | | | | |

## Modal Split Data summary

| | |
|---|---|
| **Auto** | **0.133** |
| **Taxi** | **0.002** |
| **Bus** | **0.016** |
| **Subway** | **0.662** |
| **Walk** | **0.069** |
| **Other** | **0.118** |
| **Total** | **1.00** |

# Exhibit C

Modal Split Data

**2012-2016 ACS 5-YEAR Reverse-Journey-to-Work (R JTW) for Census Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brookly, NY**

***506 3rd Avenue, Brooklyn New York***

***2012-2016 ACS 5-Year, Reverse-Journey-to-Work:***

| Census Tract | Total Workers | Car or Van Drive-Alone | Carpool | Bus | Street Car | Subway | R.R. | Ferry | Bicycle | walk | taxi | motor cycle | Other Means | Worked @ Home | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **18** | **7869** | **3210** | **840** | **365** | **0** | **2120** | **100** | **0** | **265** | **895** | **40** | **4** | **30** | **0** | 7,869 |
| **117** | **1054** | **260** | **55** | **90** | **0** | **375** | **20** | **0** | **35** | **105** | **4** | **0** | **35** | **75** | 1,054 |
| **119** | **3878** | **1115** | **295** | **275** | **10** | **1395** | **100** | **4** | **125** | **430** | **30** | **4** | **0** | **95** | 3,878 |
| **121** | **1119** | **205** | **30** | **60** | **25** | **415** | **65** | **0** | **50** | **110** | **20** | **4** | **0** | **135** | 1,119 |
| **139** | **1355** | **315** | **105** | **50** | **0** | **435** | **15** | **0** | **90** | **215** | **0** | **0** | **25** | **105** | 1,355 |
| **141** | **1170** | **330** | **40** | **125** | **0** | **290** | **0** | **0** | **50** | **120** | **0** | **0** | **0** | **215** | 1,170 |
| 143 | 1,145 | 395 | 55 | 35 | 4 | 305 | 4 | 0 | 0 | 100 | 0 | 0 | 0 | 240 | 1,138 |
| Total | 17,590 | 5,830 | 1,420 | 1,000 | 39 | 5,335 | 304 | 4 | 615 | 1,975 | 94 | 12 | 90 | 865 | 17,583 |
| % Mode of Travel | | ***0.331*** | ***0.081*** | ***0.057*** | ***0.00*** | ***0.303*** | ***0.017*** | ***0.00*** | ***0.03*** | ***0.11*** | ***0.01*** | ***0.001*** | ***0.01*** | ***0.049*** | ***1.00*** |

# Exhibit D

Vehicle Occupancy Rate Data

2012-2016 ACS 5-YEAR Reverse-Journey-to-Work (R JTW) for Census Tract #'s 18, 117, 119, 121, 139, 141 and 143 in Brookly, NY

2012-2016 ACS-5 Year (RJTW), Vehicle Occupancy Rate:

| Census Tract | Total Drove Alone & Car Pool | Drove alone | Total car pool | carpool 2person | 3 Person | 4 Person | 5 or 6 Perso | 7 or more Person | Total |
|---|---|---|---|---|---|---|---|---|---|
| **18** | 4050 | 3210 | 840 | 520 | 245 | 15 | 35 | 25 | 840 |
| **117** | 315 | 260 | 55 | 20 | 25 | 10 | 0 | 0 | 55 |
| **119** | 1410 | 1115 | 295 | 210 | 75 | 10 | 0 | 0 | 295 |
| **121** | 235 | 205 | 30 | 30 | 0 | 0 | 0 | 0 | 30 |
| **139** | 420 | 315 | 105 | 80 | 25 | 0 | 0 | 0 | 105 |
| **141** | 370 | 330 | 40 | 25 | 15 | 0 | 0 | 0 | 40 |
| 143 | 450 | 395 | 55 | 55 | 0 | 0 | 0 | 0 | 55 |
| total | 7,250 | 5,830 | 1,420 | 940 | 385 | 35 | 35 | 25 | 1,420 |
| total car | | 5830 | | 470 | 128 | 9 | 6 | 4 | 6,447 |

## Modal Split summary

| | |
|---|---|
| Auto | **0.41** |
| Taxi | **0.01** |
| Bus | **0.06** |
| Subway | **0.32** |
| Walk | **0.11** |
| Other | **0.09** |
| Total | **1.00** |

Vehicle Occupancy = **1.12**

**NOISE BACKUP**

# 506 THIRD AVENUE

July 9, 2019

Noise Analysis
Prepared by:
Equity Environmental
Prepared for:
Environmental Studies Corp.

# Noise Analysis – 506 Third Avenue

**Introduction**

Equity Environmental Engineering, LLC (Equity) conducted noise monitoring on Tuesday, June 18th, and Tuesday June 25th, 2019. in support of a Zoning Map Amendment that would establish an C4-4A district within an area currently zoned M2-1. The affected area is the Third Avenue frontage of Blocks 1020 and 1026, located on the west side of Third Avenue between 11th and 13th Streets in the Gowanus section of Brooklyn Community District 6. The affected area consists of Block 1020, Lots 34, 35, 36, 39, 40, 41, 42, 43, 44, and 45; and Block 1026, Lots 32, 33, 34, 35, 36, 37, 40, 42.

Third Avenue is a two-way street with two moving north-bound lanes, one moving south-bound lane, and a bike with as well as curbside parking. 11th Street is a one-way street with one moving lane and curbside parking. 12th Street is a one-way street with one moving lane and curbside parking. Local intersections are controlled by traffic signals and stop signs. The elevated tracks of the IND F train are located approximately 330' north of the Affected Area.

The Proposed Action would allow noise-sensitive residential and community facility development in an area where such use is not permitted under existing zoning, as well as allowing commercial development at an increased density. Although the applicant's intended development is a five-story commercial building on Block 1020, Lot 6, the Proposed Action would allow for development of noise-sensitive land uses on this site and other sites within the affected area. Therefore, an assessment of the potential for adverse effects on project occupants from ambient noise is warranted. The projected development would not create a significant stationary 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. Therefore, this noise assessment is limited to an assessment of ambient noise that could adversely affect occupants of the development. The predominant noise source at the Affected Area is vehicular traffic on surrounding streets.

**Framework of Noise Analysis**

Noise is defined as any unwanted sound, and sound is defined as any pressure variation that the human ear can detect. Humans can detect a large range of sound pressures, from 20 to 20 million micropascals, but only those air pressure variations occurring within a particular 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.

Because the human ear can detect such a wide range of sound pressures, sound pressure is converted to sound pressure level (SPL), which is measured in units called decibels (dB). The decibel is a relative measure of the sound pressure with respect to a standardized reference quantity. Because the dB scale is logarithmic, a relative increase of 10 dB represents a sound pressure that is 10 times higher. However, humans do not perceive a 10-dB increase as 10 times louder. Instead, they perceive it as twice as loud.

