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New York City Environmental Quality Review (CEQR)
Environmental Assessment Statement (EAS) and Supplemental Studies

CEQR Technical Manual Studies of Supplemental Analysis to the EAS Short Form Part II:

Chapter 4: Land Use, Zoning, and Public Policy
Chapter 6: Community Facilities
Chapter 7: Open Space
Chapter 8: Shadows
Chapter 9: Historic and Cultural Resources
Chapter 10: Urban Design and Visual Resources
Chapter 12: Hazardous Materials
Chapter 16: Transportation
Chapter 17: Air Quality
Chapter 19: Noise
Chapter 21: Neighborhood Character
Chapter 22: Construction

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

Applicant:
Sunshine Elmhurst Real Estate LLC

Prepared by:
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July 22, 2021

45-20 83rd Street Rezoning
80-40 47th Avenue, 80-38 47th Avenue, and 45-20 83rd Street
Queens, NY 11373
Block 1536 Lots 223, 80, 79, p/o 75, p/o 85, and p/o condo lots 1101-1242.

CEQR Ref. No. 21DCP113Q

DCP Project ID Number:
2019Q0280

Existing Zoning District:
M1-1; Zoning Sectional Map: 9d

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EAS Short Form

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

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

Part I: GENERAL INFORMATION

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

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

2. *Project Name* 45-20 83rd Street Rezoning

3. *Reference Numbers*

CEQR REFERENCE NUMBER (to be assigned by lead agency)	BSA REFERENCE NUMBER (if applicable)
21DCP113Q	
ULURP REFERENCE NUMBER (if applicable)	OTHER REFERENCE NUMBER(S) (if applicable) (*e.g.*, legislative intro, CAPA)
210041ZMQ, N210042ZRQ	

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

5. *Project Description*

Sunshine Elmhurst Real Estate LLC ("The Applicant") seeks a Zoning Map Amendment and a Zoning Text Amendment ("The Proposed Actions") of approximately 69,869 square feet (sf) comprising Block 1536, Lots 79, 80, 223, p/o 75, p/o 85, and p/o condo lots 1101-1242 ("The Affected Area") located in the Elmhurst neighborhood of Queens Community District (CD) 4. The Zoning Map Amendment would rezone the Affected Area from an M1-1 zoning district to an R7A zoning district. The Zoning Text Amendment would affect Zoning Resolution Appendix F by modifying Queens CD 4 Map with MIHA.

The Proposed Actions would facilitate the development of 80-52 47th Avenue (Block 1536, former Lots 80 and 223 or reapportioned Lot 80) with a new 161,696 GSF (141,133 ZSF; 3.18 FAR) 9-story residential building, accessed from 47th Avenue. The building will include 163 total dwelling units, at least 20% of which would be permanently set aside at or below 80% AMI. Seventy-two parking spaces would be provided at the cellar level in an enclosed garage. The Proposed Action would also bring the 67,286 GSF (63,264 ZSF; 1.42 FAR) Use Group "UG" 3 charter school building to be developed on Block 1536, Lot 223 (45-20 83rd Street) into conformance as-of-right. The UG 3 school building was approved on June 29th, 2020 pursuant to a Special Permit application with the NYC Board of Standards and Appeals (BSA) under BSA Calendar Number 2019-18-BZ. UG 3 Schools are not permitted as-of-right within M1-1 zoning districts pursuant to the use provisions of ZR 42-00. Accordingly, the BSA Special Permit pursuant to Section 73-19 of the Zoning Resolution of the City of New York (ZR) permits the charter school use at the Projected Development Site. The approved Special Permit will effectuate the conversion and enlargement of the eastern portion of the existing 41,320 square foot light industrial building on the Projected Development Site for occupancy by a UG 3 Kindergarten through 6th-grade charter school without residential accommodations. The school, accessed from 83rd Street, will rise to a height of 53'-11" at 4 stories, including a mezzanine. In total, the zoning lot would contain approximately 228,982 GSF (204,397 ZSF; 4.60 FAR). To date, plans for the school have been filed and approved with DOB, and construction has begun. If the proposed rezoning is approved, the BSA Special Permit will be relinquished by The Applicant as the proposed school would be permitted as-of-right in the new zoning district.

Project Location

BOROUGH Queens	COMMUNITY DISTRICT(S) 4	STREET ADDRESS 80-40 47th Avenue, 45-20 83rd Street, 80-38 47th Avenue, Queens Boulevard, 45-15 82nd Street
TAX BLOCK(S) AND LOT(S) Block 1536, Lots 79, 80, 223, p/o 75, p/o 85, p/o condo lots 1101-1242.		ZIP CODE 11373

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS The Affected Area is generally bounded by 45th Avenue to the north, 83rd Street to the east, a Long Island Railroad bed to the south, and 82nd Street to the west.

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY M1-1 | ZONING SECTIONAL MAP NUMBER 9d

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

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

- ☐ 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 AUTHORIZATION
- ☐ ACQUISITION—REAL PROPERTY
- ☐ DISPOSITION—REAL PROPERTY
- ☐ OTHER, explain:
- ☐ CONCESSION
- ☐ UDAAP
- ☐ REVOCABLE CONSENT
- ☐ FRANCHISE

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

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

SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION

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

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

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

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

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

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

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

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

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

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): 69,869

Waterbody area (sq. ft) and type:

Roads, buildings, and other paved surfaces (sq. ft.):

Other, describe (sq. ft.):

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

SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 228,982 GSF

NUMBER OF BUILDINGS: 2

GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): 161,696 (Lot 80) 67,286 (Lot 223)

HEIGHT OF EACH BUILDING (ft.): 95' (Lot 80) 53'-11" (Lot 223)

NUMBER OF STORIES OF EACH BUILDING: 9 (Lot 80), 4 (Lot 223)

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: 44,437

The total square feet not owned or controlled by the applicant: 25,432

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: 44,437 sq. ft. (width x length) VOLUME OF DISTURBANCE: 444,437 cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: 44,437 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.)	161,696		67, 286	
Type (*e.g.,* retail, office, school)	163 units		UG 3 School	

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

If "yes," please specify: NUMBER OF ADDITIONAL RESIDENTS: 544 NUMBER OF ADDITIONAL WORKERS: 267

Provide a brief explanation of how these numbers were determined:

3.34 residents per dwelling unit (Queens CD 4, 2013-2017 ACS)
School (With Action) - 1 staff per 250 gsf
Light Industrial (No-Action) - 1 worker per 15,000 GSF

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: The eastern portion of the vacant light industrial building on Lot 223 would be renovated and expanded with a 4-story UG 3 Charter School under future conditions absent the Proposed Actions per the Special Permit Application from the NYC Board of Standards and Appeals (BSA) pursuant to Section 73-19 of the Zoning Resolution of the City of New York. The school building would be accessed from 83rd Street and would contain a total of 67,286 GSF (63,264 ZSF) of floor area and a FAR of 1.42. The proposed 4-story plus mezzanine school building would rise to a height of 53'-11" at the mezzanine roof, where a rooftop recreation space is proposed. The second-floor roof would contain a terrace along the northern, and eastern portion of the building, respectively. The remaining 9,850 square foot western portion of the existing building, which is accessed from 47th Avenue, would be partitioned off and would remain designated as light industrial space.

However, to assess the cumulative impacts of the UG 3 charter school and proposed residential development, the No-Action Scenario conservatively assumes that no development is anticipated within the rezoning area. Former Lot 80 is a 5,037 sf lot that is vacant and unimproved. Former Lot 223 is a 39,400 sf lot currently improved with a vacant 1-story, 41,320 GSF light industrial structure. Together the lots comprise 44,437 sf. The future No Action Conditions assessed for the purposes of the Environmental Assessment assumes that the 41,320 sf (0.93 FAR) one-story vacant light industrial building on Lot 223 would be re-tenanted with a conforming industrial use within the M1-1 zoning district.

No other development would be expected to occur as residential development is not permitted within the existing M1-1 zoning district. Other lots within the Affected Area would be expected to remain the same as the existing conditions.

9. *Analysis Year* CEQR Technical Manual Chapter 2

ANTICIPATED BUILD YEAR (date the project would be completed and operational): The UG 3 School on Lot 223 is currently under construction pursuant to a BSA-approved Special Permit Action, and the residential building on Lot 80 is anticipated to be complete by 2023 factoring the Environmental review and ULURP process followed by an 18-month construction schedule. However, the EAS Supplemental Studies, with the exception of Construction which considers the 2023 year, consider a 2025-2026 build year, where the school is anticipated to reach full grade enrollment

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 18

WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ☐ YES ☒ NO IF MULTIPLE PHASES, HOW MANY? 2

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: Construction is currently underway for the UG 3 School Pursuant to the Approved Special Permit; Construction of the Residential Building would occur pursuant to approval of the Proposed

Actions.

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

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

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		
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 involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?	☐	☒

	YES	NO
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	☐	☒
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or generate contaminated stormwater in a separate storm sewer system?	☐	☒
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	☐	☒
11. *SOLID WASTE AND SANITATION SERVICES*: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): 8,387 = 6,686 (41 x 163 households) + 1,701 (3 Per Pupil)		
○ 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): 37,355,483.4= 20486883.2 (126.7 x 161,696 large residential gsf) + 16,868,600.2 (250.7 x 67,286 gsf)		
(b) Would the proposed project affect the transmission or generation of energy?	☐	☒
13. *TRANSPORTATION*: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	☒	☐
(b) If "yes," conduct the screening analyses, attach appropriate back up data as needed for each stage and answer the following questions:		
○ Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	☒	☐
If "yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? ***It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 of Chapter 16 for more information.*	☒	☐
○ Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	☒	☐
If "yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	☒	☐
○ Would the proposed project result in more than 200 pedestrian trips per project peak hour?	☒	☐
If "yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	☒	☐
14. *AIR QUALITY*: CEQR Technical Manual Chapter 17		
(a) *Mobile Sources*: Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☒	☐
(b) *Stationary Sources*: Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☒	☐
○ If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17? (Attach graph as needed)	☐	☒
(c) Does the proposed project involve multiple buildings on the project site?	☒	☐
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	☐	☒
(e) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	☐	☒
15. *GREENHOUSE GAS EMISSIONS*: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	☐	☒
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	☒
(c) If "yes" to any of the above, would the project require a GHG emissions assessment based on the guidance in Chapter 18?	☐	☒
16. *NOISE*: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	☒	☐
(b) Would the proposed project introduce new or additional receptors (see Section 124 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of site to that rail line?	☒	☐
(c) Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise?	☒	☐
(d) Does the proposed project site have existing institutional controls (*e.g.*, (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	☐	☒

	YES	NO
17. *PUBLIC HEALTH*: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	☒	☐
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary. No significant unmitigated adverse impact is found in the CEQR analysis areas of air quality, water quality, hazardous materials, or noise; accordingly, no public health analysis is warranted.		
18. *NEIGHBORHOOD CHARACTER*: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	☒	☐
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary. No significant unmitigated adverse impact is found in any CEQR analysis areas related to neighborhood character. Additionally, the proposed project would not result in cumulative impact due to the constituent elements of neighborhood character when considered together.		
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. All Construction activities would be performed within 2 years in compliance with relevant City and/or State regulations and would not occur along an arterial or major thoroughfare.		

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
Kevin Williams	7/22/2021

SIGNATURE 

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

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

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

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

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

2. Are there any aspects of the project relevant to the determination of whether the project may have a significant impact on the environment, such as combined or cumulative impacts, that were not fully covered by other responses and supporting materials? ☐ YES ☒ NO

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

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

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

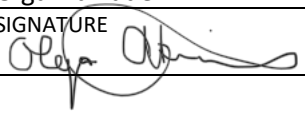
☐ **Conditional Negative Declaration:** A *Conditional Negative Declaration* (CND) may be appropriate if there is a private applicant for an Unlisted action AND when conditions imposed by the lead agency will modify the proposed project so that no significant adverse environmental impacts would result.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

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

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

TITLE	LEAD AGENCY
Director, Environmental Assessment and Review	Department of City Planning on behalf of the City Planning Commission
NAME	DATE
Olga Abinader	July 23, 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, Sunshine Elmhurst Real Estate LLC, is seeking a zoning map amendment and a zoning text amendment (the "Proposed Actions") of approximately 69,869 square feet (sf) comprising Block 1536, Lots 79, 80, 223, p/o 75, p/o 85, and p/o condo lots 1101-1242 (the "Affected Area") located in the Elmhurst neighborhood of Queens Community District (CD) 4. The zoning map amendment would rezone the Affected Area from an M1-1 zoning district to an R7A zoning district. The zoning text amendment would affect Zoning Resolution Appendix F by modifying Queens CD 4 Map with MIHA. The Proposed Actions would facilitate the development of 80-52 47th Avenue (Block 1536, former Lots 80 and 223 or reapportioned Lot 80) with a new 161,696 GSF 9-story residential building. The building will include 163 total dwelling units (DUs), at least 20% of which would be permanently set aside at or below 80% AMI. Seventy-two parking spaces would be provided at the cellar level in an enclosed garage. The Proposed Action would also bring the 67,286 GSF Use Group "UG" 3 charter school building to be developed on Block 1536, Lot 223 (45-20 83rd Street) into conformance as-of-right. The UG 3 school building was approved on June 29th, 2020 pursuant to a Special Permit application with the NYC Board of Standards and Appeals (BSA) under BSA Calendar Number 2019-18-BZ. The proposed residential building would effectively serve as an extension to the adjacent residential and institutional land use and the UG 3 charter school would serve the surrounding densely populated residential neighborhoods; therefore, the proposed development would be consistent with established and ongoing surrounding land use patterns, would not create conflicts with existing land uses, and would not alter the overall land use pattern in the area. The Proposed Actions will not result in development that is inconsistent with the established zoning patterns. As such, the proposed rezoning would not adversely impact established zoning patterns or jeopardize the intent of the Zoning Resolution. The proposed rezoning would not alter the essential character of the neighborhood or district or substantially impair the appropriate use or development of an adjacent property, nor would it be detrimental to the public welfare or jeopardize the intent of the Zoning Resolution. Overall, the proposed project would not result in significant adverse impacts to land use, zoning, or public policy.

Community Facilities and Services

A detailed analysis of public schools is included in the EAS. The Proposed Actions would introduce 163 DUs which is projected to generate 63 primary school students and 21 intermediate school students. In the Future With-Action Condition, the utilization rate for primary schools would be 120 percent, and the utilization rate for intermediate schools would be 105 percent. However, the Proposed Actions would result in only a 0.49 percent increase in utilization from the No-Action Condition for primary schools and a 0.73 percent increase in utilization from the No-Action Condition for intermediate schools. Therefore, the Proposed Actions would not result in significant adverse impacts related to primary or intermediate school utilization.

Open Space

A detailed analysis of public open space is included in the EAS. The Proposed Actions would not directly displace or alter any existing or planned open spaces. A quantitative analysis of the indirect effect on public open space found that compared to conditions in the future without the Proposed Actions, the With-Action conditions would result in an overall reduction of approximately 1.08 in the combined open space ratio (OSR) and 0.85 percent reduction in the residential OSR for both active and passive open space resources. Furthermore, the OSRs under No-Action conditions and With-Action conditions would be significantly lower than the target OSRs for the City. While the resulting OSRs would continue to be less than the City's guideline, those are not considered CEQR impact thresholds on their own. The reduction in the total OSR in the residential study area is further ameliorated by several factors, including the proposed rezoning area's proximity to additional open space resources not included in the quantitative open space analysis, and the current quality, condition, variety, and relatively low utilization of existing open space resources. Therefore, the Proposed Actions would not result in a significant adverse impact on open space.

Shadows

A detailed analysis related to shadows is included in this EAS. The analysis found that the southern portion of Moore Homestead Playground to the north of the Affected Area will be influenced by the potential shaded area induced by the proposed development. The playground is mostly paved with handball courts, volleyball courts, basketball courts, bike racks, ping-pong tables, and an adult gym. The southern portion of Moore Homestead Playground will be affected by the proposed development. However, it is anticipated that shadows cast from the proposed development would cover these resources only in the winter season, where the shadow could reach the playground for a two-hour period from 8:51 am to 10:51 am. These facilities typically have lower utilization during the winter season, and it is anticipated that the shadows cast from the Proposed Building would not significantly affect the utilization of the facilities. Additionally, shadows cast would not impact the growth of the vegetation within the park, as the winter season is not a growing season for vegetation. Further, the vegetation shaded by the proposed development can still get four hours of sunlight on those days, which is the minimum requirement for direct sunlight. All the sunlight-sensitive resources within the projected development's longest action-induced shadow area will either not be impacted or be impacted with limited timespan. Therefore, the Proposed Actions would not have the potential to cause a significant adverse impact related to shadows.

Transportation

A detailed analysis related to transportation is included in the EAS. Preliminary screening assessment of trip generation and assignments found detailed analysis was warranted for traffic, pedestrians, and public transit; specifically for four traffic intersections (two signalized and two unsignalized) and six pedestrian elements within the transportation study area plus eight subway station elements associated with the Elmhurst Avenue station and one bus line (Q53-SBS). The proposed development facilitated by the Proposed Actions would include a number of roadway and pedestrian improvements including several that were conditioned as part of the BSA special

Project Name: 45-20 83rd Street Rezoning
CEQR # 21DCP113Q
SEQRA Classification: Unlisted

permit for the UG3 charter school. Furthermore, the applicant will be obligated to conduct post-opening transportation monitoring program (TMP) subject to NYC Department of Transportation (DOT) oversight and review for the purpose of observing traffic operations at key intersections to determine if the project improvements as described in the EAS should be implemented and/or refined. The roadway and pedestrian improvements plus the TMP will be ensured through a restrictive declaration imposed as part of the Proposed Actions. With the incorporation of the roadway and pedestrian improvements, the Proposed Actions would not have the potential to cause a significant adverse impact related to transportation.