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 frequency weightings used are the A- and C-weightings. 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-weighting is the most commonly used for environmental measurements, and sound levels measured using this weighting are denoted as dBA. The letter "A" indicates that the 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.

**Table 19-1: 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* | |

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.

- $L_{max}$ is the highest SPL measured during a given period of time. It is useful in evaluating $L_{eq}$s for time periods that have an especially wide range of 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.

**Noise Standards and Guidelines**

In 1983, the New York City Department of Environmental Protection (NYCDEP) adopted the City Environmental Quality Review (CEQR) noise exposure guidelines for exterior noise levels. As shown in Table 19-2 below, noise standards classify noise exposure into four categories based on noise level limits and land use, for vehicular traffic, rail, and aircraft noise sources: Acceptable, Marginally Acceptable, Marginally Unacceptable and Clearly Unacceptable, Table 19-3 of the *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise exposure levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA (*$L_{10}$ or Ldn, depending on the source*) or below.

## Table 19-2: Noise Exposure Guidelines for Use in City Environmental Impact Review

| Receptor Type | Time Period | Acceptable General External Exposure | Airport[3] Exposure | Marginally Acceptable General External Exposure | Airport[3] Exposure | Marginally Unacceptable General External Exposure | Airport[3] Exposure | Clearly Unacceptable General External Exposure | Airport[3] Exposure |
|---|---|---|---|---|---|---|---|---|---|
| 1.Outdoor area requiring serenity and quiet[2] | | $L_{10} \leq 55$ dBA | Ldn < 60 dBA | | Ldn < 60 dBA | | Ldn < 60 dBA | | Ldn < 75 dBA |
| 2. Hospital, Nursing Home | | $L_{10} \leq 55$ dBA | | $55 < L_{10} \leq 65$ dBA | | $65 < L_{10} \leq 80$ dBA | | $L_{10} > 80$dBA | |
| 3. Residence, residential hotel or motel | 7 am to 10 pm | $L_{10} \leq 65$dBA | | $65 < L_{10} \leq 70$ dBA | | $70 < L_{10} \leq 80$ dBA | | $L_{10} > 80$dBA | |
| | 10 pm to 7 am | L10≤55dBA | | $55 < L_{10} \leq 70$ dBA | | $70 < L_{10} \leq 80$ dBA | | $L_{10} > 80$dBA | |
| 4. School, museum, library, court house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility | | Same as Residential Day (7 AM-10 PM) | | Same as Residential Day (7 AM-10 PM) | | Same as Residential Day (7 AM- 10 PM) | | Same as Residential Day (7 AM –10 PM) | |
| 5. Commercial or office | | Same as Residential Day (7 AM-10 PM) | | Same as Residential Day (7 AM-10 PM) | | Same as Residential Day (7 AM –10 PM) | | Same as Residential Day (7 AM-10 PM) | |
| 6. Industrial, public areas only[4] | Note 4 | Note 4 | | Note 4 | | Note 4 | | Note 4 | |

Source: New York City Department of Environmental Protection (adopted policy 1983).

**Notes:**

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

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

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

3 One may use the FAA-approved $L_{dn}$ contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.

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

## Table 19-3 CEQR TM: Attenuation Values to Achieve Acceptable Interior Noise Levels

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

Source: New York City of Environmental Protection

**Notes:**

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

2 Required attenuation values increase by 1 dB(A) increments for $L_{10}$ values greater than 80 dBA.

**Measurement Location and Equipment**

Because the predominant noise sources in the area of the proposed project consist of vehicular traffic and elevated train movements, noise monitoring was conducted during peak weekday vehicular travel periods (AM, Midday, PM) on a typical midweek day. Pursuant to CEQR Technical Manual Methodology, measurements were conducted for a 1-hour period during each of the peak periods at each monitoring location at the Project Area: Location One (1) was at ground level at the Third Avenue frontage at the corner of 11th Street; Location Two (2) was elevated above Location One (1) with a direct line-of-sight to the elevated rail line; Location Three (3) was taken on 12th Street approximately 50 feet west of 3rd Avenue. The noise monitoring locations are shown in Figure 19-1 and Photo 19-1 19-2, and 19-3 below.

Noise monitoring was conducted using a using Type 1 Casella CEL-633C sound meters 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 traffic around the Project Area constitute a worst-case condition for noise. Noise meter calibration certification and back up data are provided in Appendix A.

**Photo 19-1:** ***Noise Monitoring Location One (1)***
***3rd Avenue and 11th Street***



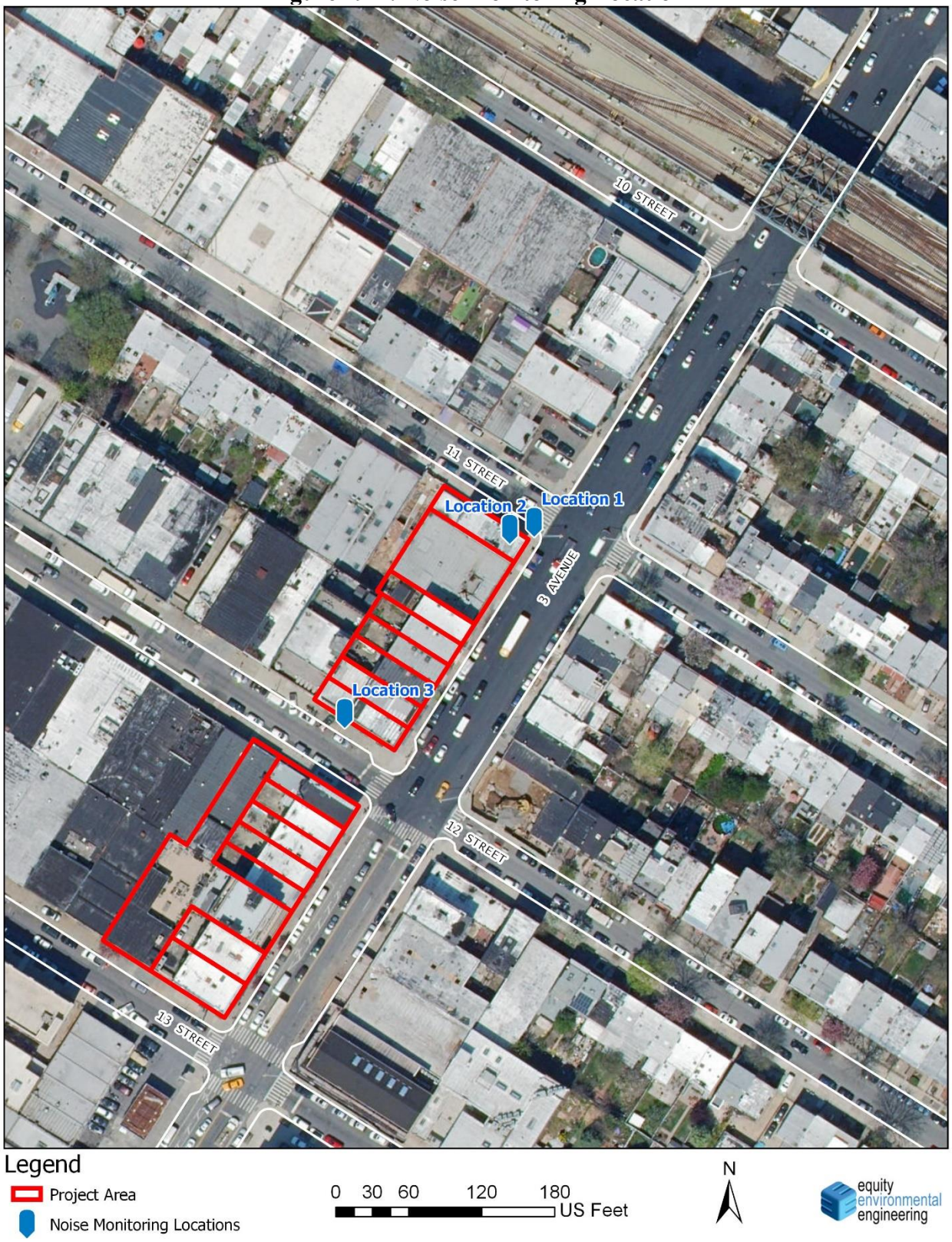
**Photo 19-2:** ***Noise Monitoring Location Two (2)***
***Rooftop Location 3rd Avenue approx. 20 feet south of 11th Street***



**Photo 19-3:** ***Noise Monitoring Location Three (3)***
***12th Street approx. 50 feet west of 3rd Avenue***



**Figure 19-1: Noise Monitoring Location**



**Measurement Conditions**
Monitoring was conducted during typical midweek conditions, on Tuesday, June 18th, and Tuesday, June 25th, 2019. The weather was dry with intermittent rain and wind speeds were moderate during all monitoring periods. The sound meter was calibrated before and after each monitoring session.

**Existing Conditions**
Based on the noise measurements, the predominant source of noise is vehicular traffic.

***Table 19-4 19-5, and 19-6*** *below contains the results for the measurements taken at the Project Site:*

| **Table 19-4**<br>*Noise Levels (dB) at Location 1* | | | |
|---|---|---|---|
| *Tuesday, June 18th, 2019* | | | |
| Time | **7:46 am – 8:46 am** | **12:05 pm – 1:07 pm** | **4:30 pm – 5:32 pm** |
| $L_{max}$ | 105.9 | 88.8 | 94.7 |
| $L_{10}$ | **72.0** | **71.0** | **72.5** |
| $L_{eq}$ | **73.7** | 68.5 | **70.3** |
| $L_{50}$ | 67.0 | 66.0 | 66.5 |
| $L_{90}$ | 60.0 | 62.0 | 59.5 |
| $L_{min}$ | 53.9 | 51.8 | 53.0 |

Note: **Bold** denotes $L_{10}$ or $L_{eq}$ noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

| **Table 19-5**<br>*Noise Levels (dB) at Location 2* | | | |
|---|---|---|---|
| *Tuesday, June 25th, 2019* | | | |
| Time | **7:50 am – 8:50 am** | **12:00 pm – 1:00 pm** | **4:30 pm -5:30 pm** |
| $L_{max}$ | 101.4 | 93.6 | 87.3 |
| $L_{10}$ | **72.0** | **72.5** | 68.0 |
| $L_{eq}$ | **72.4** | 69.9 | 64.8 |
| $L_{50}$ | 66.5 | 65.5 | 61.0 |
| $L_{90}$ | 59.0 | 58.0 | 57.0 |
| $L_{min}$ | 52.7 | 52.7 | 52.2 |

Note: **Bold** denotes $L_{10}$ or $L_{eq}$ noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

| **Table 19-6**<br>*Noise Levels (dB) at Location 3* | | | |
|---|---|---|---|
| *Tuesday, June 18th, 2019* | | | |
| Time | **7:40 am – 8:40 am** | **12:00 pm – 1:03 pm** | **4:30 pm – 5:30 pm** |
| $L_{max}$ | 87.7 | 95.1 | 90.4 |
| $L_{10}$ | **70.5** | **71.0** | 64.5 |
| $L_{eq}$ | 67.4 | 68.5 | 63.9 |
| $L_{50}$ | 64.5 | 65.0 | 59.0 |
| $L_{90}$ | 57.5 | 57.5 | 54.5 |
| $L_{min}$ | 52.7 | 48.9 | 50.0 |

Note: **Bold** denotes $L_{10}$ or $L_{eq}$ noise level exceedances, according to Table 19-2 of the CEQR Technical Manual

***Table 19-7 and 19-8*** *below contains the traffic counts and vehicle classifications during each monitoring period for 20 minutes:*

| **Table 19-6**<br>***Location 1:*** *Traffic volumes and vehicle classification at Location 1* | | | |
|---|---|---|---|
| | **7:46 am – 8:46 am** | **12:05 pm – 1:07 pm** | **4:30 pm – 5:32 pm** |
| **Car/ Taxi** | 176 | 126 | 162 |
| **Van/Light Truck/SUV** | 250 | 176 | 194 |
| **Medium Truck** | 18 | 8 | 25 |
| **Heavy Truck** | 26 | 32 | 28 |
| **Bus** | 16 | 12 | 17 |
| **Train** | 20 | 22 | 20 |

| **Table 19-7**<br>***Location 1:*** *Traffic volumes and vehicle classification at Location 3* | | | |
|---|---|---|---|
| | **7:40 am – 8:40 am** | **12:00 pm – 1:03 pm** | **4:30 pm – 5:30 pm** |
| **Car/ Taxi** | 8 | 7 | 37 |
| **Van/Light Truck/SUV** | 30 | 16 | 53 |
| **Medium Truck** | 9 | 1 | 3 |
| **Heavy Truck** | 1 | 0 | 0 |
| **Bus** | 0 | 0 | 0 |
| **Train** | 0 | 0 | 0 |