Hazardous Materials, Air Quality, and Noise
An (E) designation (E-630) 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 DIANE MCCARTHY at +1 212-720-3417.

TITLE	LEAD AGENCY
Director, Environmental Assessment and Review Division	Department of City Planning on behalf of the City Planning Commission 120 Broadway, 31st Fl. New York, NY 10271 | 212.720.3493
NAME Olga Abinader	DATE July 23, 2021
SIGNATURE	

TITLE	
Chair, City Planning Commission	
NAME Marisa Lago	DATE July 26, 2021
SIGNATURE	

Project Name: 45-20 83rd Street Rezoning
CEQR # 21DCP113Q
SEQRA Classification: Unlisted

Determination of Significance Appendix

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

Development Site	Borough	Block and Lot
Proposed Residential Building Site	Queens	Block 1536 / Lot 80
UG3 Charter School Site	Queens	Block 1536 / Lot 223

(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-630**) would be established as part of approval of the proposed actions on the **Proposed Residential Building Site** and **UG3 Charter School Site** as described below:

Development Site	Hazardous Materials	Air Quality	Noise
Proposed Residential Building Site	X	X	
UG3 Charter School Site	X	X	X

Hazardous Materials

The (E) designation requirements applicable to **Proposed Residential Building Site** and **UG3 Charter School Site** 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 1536, Lot 80 (Proposed Residential Building Site): *Any new residential development on Block 1536, Lot 80 must ensure HVAC stack(s) is located at the highest tier and at least 102 feet above grade, to avoid any significant adverse air quality impacts.*

Block 1536, Lot 223 (UG3 Charter School Site)*: The charter school development on Block 223 must be heated and cooled by electrically powered Variable Refrigerant Flow (VRF) and Energy Recovery Ventilation (ERV) HVAC systems to avoid any significant adverse air quality impacts.*

Noise

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

Block 1536, Lot 223 (UG3 Charter School Site)*: To ensure an acceptable interior noise environment, future community facility uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on all facades to maintain an interior noise level not greater than 45 dBA for community facility uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning. A ten-foot high acoustical sound barrier/absorption panel fence with a noise reduction coefficient rating (NRC) of 1.0 will be installed along the western portion of the School building's third-floor terrace.*

Figure 1: Site Location Map

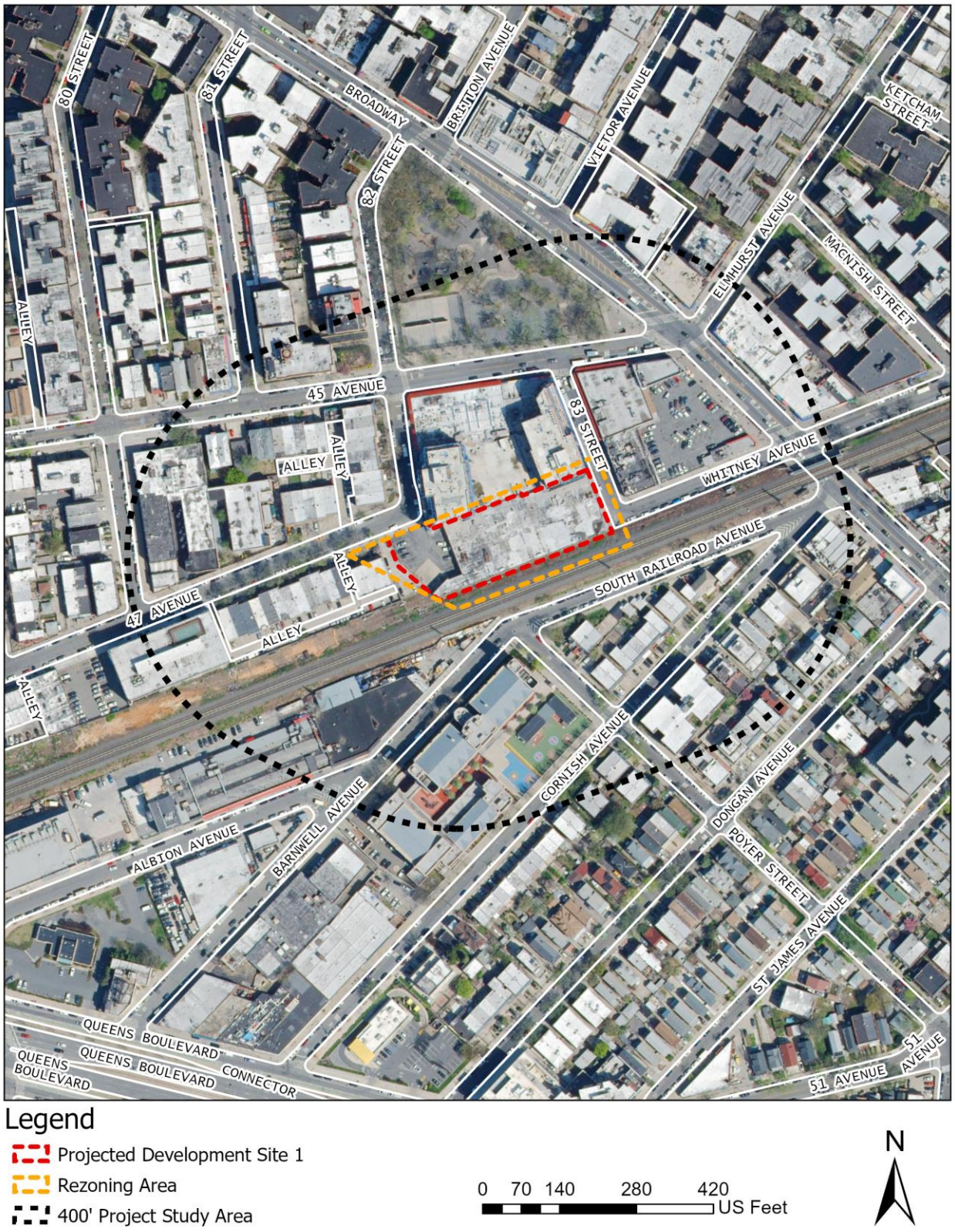
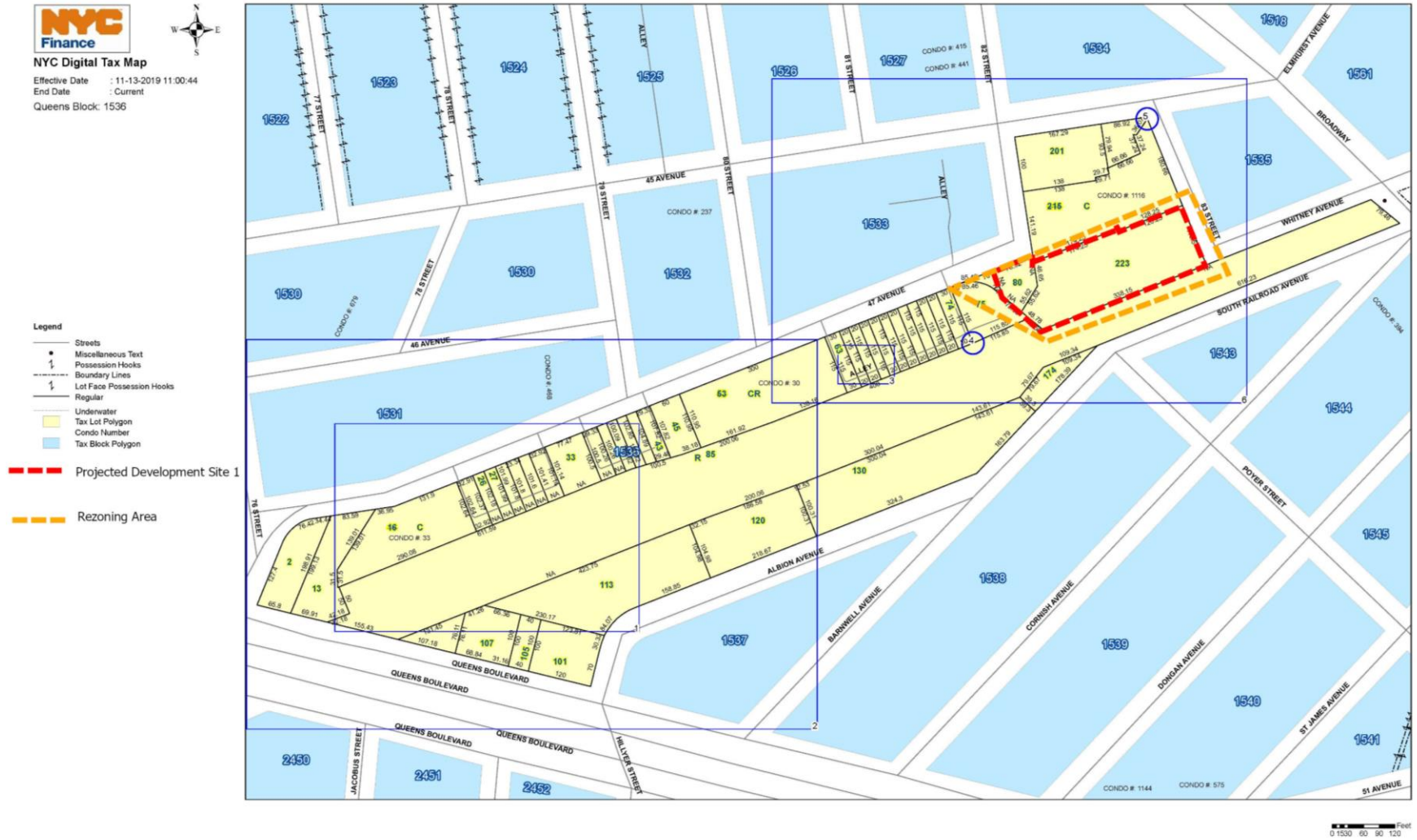


Figure 2: Tax Map



45-20 83rd Street, Queens

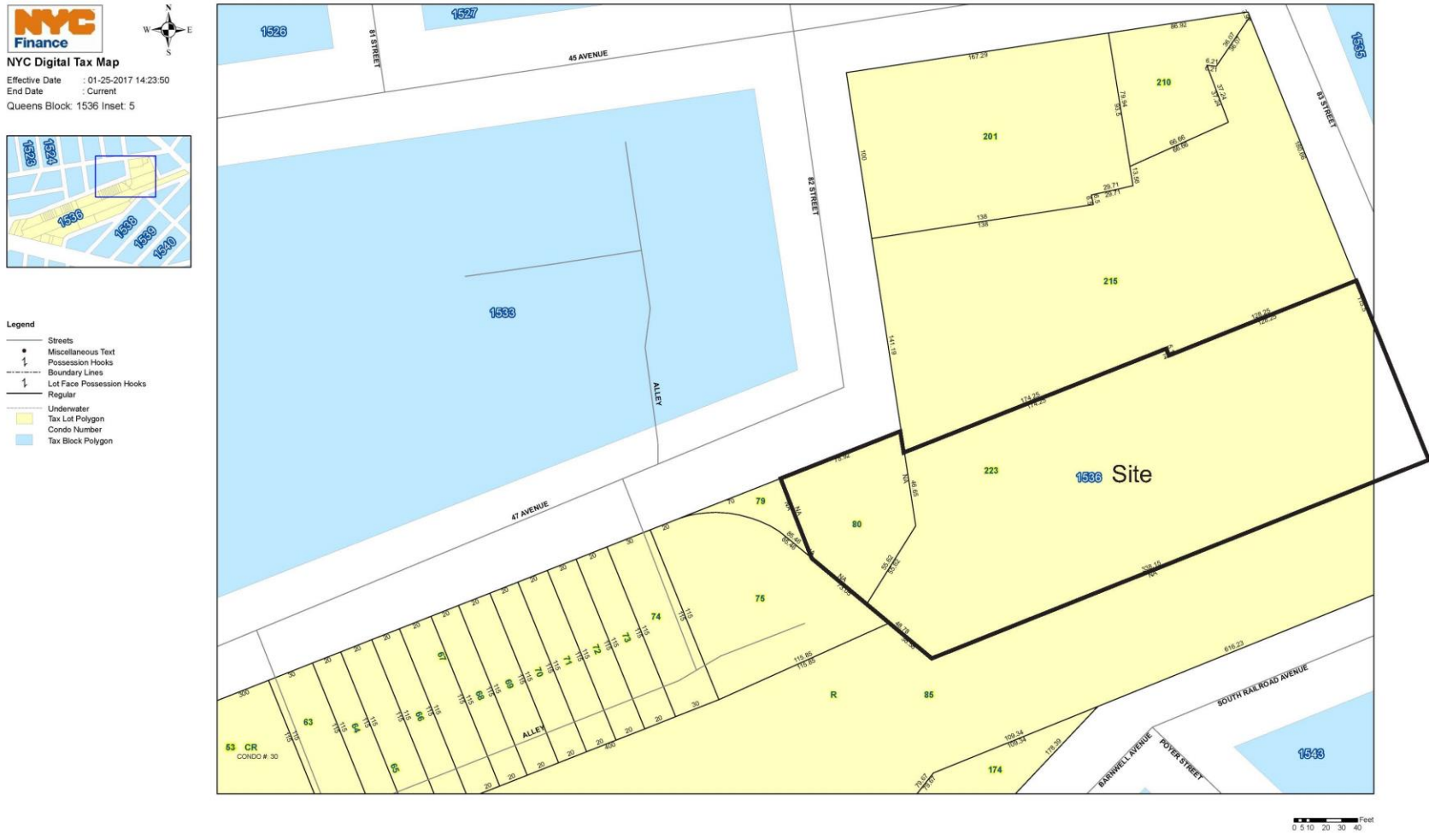


Figure 3: Site Photos and Photo Key



01 View of 82nd Street facing north.



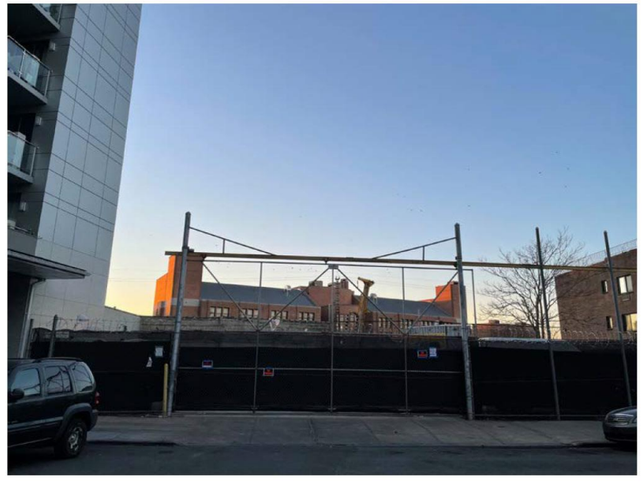
02 View of 47th Avenue facing west.



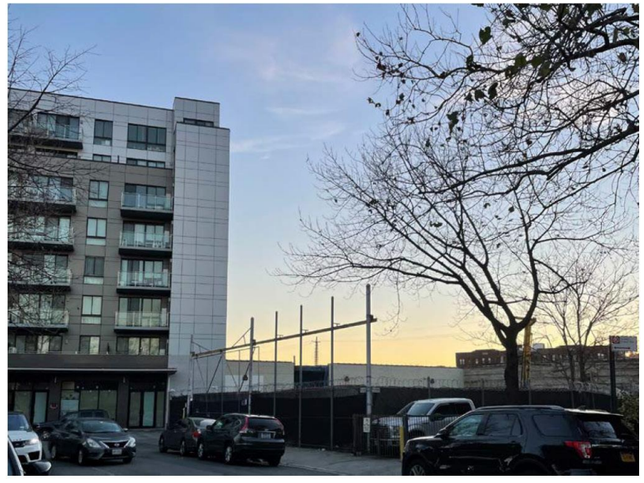
03 View of 45th Avenue facing east.



45-20 83rd Street
12/16/2020



04 View of Projected Development Site 47th Avenue frontage facing south.



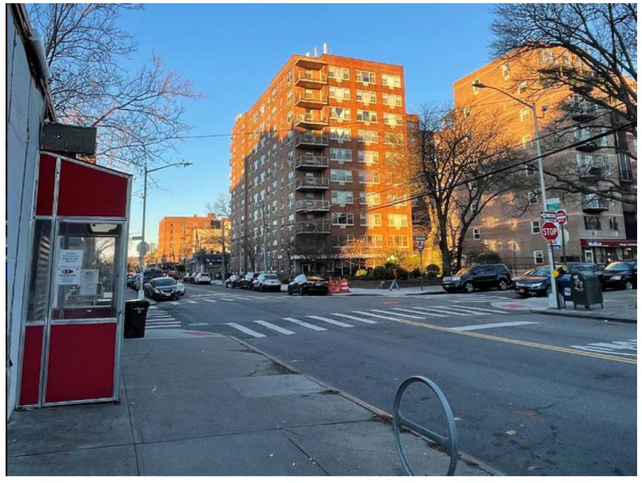
05 View of 47th Avenue facing east.