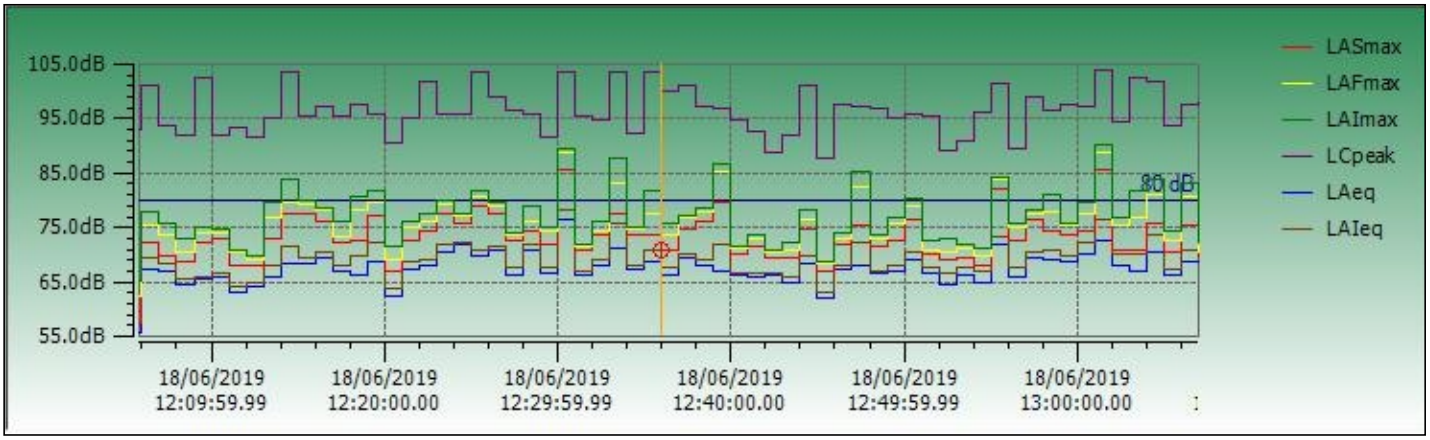
**Determination of Impacts/Building Attenuation Requirements**

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 75 dB(A) is identified as marginally unacceptable general external exposure. The highest recorded $L_{eq}$ at Location One (1) of the subject property was 73.1 dB(A) during the morning monitoring period. The highest recorded $L_{10}$ at Location Two (2) of the subject property was 72.5dB(A) during the midday monitoring period. The highest recorded $L_{10}$ at Location Three (3) of the subject property was 71.0 dB(A) during the midday monitoring period.

Based on the results of the noise monitoring, a window-wall attenuation of 31 dB(A) would be required for residential dwelling units or noise-sensitive community facility uses facing11$^{th}$ Street and Third Avenue below the elevated rail line. A window-wall attenuation of 28 dB(A) would be required for all other residential dwelling units or noise-sensitive community facility uses within the Affected Area. With this amount of required attenuation, there would be no potential for adverse impacts related to ambient noise.

# *Appendix A: Noise Backup Data and Calibration Certificate*

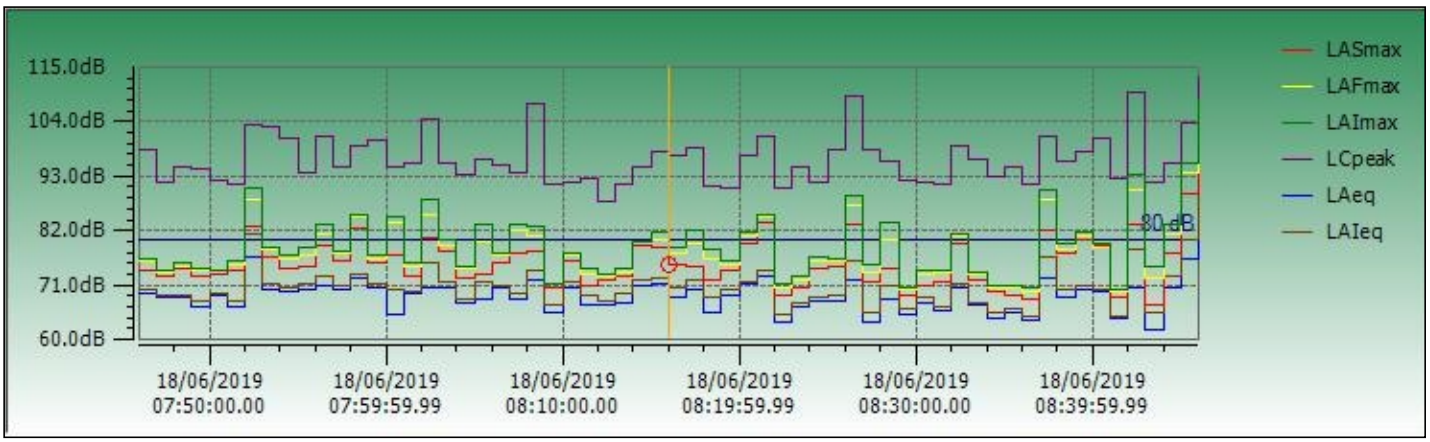
| Instrument Model | CEL-633A | | |
|---|---|---|---|
| LAeq | 68.5 dB | Battery Low | No |
| LCpeak with Time | 103.8 dB (6/18/2019 1:01:49 PM) | Duration | 01:01:19 HH:MM:SS |
| Lepd(Projected) | 68.5 dB | End Date & Time | 6/18/2019 1:07:09 PM |
| Lex8h(Projected) | 68.5 dB | Overload | No |
| LAFmax with Time | 88.8 dB (6/18/2019 12:30:38 PM) | Pause Duration | 00:00:00 HH:MM:SS |
| LAImax with Time | 90.3 dB (6/18/2019 1:01:49 PM) | Response | Random |
| LAFmin with Time | 51.7 dB (6/18/2019 12:05:51 PM) | Run Number | 4 |
| LAImin with Time | 53.0 dB (6/18/2019 12:05:50 PM) | Serial Number | 0165975 |
| LZeq | 80.4 dB | Start Date & Time | 6/18/2019 12:05:50 PM |
| LCeq | 78.6 dB | Site | Unallocated |
| LCeq-LAeq | 10.1 dB | Location | Unallocated |
| LAIeq | 70.4 dB | Person | Unallocated |
| LAE | 104.1 dB | Process | Unallocated |
| Calibration (Before) Date | 6/18/2019 11:51:26 AM | Result | Cumulative |
| Calibration (Before) SPL | 114 dB | LAF 50% | 66 dB |
| Calibration (After) Date | 6/18/2019 1:12:47 PM | LAF 90% | 62 dB |
| Calibration Drift | 0.3 dB | LAF 95% | 61 dB |
| LAF 10% | 71 dB | | |
| Notes | | | |




| Instrument Model | CEL-633A | | |
|---|---|---|---|
| LAeq | 73.7 dB | Battery Low | No |
| LCpeak with Time | 113.1 dB (6/18/2019 8:46:05 AM) | Duration | 01:00:06 HH:MM:SS |
| Lepd(Projected) | 73.7 dB | End Date & Time | 6/18/2019 8:46:07 AM |
| Lex8h(Projected) | 73.7 dB | Overload | No |
| LAFmax with Time | 105.9 dB (6/18/2019 8:46:05 AM) | Pause Duration | 00:00:00 HH:MM:SS |
| LAImax with Time | 108.3 dB (6/18/2019 8:46:05 AM) | Response | Random |
| LAFmin with Time | 53.9 dB (6/18/2019 8:27:56 AM) | Run Number | 3 |

| | | | |
|---|---|---|---|
| LAImin with Time | 54.0 dB (6/18/2019 8:27:57 AM) | Serial Number | 0165975 |
| LZeq | 80 dB | Start Date & Time | 6/18/2019 7:46:01 AM |
| LCeq | 78.9 dB | Site | Unallocated |
| LCeq-LAeq | 5.2 dB | Location | Unallocated |
| LAIeq | 76.9 dB | Person | Unallocated |
| LAE | 109.2 dB | Process | Unallocated |
| Calibration (Before) Date | 6/18/2019 7:18:27 AM | Result | Cumulative |
| Calibration (Before) SPL | 114 dB | LAF 50% | 67 dB |
| Calibration (After) Date | 6/18/2019 8:53:06 AM | LAF 90% | 60 dB |
| Calibration Drift | 0.1 dB | LAF 95% | 58.5 dB |
| LAF 10% | 72 dB | | |

Notes

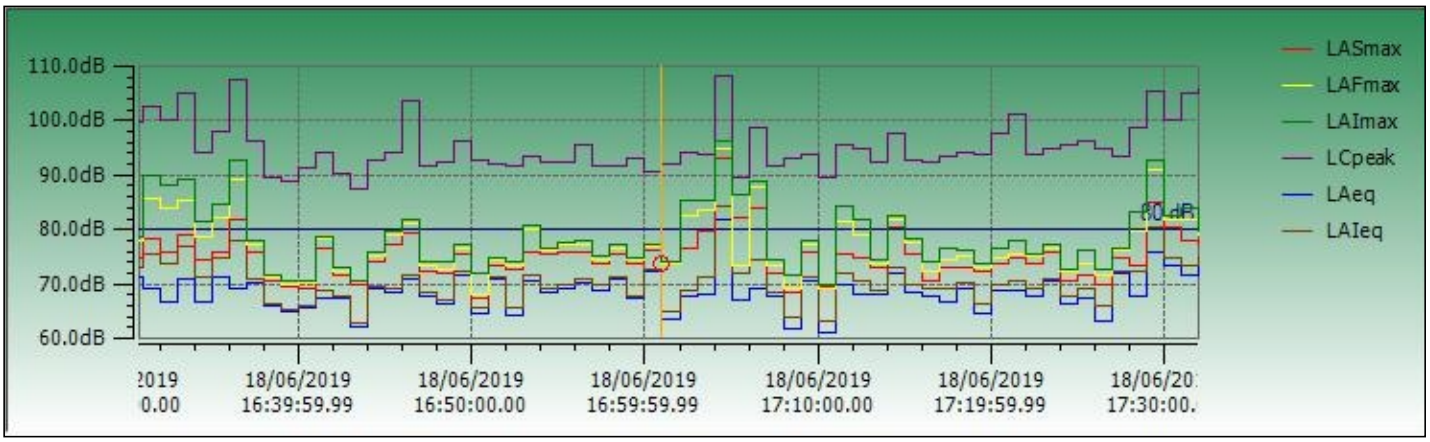



**Instrument Model** **CEL-633A**

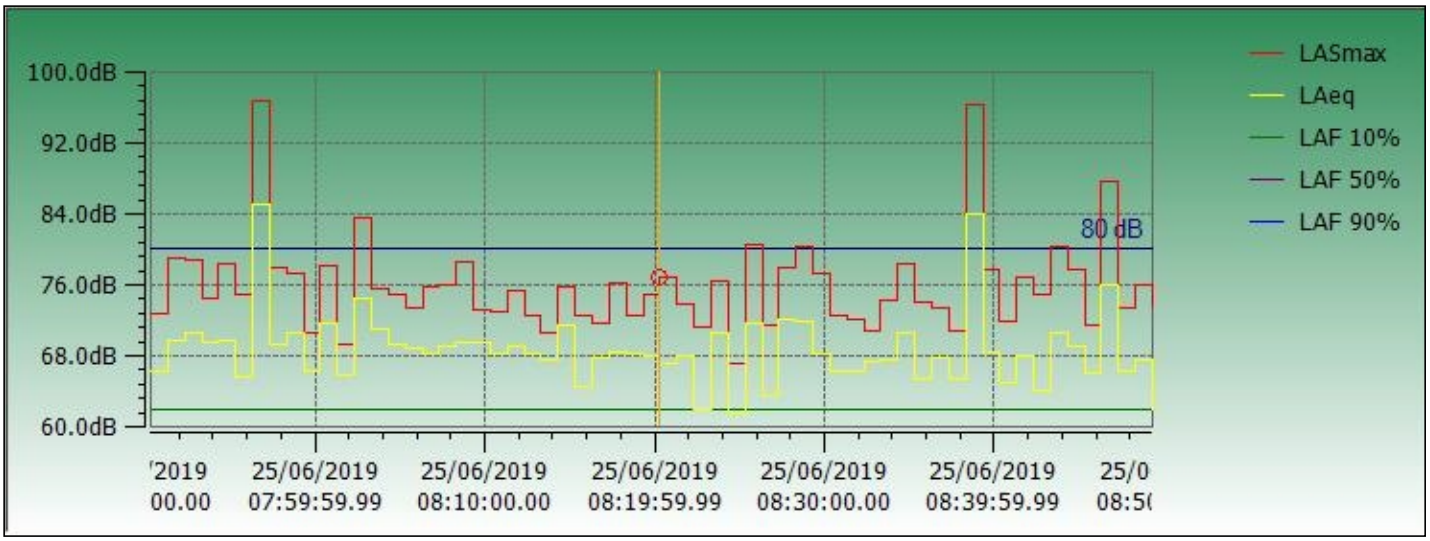
| | | | |
|---|---|---|---|
| LAeq | 70.3 dB | Battery Low | No |
| LCpeak with Time | 108.4 dB (6/18/2019 5:04:53 PM) | Duration | 01:01:37 HH:MM:SS |
| Lepd(Projected) | 70.3 dB | End Date & Time | 6/18/2019 5:32:23 PM |
| Lex8h(Projected) | 70.3 dB | Overload | No |
| LAFmax with Time | 94.7 dB (6/18/2019 5:04:53 PM) | Pause Duration | 00:00:00 HH:MM:SS |
| LAImax with Time | 96.3 dB (6/18/2019 5:04:53 PM) | Response | Random |
| LAFmin with Time | 53.0 dB (6/18/2019 4:45:47 PM) | Run Number | 7 |
| LAImin with Time | 54.1 dB (6/18/2019 4:45:42 PM) | Serial Number | 0165975 |
| LZeq | 79.9 dB | Start Date & Time | 6/18/2019 4:30:46 PM |
| LCeq | 77.3 dB | Site | Unallocated |
| LCeq-LAeq | 7 dB | Location | Unallocated |
| LAIeq | 72.7 dB | Person | Unallocated |
| LAE | 106 dB | Process | Unallocated |
| Calibration (Before) Date | 6/18/2019 4:28:58 PM | Result | Cumulative |
| Calibration (Before) SPL | 114 dB | LAF 50% | 66.5 dB |
| Calibration (After) Date | 6/18/2019 6:40:59 PM | LAF 90% | 59.5 dB |

| | | | |
|---|---|---|---|
| Calibration Drift | 0.6 dB | LAF 95% | 58 dB |
| LAF 10% | 72.5 dB | | |