06 View of Projected Development Site 83rd Street frontage facing west.



45-20 83rd Street
12/16/2020



07 View of 45th Avenue facing west.



08 View of Broadway and 45th Avenue intersection facing north



09 View of Broadway and Elmhurst Avenue intersection facing northeast.



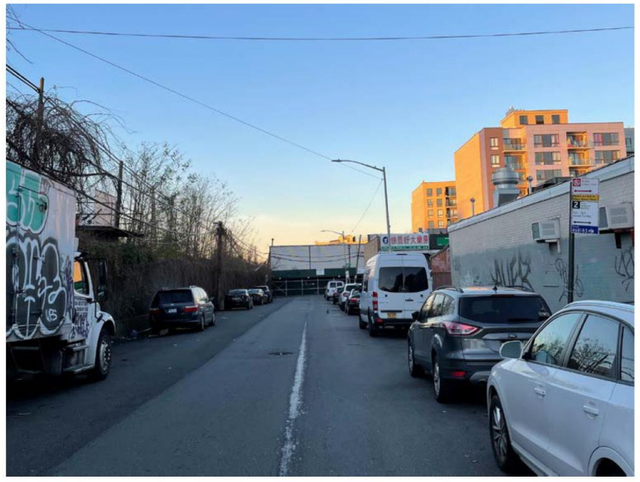
45-20 83rd Street
12/16/2020



10 View of off of Broadway facing west.



11 View of 83rd Street facing south.



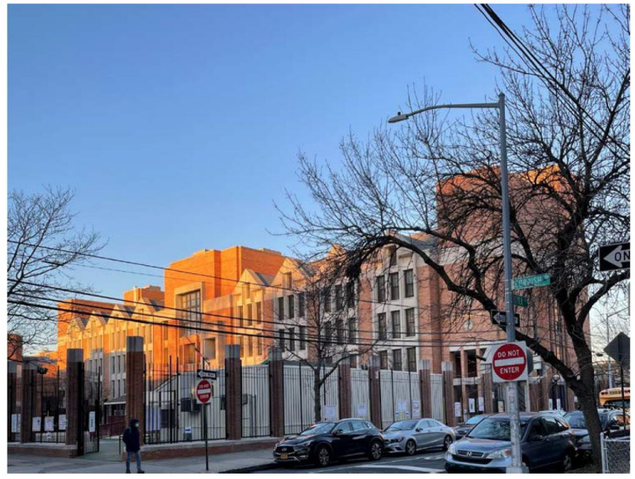
12 View of Whitney Avenue facing west



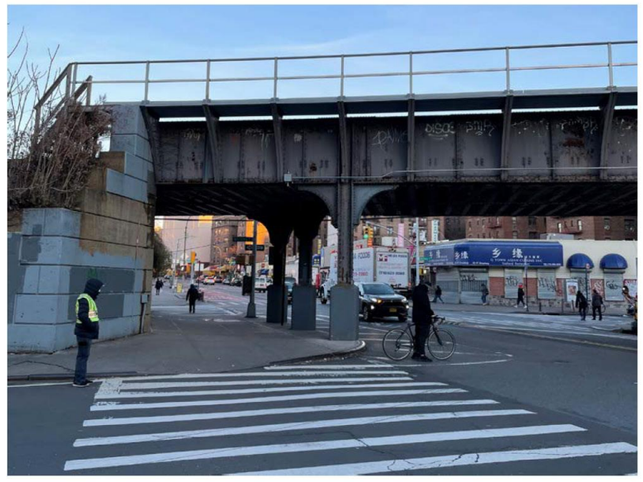
45-20 83rd Street
12/16/2020



13 View of S Railroad Avenue and Cornish Avenue intersection facing west.



14 View of Cornish Avenue and Poyer Street intersection facing west.



15 View of Broadway and S Railroad Avenue facing north.



45-20 83rd Street
12/16/2020

Figure 4: Zoning Map

(1 of 2)

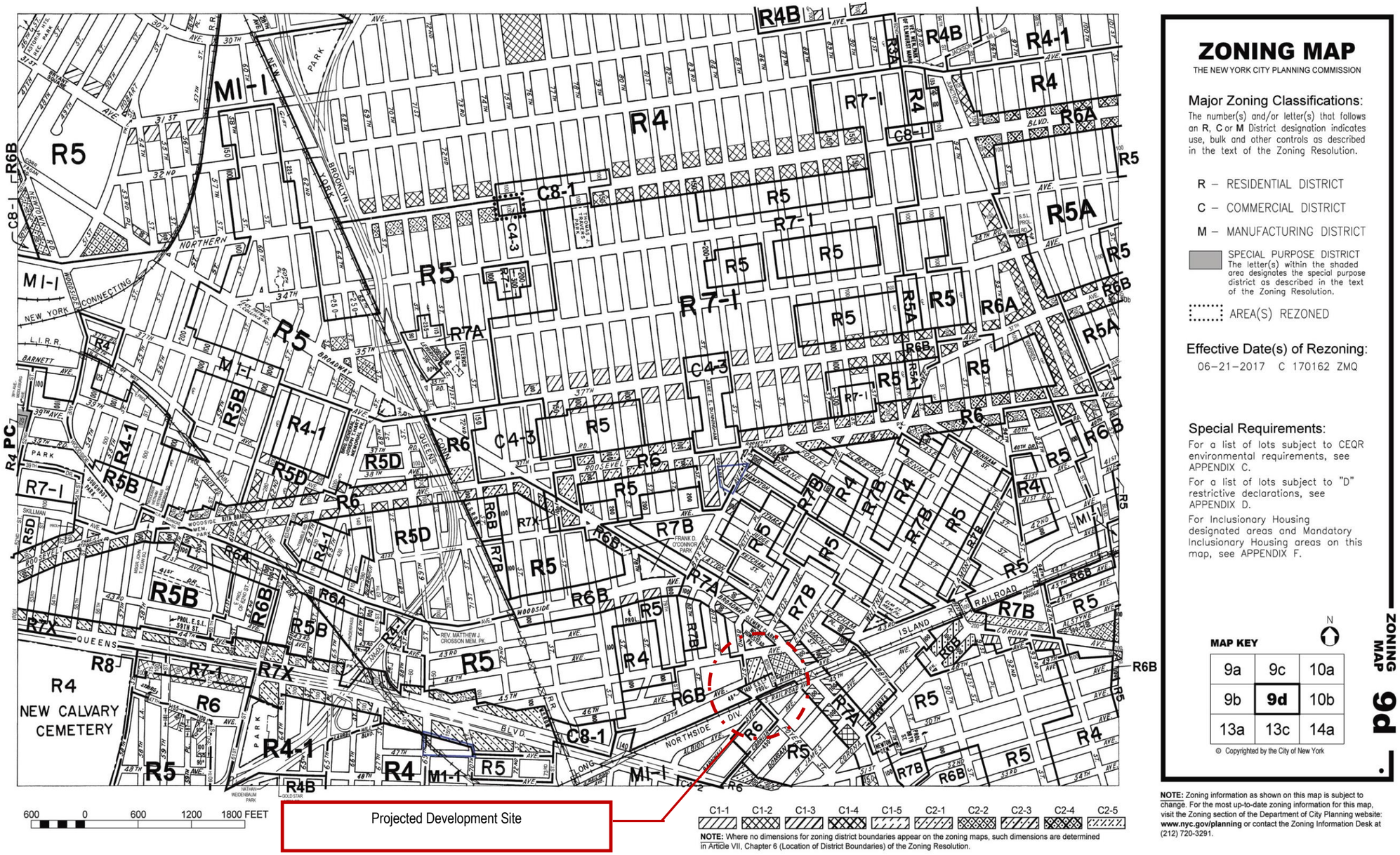


Figure 4: Zoning Map
(2 of 2)