Notes

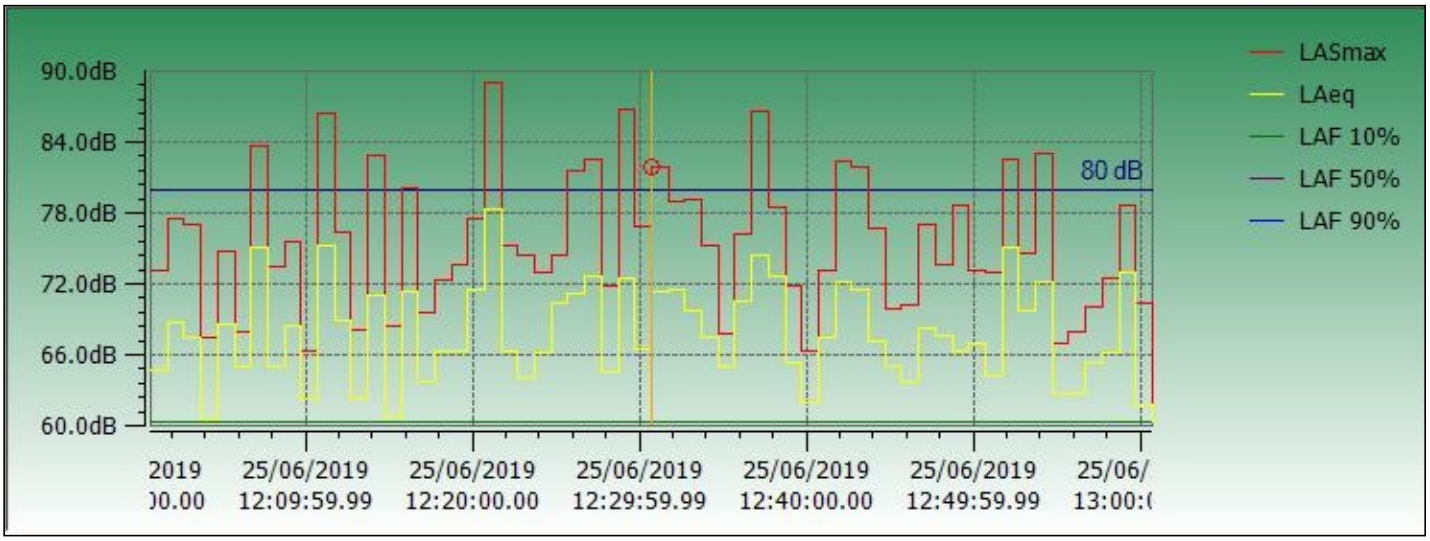


| | |
|---|---|
| **Instrument Model** | **CEL-633C** |
| Battery Low | Yes |
| Duration | 01:00:00 HH:MM:SS |
| Overload | No |
| Pause Duration | 00:00:00 HH:MM:SS |
| Response | Random |
| Run Number | 162 |
| Serial Number | 1274486 |
| Site | Unallocated |
| Location | Unallocated |
| Person | Unallocated |
| Process | Unallocated |
| Result | Cumulative |
| Calibration (After) Date | 6/25/2019 8:54:02 AM |
| Calibration (Before) Date | 6/25/2019 7:45:41 AM |
| Notes | |
| Calibration (Before) Offset | 4 |
| Calibration (Before) SPL | 114 dB |
| Calibration Drift | 0.1 dB |
| LAFmax with Time | 101.4 dB (6/25/2019 8:39:02 AM) |
| LAFmax | 101.4 dB |
| LAFmin | 52.7 dB |
| LAFmin with Time | 52.7 dB (6/25/2019 8:49:46 AM) |
| LAeq | 72.4 dB |
| LAF 10% | 72 dB |
| LAF 50% | 66.5 dB |
| LAF 90% | 59 dB |
| End Date & Time | 6/25/2019 8:50:19 AM |
| Start Date & Time | 6/25/2019 7:50:19 AM |

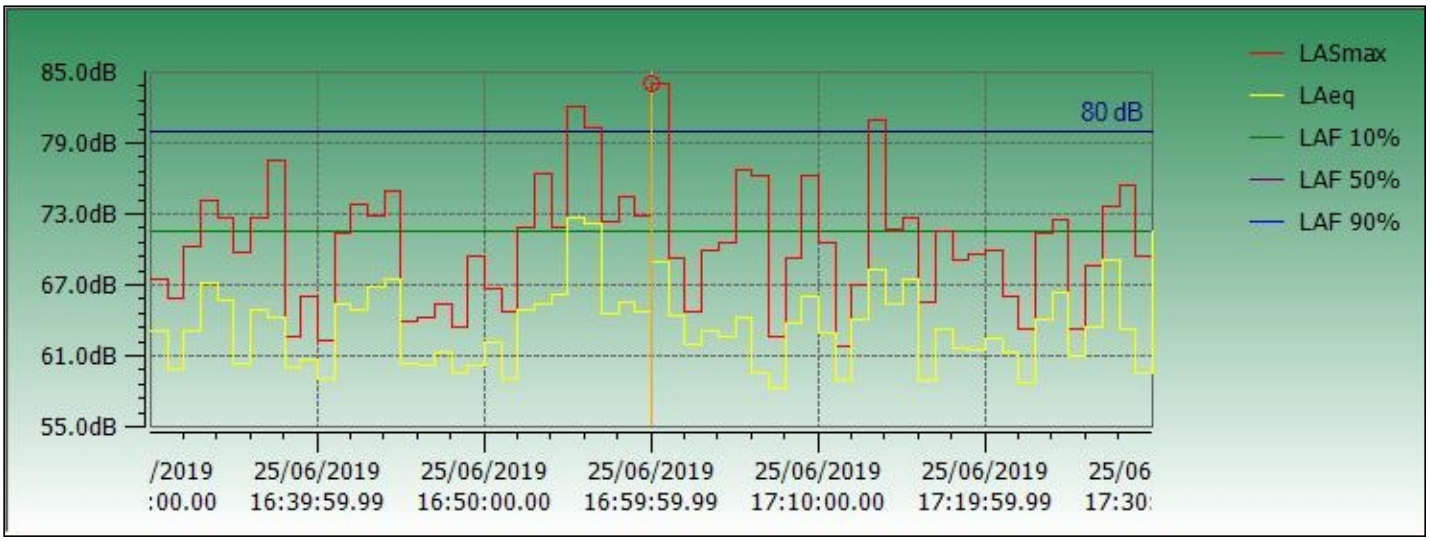



| | |
|---|---|
| **Instrument Model** | **CEL-633C** |
| Battery Low | No |
| Duration | 01:00:05 HH:MM:SS |
| Overload | No |
| Pause Duration | 00:00:00 HH:MM:SS |
| Response | Random |
| Run Number | 164 |
| Serial Number | 1274486 |
| Site | Unallocated |
| Location | Unallocated |
| Calibration (Before) Offset | 3.9 |
| Calibration (Before) SPL | 114 dB |
| Calibration Drift | -1.2 dB |
| LAFmax with Time | 93.6 dB (6/25/2019 12:28:49 PM) |
| LAFmax | 93.6 dB |
| LAFmin | 52.7 dB |
| LAFmin with Time | 52.7 dB (6/25/2019 12:17:26 PM) |
| LAeq | 69.9 dB |
| LAF 10% | 72.5 dB |

| | | | |
|---|---|---|---|
| Person | Unallocated | LAF 50% | 65.5 dB |
| Process | Unallocated | LAF 90% | 58 dB |
| Result | Cumulative | End Date & Time | 6/25/2019 1:00:49 PM |
| Calibration (After) Date | 6/25/2019 1:04:18 PM | Start Date & Time | 6/25/2019 12:00:44 PM |
| Calibration (Before) Date | 6/25/2019 11:56:37 AM | | |
| Notes | | | |




| **Instrument Model** | **CEL-633C** | | |
|---|---|---|---|
| Battery Low | No | Calibration (Before) Offset | 3.7 |
| Duration | 01:00:02 HH:MM:SS | Calibration (Before) SPL | 114 dB |
| Overload | No | Calibration Drift | 0.4 dB |
| Pause Duration | 00:00:00 HH:MM:SS | LAFmax with Time | 87.3 dB (6/25/2019 5:00:20 PM) |
| Response | Random | LAFmax | 87.3 dB |
| Run Number | 165 | LAFmin | 52.2 dB |
| Serial Number | 1274486 | LAFmin with Time | 52.2 dB (6/25/2019 5:16:19 PM) |
| Site | Unallocated | LAeq | 64.8 dB |
| Location | Unallocated | LAF 10% | 68 dB |
| Person | Unallocated | LAF 50% | 61 dB |
| Process | Unallocated | LAF 90% | 57 dB |
| Result | Cumulative | End Date & Time | 6/25/2019 5:30:04 PM |
| Calibration (After) Date | 6/25/2019 5:31:08 PM | Start Date & Time | 6/25/2019 4:30:02 PM |
| Calibration (Before) Date | 6/25/2019 4:26:32 PM | | |
| Notes | | | |


85.0dB
79.0dB
73.0dB
67.0dB
61.0dB
55.0dB
80 dB
LASmax
LAeq
LAF 10%
LAF 50%
LAF 90%
/2019
:00.00
25/06/2019
16:39:59.99
25/06/2019
16:50:00.00
25/06/2019
16:59:59.99
25/06/2019
17:10:00.00
25/06/2019
17:19:59.99
25/06
17:30

| Instrument Model | CEL-633C | | |
|---|---|---|---|
| LAeq | 63.9 dB | Battery Low | No |
| LCpeak with Time | 114.1 dB (6/18/2019 4:31:31 PM) | Duration | 01:00:02 HH:MM:SS |
| Lepd(Projected) | 63.9 dB | End Date & Time | 6/18/2019 5:30:21 PM |
| Lex8h(Projected) | 63.9 dB | Overload | No |
| LAFmax with Time | 90.4 dB (6/18/2019 4:41:19 PM) | Pause Duration | 00:00:00 HH:MM:SS |
| LAImax with Time | 93.5 dB (6/18/2019 4:41:19 PM) | Response | Random |
| LAFmin with Time | 50.0 dB (6/18/2019 5:12:49 PM) | Run Number | 109 |
| LAImin with Time | 50.4 dB (6/18/2019 5:24:01 PM) | Serial Number | 2670911 |
| LZeq | 65 dB | Start Date & Time | 6/18/2019 4:30:19 PM |
| LCeq | 64.4 dB | Site | Unallocated |
| LCeq-LAeq | 0.5 dB | Location | Unallocated |
| LAleq | 69.6 dB | Person | Unallocated |
| LAE | 99.5 dB | Process | Unallocated |
| Calibration (Before) Date | 6/18/2019 4:22:10 PM | Result | Cumulative |
| Calibration (Before) SPL | 114 dB | LAF 50% | 59 dB |
| Calibration (After) Date | 6/18/2019 6:42:18 PM | LAF 90% | 54.5 dB |
| Calibration Drift | 0.4 dB | LAF 95% | 53.5 dB |
| LAF 10% | 64.5 dB | | |
| Notes | | | |

| Instrument Model | CEL-633C | | |
|---|---|---|---|
| LAeq | 67.4 dB | Battery Low | No |
| LCpeak with Time | 110.0 dB (6/18/2019 7:59:54 AM) | Duration | 01:00:07 HH:MM:SS |
| Lepd(Projected) | 67.4 dB | End Date & Time | 6/18/2019 8:40:19 AM |
| Lex8h(Projected) | 67.4 dB | Overload | No |
| LAFmax with Time | 87.7 dB (6/18/2019 7:51:13 AM) | Pause Duration | 00:00:00 HH:MM:SS |
| LAImax with Time | 91.0 dB (6/18/2019 7:59:54 AM) | Response | Random |
| LAFmin with Time | 52.7 dB (6/18/2019 8:31:03 AM) | Run Number | 107 |
| LAImin with Time | 53.5 dB (6/18/2019 8:35:39 AM) | Serial Number | 2670911 |
| LZeq | 70.5 dB | Start Date & Time | 6/18/2019 7:40:12 AM |
| LCeq | 69.8 dB | Site | Unallocated |
| LCeq-LAeq | 2.4 dB | Location | Unallocated |
| LAleq | 70.1 dB | Person | Unallocated |
| LAE | 103 dB | Process | Unallocated |
| Calibration (Before) Date | 6/18/2019 7:18:45 AM | Result | Cumulative |
| Calibration (Before) SPL | 114 dB | LAF 50% | 64.5 dB |
| Calibration (After) Date | 6/18/2019 8:46:25 AM | LAF 90% | 57.5 dB |
| Calibration Drift | 9.3 dB | LAF 95% | 56 dB |
| LAF 10% | 70.5 dB | | |

Notes

| Instrument Model | CEL-633C | | |
|---|---|---|---|
| LAeq | 68.5 dB | Battery Low | No |
| LCpeak with Time | 107.7 dB (6/18/2019 12:07:09 PM) | Duration | 01:02:33 HH:MM:SS |
| Lepd(Projected) | 68.5 dB | End Date & Time | 6/18/2019 1:03:12 PM |
| Lex8h(Projected) | 68.5 dB | Overload | No |
| LAFmax with Time | 95.1 dB (6/18/2019 12:37:16 PM) | Pause Duration | 00:00:00 HH:MM:SS |
| LAImax with Time | 97.2 dB (6/18/2019 12:37:16 PM) | Response | Random |
| LAFmin with Time | 48.9 dB (6/18/2019 12:18:12 PM) | Run Number | 110 |
| LAImin with Time | 49.5 dB (6/18/2019 12:11:33 PM) | Serial Number | 2670911 |
| LZeq | 69.7 dB | Start Date & Time | 6/18/2019 12:00:39 PM |
| LCeq | 68 dB | Site | Unallocated |
| LCeq-LAeq | -0.5 dB | Location | Unallocated |
| LAIeq | 71.2 dB | Person | Unallocated |
| LAE | 104.3 dB | Process | Unallocated |
| Calibration (Before) Date | 6/18/2019 4:22:10 PM | Result | Cumulative |
| Calibration (Before) SPL | 114 dB | LAF 50% | 65 dB |
| Calibration (After) Date | 6/18/2019 6:42:18 PM | LAF 90% | 57.5 dB |
| Calibration Drift | 0.4 dB | LAF 95% | 55.5 dB |
| LAF 10% | 71 dB | | |