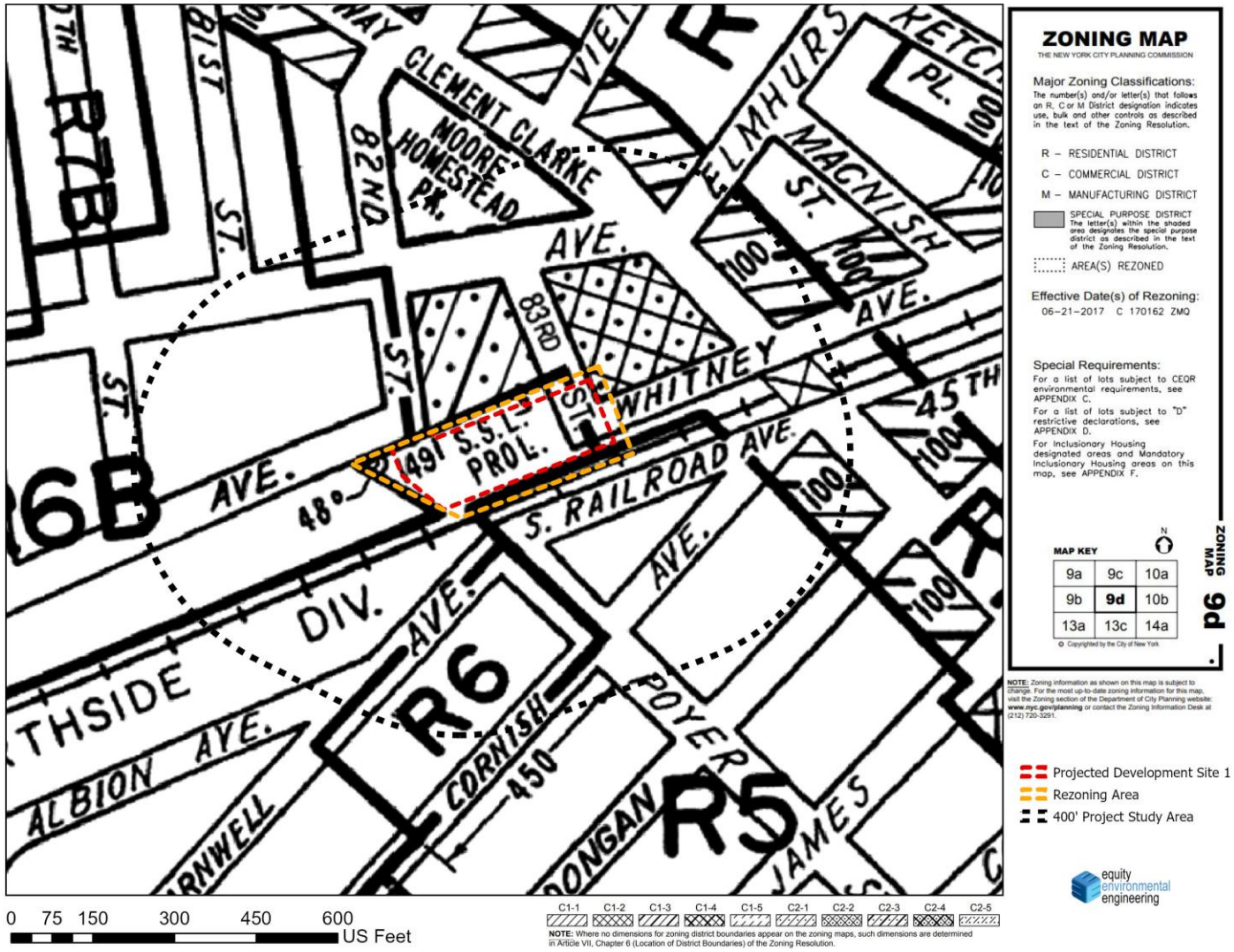


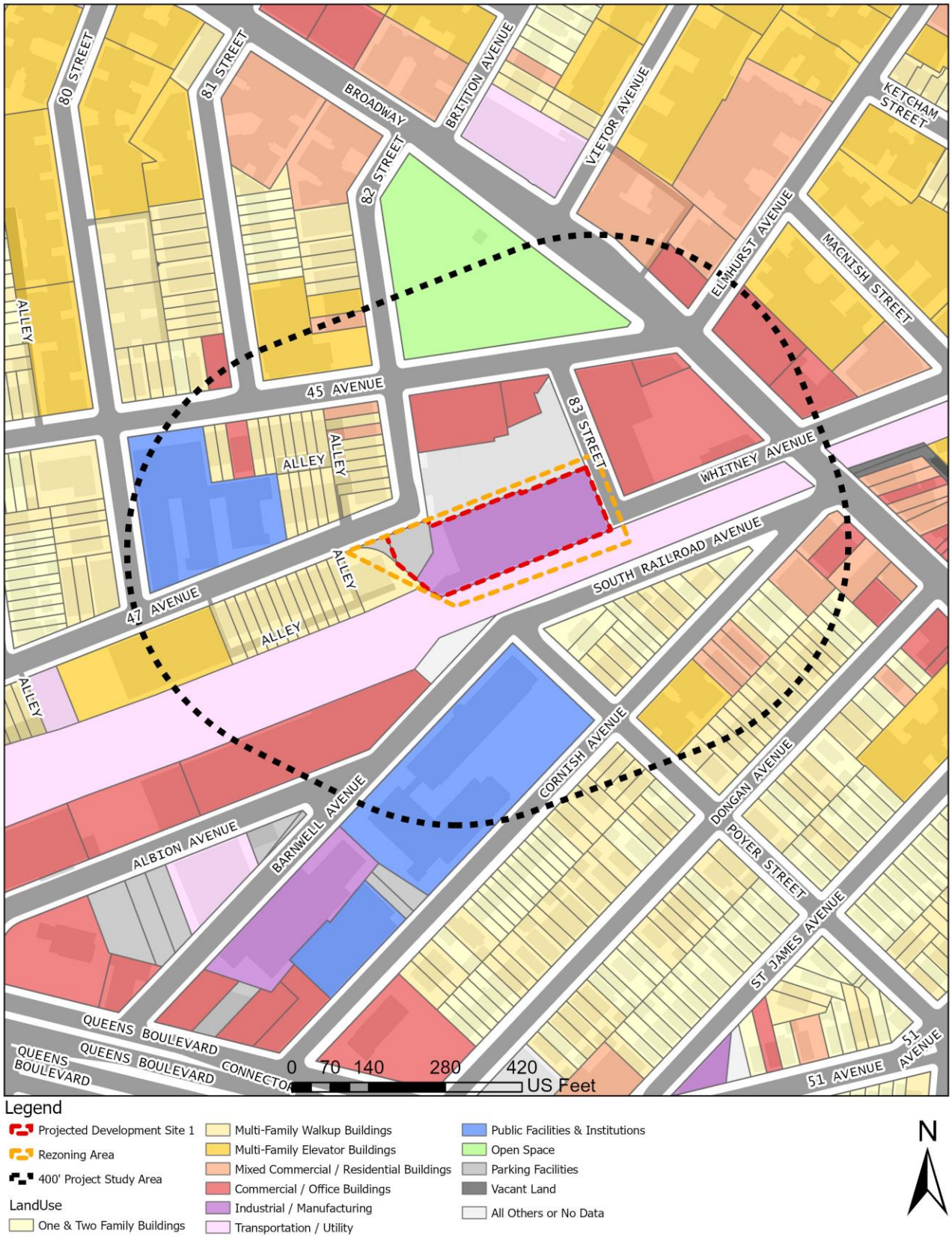
Figure 5: Zoning Change Map



Existing M1-1 Zoning District

Proposed R7A Zoning District

Figure 6: Land Use/Radius Diagram



1.0 Project Introduction/Analysis Framework Supplement to the EAS Short Form Part I: General Information

1.1 Project Overview

Sunshine Elmhurst Real Estate LLC ("The Applicant") seeks a Zoning Map Amendment and a Zoning Text Amendment ("The Proposed Actions") of approximately 69,869 square feet ("sf") comprising Block 1536, Lots 79, 80, 223, p/o 75, p/o 85, and p/o condo lots 1101-1242 ("The Affected Area") located in the Elmhurst neighborhood of Queens Community District (CD) 4. The Zoning Map Amendment would rezone the Affected Area from an M1-1 zoning district to an R7A zoning district. The Zoning Text Amendment would affect Zoning Resolution Appendix F by modifying Queens CD 4 Map with MIHA.

The Proposed Actions would facilitate the development of 80-52 47th Avenue (former Block 1536, Lots 80 and 223 or reapportioned Lot 80) with a new 161,696 gross square foot or "GSF" (141,133 zoning square foot or "ZSF"; 3.18 FAR) 9-story residential building, accessed from 47th Avenue. The building will include 163 total dwelling units, at least 20% of which would be permanently set aside at or below 80% AMI. Seventy-two (72) parking spaces would be provided at the cellar level in an enclosed garage. The Proposed Action would also bring the 67,286 GSF (63,264 ZSF; 1.42 FAR) Use Group ("UG") 3 charter school building to be developed on Block 1536, Lot 223 (45-20 83rd Street) into conformance as-of-right. The UG 3 school building was approved on June 29th, 2020 pursuant to a Special Permit application with the NYC Board of Standards and Appeals (BSA) under BSA Calendar Number 2019-18-BZ and CEQR Number 20BSA002Q (See BSA Resolution in **Appendix E**, and approved BSA Plans in **Appendix A**). UG 3 Schools are not permitted as-of-right within M1-1 zoning districts pursuant to the use provisions of ZR 42-00. Accordingly, the BSA Special Permit pursuant to Section 73-19 of the Zoning Resolution of the City of New York (ZR) permits the charter school use at the Projected Development Site. The approved Special Permit will effectuate the conversion and enlargement of the eastern portion of the existing 41,320 square foot light industrial building on the Projected Development Site for occupancy by a UG 3 Kindergarten through 6th-grade charter school without residential accommodations. The school, accessed from 83rd Street, will rise to a height of 53'-11" at four stories, including a mezzanine. In total, the zoning lot would contain approximately 228,982 GSF (204,397 ZSF; 4.60 FAR). To date, plans for the school have been filed and approved with DOB, and construction has begun.

If the proposed rezoning is approved, the BSA Special Permit (CEQR No. 20BSA002Q) will be relinquished by The Applicant as the proposed school would be permitted as-of-right in the new zoning district. Accordingly, the BSA Special Permit requirements will be ensured through (E) designations and/or a restrictive declaration imposed as part of the Proposed Actions. Requirements related to hazardous materials, air quality, and noise (as detailed in Sections 12.0, 17.0 and 19.0, respectively) will be through (E) designations. Those requirements related to transportation, as noted below, will be guaranteed by restrictive declaration.

Transportation (*See Also* Section 16.0):

- Conduct a transportation monitoring program ("TMP") which will include trip generation, modal split and origin/destination surveys; traffic and pedestrian data collection; Level of Service analyses utilizing Synchro including progression and queuing analyses; traffic control study, topographic survey if necessary, and parking accumulation assessment. The TMP will be

performed six months after the first year of school occupancy and after full occupancy. Prior to undertaking any TMP, the Applicant will prepare and submit a scope of work for DOT review and approval. The TMP will include the following location will be analyzed: (1) 45th Avenue and Broadway; (2) 45th Avenue and 82nd Street; (3) 45th Avenue and 83rd Street (4) Broadway and Whitney Avenue; and (5) Whitney Avenue and 83rd; and

- The Applicant will request school crossing guards from the New York City Police Department for the intersections of 83rd Street and 45th Avenue and 83rd Street and Whitney Avenue during school arrival and dismissal peak hour. In absence of crossing guards, school safety officers will be assigned at both locations at the Applicant's expense; and
- The Applicant will coordinate the following DOT prior to opening of the school:
    i. Construct a new sidewalk on the south side of Whitney Avenue between 83rd Street and Broadway; and
    ii. Submit an application for the installation of an enhanced crosswalk across 83rd Street just north of Whitney Avenue with ADA compliant pedestrian ramps to facilitate school crossings (if approved by DOT, the Declarant will install the enhanced crosswalk prior to school opening); and
    iii. An appropriate traffic control will be studied and installed at 83rd Street and Whitney Avenue; and
    iv. Modification to curbside parking regulations to facilitate vehicle maneuvers and school pick-up and drop-off activities on 83rd Street and Whitney Avenue; and
    v. Installation of ADA compliant pedestrian ramps at the southwest and southeast corners at 83rd Street and 45th Avenue, and all four corners of Broadway and Whitney Avenue.

The Proposed Actions are discretionary actions subject to environmental review. The New York City (NYC) Department of City Planning (DCP) is acting as the lead agency on behalf of the NYC City Planning Commission (CPC) for environmental review under City Environmental Quality Review (CEQR).

1.2 Description of the Surrounding Area

The Affected Area is located in the Elmhurst neighborhood of Queens Community District 4 bounded by 45th Avenue to the north, 82nd Street to the west, 83rd Street to the east, and the Long Island Railroad (LIRR) Port Washington Branch Line, which runs in an east and west direction along the southern border of the Affected Area. 45th Avenue is an east-west road with one moving lane of traffic in each direction and curbside parking. 83rd Street is a one-way south to north roadway with one moving lane of traffic and curbside parking. 82nd Street is a north to south one-way roadway that becomes 47th Avenue and turns west at the western edge of the Affected Area and includes curbside parking. Broadway, a major commercial thoroughfare, runs in a north-south direction to the east of the Affected Area.

The Surrounding Area is well-served by transit and located within a Transit Zone. The Elmhurst Avenue Station serving the E, M and R lines, and the Q53-SBS bus line at the Broadway/Whitney Avenue bus stop are located within walking distance to the Project Site.

The area surrounding the Proposed Development Site is zoned M1-1, R7A, R7A/C2-3, R7A/C2-2, R7A/C1-3, R6, R6B and R5. The Surrounding Area consists of a mix of residential, commercial, and community facility uses ranging in height from three to ten stories. One- and two-family and multi-family buildings are generally

north of 47th Avenue and west of 82nd Street, with a larger variety of uses developed along Broadway, including higher density commercial and office buildings. An R7A district is located immediately north of the Affected Area and is developed with a mix of commercial, residential and mixed-use buildings ranging from one to six stories in height. C1 and C2 commercial overlays are mapped along Broadway, 45th Avenue, and 83rd Street in the R7A zoning district. R5 and R6 zoning districts are mapped south of the LIRR tracks and developed with low-rise residences and a public school.

Nearby community facilities in the area include the Elmhurst Hospital, the Queens Adult Care Center, P.S. 7, Iglesia La Vina, the Saint James Episcopal Church, and the Reformed Church of Newtown. Moore Homestead Playground, a 1.9-acre neighborhood park, is located one block north of the Affected Area bounded by 45th Avenue to the south, Broadway to the east, and 82nd Street to the west.

1.3 Description of the Affected Area

As shown in **Table 1.3-1**, the Affected Area consists of approximately 69,869 square feet on the southeastern portion of Block 1536, including the six contiguous tax lots and portions of tax lots, Lots 80, 223, 79, p/o 75, p/o 85, and p/o condo lots 1101-1242, described below:

The Applicant Owned Development Site
The Applicant Owned Development Site is located at 45-20 83rd Street (Block 1536, Lot 223) and 80-52 47th Avenue (Block 1536, Lot 80). Lot 80 is a 5,037 sf lot that is vacant and unimproved. Lot 223 is a 39,400 sf lot currently improved with a vacant 1-story, 41,320 GSF light industrial structure. Together the lots comprise 44,437 sf. The lots have been reapportioned, with Lot 223 comprising 24,325 sf of the zoning lot, and Lot 80 comprising 20,112 sf of the zoning lot.

Non-Applicant Controlled Sites
Lot 79: A 1,475 sf irregularly shaped interior lot owned by the City of New York. The lot is unimproved and used for vehicle parking.

Lot 75: A 9,852 sf interior lot with 46 feet of frontage along 47th Avenue. The lot is improved with a 14,400 GSF, 3-story multi-family walk-up building that was constructed in 1984.

Lot 85: A 234,574 sf railroad bed owned by Long Island Railroad that runs from east to west at the southern portion of the Affected Area.

Condo Lots 1101-1242 (formerly Lot 215): The 37,024 sf lot was recently improved in 2019 with a 406,080 GSF 8-story mixed-use residential condominium and commercial building with 138 dwelling units. This development was effectuated by the 45th Avenue/Elmhurst Rezoning effective 11/15/2006 (CEQR No. 02DCP044Q).

Table 1.3-1: Affected Area Existing Conditions

Block	Lot	Lot Area (sq. ft.)	Site ID	Zoning	Existing Land Use	Ownership
1536	80	5,037[1]	Projected Site 1	M1-1	Parking Facilities	45-20 83rd LLC
1536	223	39,400[2]	Projected Site 1	M1-1	Industrial & Manufacturing	45-20 83rd LLC
1536	79	1,475	Other Site 1	M1-1	Parking Facilities	City of New York
1536	75	9,852	Other Site 2	M1-1/R6B	Residential	Or, Mei Yuk
1536	85	234,574	Other Site 3	M1-1/R6B	Transportation & Utility	LIRR
1536	Condo Lots 1101-1242[3]	37,024	Other Site 4	M1-1/R7A/C2-3	Residential	Elmhurst Plaza Tower LLC

ft = Feet

[1] Reapportioned Lot 80 - 20,112 sf
[2] Reapportioned Lot 223 - 24,325 sf
[3] Formerly Lot 215

1.4 Description of the Development Site

The Projected Development Site, identified in **Figure 1**, is located at 45-20 83rd Street and 80-52 47th Avenue Queens, New York, within the Elmhurst neighborhood of Queens Community District 4. The property, also known as Block 1536, Lots 80 and 223 on the New York City Tax Map (*See* **Figure 2**), consists of an approximately 44,437 sf irregular lot with approximately 79 feet of frontage on 47th Avenue and 116 feet on 83rd Street. The Site is located within an M1-1 zoning district and a Transit Zone. The Site is currently developed with an approximately 41,320 sf, one-story plus partial mezzanine vacant light industrial building and an accessory asphalt paved surface parking lot.[4]

1.5 Description of the Proposed Development

The Applicant seeks a zoning map amendment to rezone the Affected Area from an M1-1 zoning district to an R7A zoning district. The Applicant also seeks a zoning text map amendment to amend Zoning Resolution ("ZR") Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing Areas for Queens Community District 4, to establish the Affected Area as a Mandatory Inclusionary Housing ("MIH") Designated Area. The applicant proposes mapping MIH Options 1 and 2 to provide maximum flexibility for non-applicant-controlled sites.

The Proposed Actions would permit the development of a new 9-story plus cellar residential building. A 4-story plus mezzanine school building is being developed at the Projected Development Site pursuant to an approved Special Permit with the NYC BSA. Because of the BSA approval for the UG 3 charter school, the school could be built in the absence of the Proposed Actions. If the Proposed Actions are approved, the BSA approval will be rescinded by The Applicant, and the rezoning would permit the UG 3 charter school as-of-right by the proposed R7A zoning district. The two buildings would total approximately 228,282 GSF (204,397 ZSF; 4.60 FAR) on Block 1536, Lots 223 and 80. Reapportioned Lot 223 would be occupied with a charter school, while reapportioned Lot 80 would be developed with a residential building *(See Architectural Plans in **Appendix A)***.