Notes

# Certificate of Conformity and Calibration

| | | | |
|---|---|---|---|
| **Instrument Type:-** | **CEL-633C** | | |
| Serial Number | 2670911 | | |
| Firmware revision | V006-03 | | |
| Microphone Type:- | CEL-251 | Preamplifier Type:- | CEL-495 |
| Serial Number | 02540 | Serial Number | 004208 |
| Instrument Class/Type:- | 1 | | |



## Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

**Note:-** *The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.*

| | | | |
|---|---|---|---|
| **Test Conditions:-** | 19.8 °C | **Test Engineer:-** | Stephen Potten |
| | 51.2 %RH | **Date of Issue:-** | November 26, 2018 |
| | 1020.2 mBar | | |

## Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to national standards in accordance with Casella's ISO 9001:2008 quality procedures. This product is certified as being compliant to the requirements of the CE Directive.

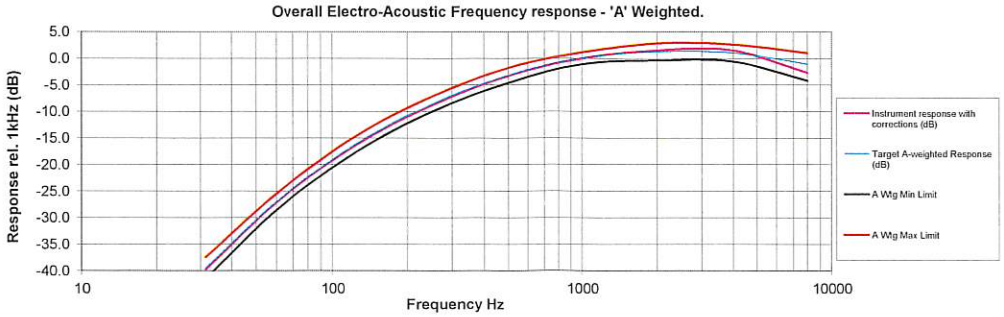
## Test Summary:-

| | |
|---|---|
| Self Generated Noise Test | **All Tests Pass** |
| Electrical Signal Test Of Frequency Weightings | **All Tests Pass** |
| Frequency & Time Weightings At 1 kHz | **All Tests Pass** |
| Level Linearity On The Reference Level Range | **All Tests Pass** |
| Toneburst Response Test | **All Tests Pass** |
| C-peak Sound Levels | **All Tests Pass** |
| Overload Indication | **All Tests Pass** |
| Acoustic Tests | **All Tests Pass** |

## Combined Electro-Acoustic Frequency Response - *A Weighted*

**Combined Electro-Acoustic Frequency Response - A Weighted (IEC 61672-3:2006)**

The following A-Weighted frequency response graph shows this instruments overall frequency response based upon the application of multi-frequency pressure field calibrations. The microphones Pressure to Free field correction coefficients are applied to pressure response. Reference level taken at 1kHz.





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Web: www.casellausa.com

CASELLA

# Certificate of Conformity and Calibration

| | | | |
|---|---|---|---|
| **Instrument Model:-** | **CEL-633C** | **Preamplifier Type:-** | **CEL-495** |
| Serial Number | 1274486 | Serial Number | 3409 |
| Firmware revision | V006-01 | | |
| **Microphone Type:-** | **CEL-251** | As Received:- | 114.7 |
| Serial Number | 1710 | As Adjusted:- | 114.0 |
| **Instrument Class/Type:-** | 1 | | |



## Applicable standards:-

IEC 61672: 2002 / EN 60651 (Electroacoustics - Sound Level Meters)
IEC 60651 1979 (Sound Level Meters), ANSI S1.4: 1983 (Specifications For Sound Level Meters)

**Note:-** *The test sequences performed in this report are in accordance with the current Sound level meter Standard - IEC61672. The combination of tests performed are considered to confirm the products electro-acoustic performance to all applicable standards including superceeded Sound Level Meter Standards - IEC60651 and IEC60804.*

| | | | |
|---|---|---|---|
| **Test Conditions:-** | 23.5 °C | Test Engineer:- | Ken Umbeer |
| | 79.9 %RH | Date of Issue:- | July 30, 2018 |
| | 1020.3 mBar | Date Due:- | July 30, 2019 |

## Declaration of conformity:-

This test certificate confirms that the instrument specified above has been successfully tested to comply with the manufacturer's published specifications. Tests are performed using equipment traceable to NIST. This product is certified as being compliant to the requirements of the CE Directive.

## Test Summary:-

| | |
|---|---|
| Self Generated Noise Test | **All Tests Pass** |
| Electrical Signal Test Of Frequency Weightings | **All Tests Pass** |
| Frequency & Time Weightings At 1 kHz | **All Tests Pass** |
| Level Linearity On The Reference Level Range | **All Tests Pass** |
| Toneburst Response Test | **All Tests Pass** |
| C-peak Sound Levels | **All Tests Pass** |
| Overload Indication | **All Tests Pass** |
| Acoustic Tests | **All Tests Pass** |

## Combined Electro-Acoustic Frequency Response - *A Weighted*

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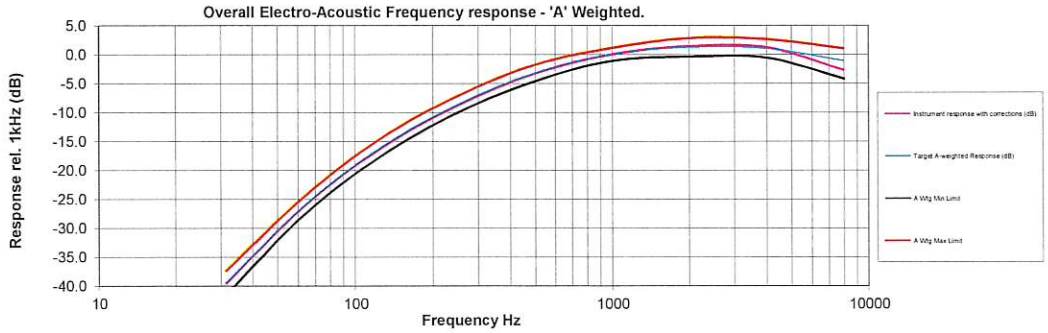



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