Block 1536 Lot 80
Pursuant to the Proposed Actions, approximately 9,850 sf (0.22 FAR) of the western portion of the existing light industrial building fronting 47th Avenue would be partitioned off and torn down for the development of a new residential building. The proposed residential building will be 161,696 GSF (141,133 ZSF; 3.18 FAR), rising to a height of 90 feet at nine stories. The building will include 163 total dwelling units, at least 20% of which would be permanently set aside at or below 80% AMI. Pursuant to MIH between 41 and 49 units would be permanently set aside as affordable (25% and 30%); MIH Option 1 would require 25% floor area set aside at or below 60% AMI, while MIH Option 2 would require 30% floor area set aside at or below 80% AMI. 72 parking spaces would be provided at the cellar level in an enclosed garage.

Block 1536 Lot 223
The Applicant received approval on a Special Permit application with the New York City Board of Standards and Appeals (BSA) under CEQR Number 20BSA002Q pursuant to ZR Section 73-19 on June 29th, 2020 to facilitate the conversion and enlargement of a portion of an existing 41,320 sf one-story plus partial

[4] Construction of the UG 3 charter school pursuant to the approved BSA Special Permit is currently underway

mezzanine light industrial building for occupancy by a UG 3 Kindergarten through 6th-grade charter school on the eastern portion of former Block 1536, Lot 223[5].

Pursuant to the approved Special Permit Action, the eastern portion of the existing light industrial building will be renovated and expanded for occupancy by The Renaissance Charter School 2 (TRCS2). The school building will contain a total of 67,286 GSF (63,264 ZSF) of floor area and a FAR of 1.42. The building will contain 4-stories plus a mezzanine and will rise to a height of 53'-11" at the mezzanine roof, where a rooftop recreation space is planned. The second-floor roof will contain a terrace along the northern and eastern portions of the building, respectively.

Level 1
The 22,486 sf first floor includes fifteen classrooms, a cafeteria, seven offices, utility rooms, restrooms, a refrigerated trash storage room for food refuse, and a warming kitchen. See Appendix A - Proposed Charter School Plan BSA-8.

Level 2
The 21,361 sf second floor includes twenty-two classrooms, restrooms and five offices. *See Appendix A - Proposed Charter School Plan BSA-9.*

Level 3
The 9,197 sf third floor would consist of ten classrooms, restrooms, and a roof terrace along the northern and eastern portions of the building. See Appendix A - Proposed Charter School Plan BSA-10.

Level 4
The 8,726 sf fourth floor provides a double-height gymnasium, and an office. See Appendix A - Proposed Charter School Plan BSA-11.

Mezzanine
The 1,122 sf mezzanine located above the gymnasium consists of mechanical space. See Appendix A - Proposed Charter School Plan BSA-12.

Mezzanine Roof
There is a 5,110 sf roof terrace along the southern portion of the mezzanine roof. See Appendix A - Proposed Charter School Plan BSA-13.

TRCS2 will move from temporary off-site school space in the 2022-2023 school year with a starting enrollment at the proposed school building of 324 students in Kindergarten through Third grade and 46 staff members. Thereafter, grade enrollment would increase on a gradient basis with one grade level added per year for a total projected enrollment of 567 students in kindergarten through 6th grade and 88 employees in the 2025-2026 school year. See **Table 1.5-1** below for the anticipated TRCS2 student and staff population by year. The approximate hours of operation of the building would be Monday – Friday 7:30 AM – 6:00 PM. The school will open at 7:30 AM and would be open for student breakfast beginning at 7:40 AM. The earliest

[5] The school would occupy the entirety of Reapportioned Lot 223

arrival for breakfast is 7:40 AM, and the latest arrival is 8:10 AM. Classes will begin at 8:20 AM and end at 3:10 PM. The official end of the school day is 4:00 PM. An afterschool program would run until 6:00 PM.

Table 1.5-1 TRCS2 Student and Staff Population by Year

School Year	Grades	Total Students	K	1	2	3	4	5	6	Total Staff
2020-2021	K-1	162	81	81	0	0	0	0	0	25
2021-2022	K-2	243	81	81	81	0	0	0	0	38
2022-2023	K-3	324	81	81	81	81	0	0	0	46
2023-2024	K-4	405	81	81	81	81	81	0	0	65
2024-2025	K-5	486	81	81	81	81	81	81	0	76
2025-2026	K-6	567	81	81	81	81	81	81	81	88

*Grey denotes years at off-site incubation.

1.6 Actions Necessary to Facilitate the Project

The actions necessary to facilitate construction of the Proposed Development are approvals of:

1) a Zoning Map Amendment (ZM) to map an R7A zoning district in the Affected Area currently zoned as M1-1; and

2) a Zoning Text Amendment (ZR) to amend Queens Community District 4 Map in Appendix F: Inclusionary Housing Designated Areas to establish the Affected Area as an MIH Area.

If the proposed rezoning is approved, the BSA Special Permit will be relinquished by The Applicant as the proposed school would be permitted as-of-right in the new zoning district. Accordingly, as discussed above in Section 1.1, E-Designation for Hazardous Materials (*See* Section 12), Air Quality (*See* Section 17), and Noise (*See* Section 19), and a restrictive declaration for Transportation (*See* Section 16) will ensure that the BSA Special Permit requirements continue to be implemented as part of the Proposed Actions.

1.7 Purpose and Need

The Applicant proposes a zoning map amendment to change an existing M1-1 zoning district to an R7A zoning district in the Elmhurst neighborhood within Queens Community District 4. The Affected Area consists of Block 1536, Lots 79, 80, 223, p/o 85, p/o 75, and p/o Condo Lots 1101-1242 (formerly 215). In addition, the Applicant proposes a text amendment to Zoning Resolution ("ZR") Appendix F: Inclusionary Housing Designated Areas and Mandatory Inclusionary Housing ("MIH") Areas for Community District 4, Queens to establish an MIH Area coterminous with the Project Area. The Applicant proposes mapping both Option 1 and Option 2 within the proposed Project Area to provide maximum flexibility.

The Proposed Actions would facilitate the development of 80-52 47th Avenue and 45-20 83rd Street (Block 1536, Lots 80 and 223) (the "Projected Development Site") with a new nine-story plus cellar, 161,696 GSF (141,133 ZSF; 3.18 FAR) residential building with approximately 163 dwelling units. A 4-story plus mezzanine school building is being developed at the Projected Development Site pursuant to an approved Special Permit with the NYC BSA. Reapportioned Lot 223 would be occupied with a charter school, while reapportioned Lot 80 would be developed with a residential building.

Because of the BSA approval for the UG 3 charter school, the school could be built in the absence of the Proposed Actions. If the Proposed Actions are approved, the BSA approval will be rescinded by The Applicant, and the rezoning would permit the UG 3 charter school as-of-right by the proposed R7A zoning district.

1.8 Analysis Framework

The following analysis compares the incremental difference between the future absent the proposed actions (no-action condition) and the future with the proposed actions (with-action condition). The EAS studies the potential for individual and cumulative environmental impacts related to the proposed actions occurring in a study area of approximately 400 feet around the rezoning area (affected area). The analysis framework is described below:

Build Year

The UG 3 School on Lot 223 is currently under construction pursuant to a BSA-approved Special Permit Action, and the residential building on Lot 80 is anticipated to be complete by 2023, factoring the Environmental review and ULURP process and factoring an 18-month construction schedule. However, the EAS Supplemental Studies[6] consider a 2025 build year, where the school is anticipated to reach full grade enrollment, as shown above in **Table 1.5-1**.

Reasonable Worst-Case Development Scenario (RWCDS)

Pursuant to the *2020 CEQR Technical Manual* methodology, sites may be considered 'soft' if they are built to substantially less than the maximum allowable floor area ratio and are of sufficient size or could be assembled into a parcel of sufficient size, to support a feasible development. Sites that have recently been developed or redeveloped are considered less likely to be soft, due to the significant recent investment in the current use. The Technical Manual also discusses that it is often appropriate to categorize soft sites in the future With-Action as either "projected" or "potential" sites. Projected development sites are defined as those sites that are more likely to be developed as a result of the proposed project. Potential sites are defined as sites that could be developed but have been determined to have less development potential than the projected development sites, based on observed historic and current market conditions, location, site configuration, proximity to transit, infrastructure and other facilities, and other factors that affect the likelihood that they would be developed under the proposed actions.

Future No Action Conditions

To assess the cumulative impacts of the UG 3 charter school and proposed residential development, the No-Action Scenario conservatively assumes that no development is anticipated within the rezoning area. Former Lot 80 is a 5,037 sf lot that is vacant and unimproved. Former Lot 223 is a 39,400 sf lot currently improved with a vacant 1-story, 41,320 GSF light industrial structure. Together the lots comprise 44,437 sf. The future No Action Conditions assessed for the purposes of the Environmental Assessment assumes that the 41,320

[6] Construction considers a 2023 build year factoring the Environmental Review and ULURP process followed by an 18-month construction schedule for the residential development on Lot 80. Construction of the UG 3 School on Lot 223 is currently underway pursuant to the approved BSA Special Permit Action (CEQR No. 20BSA002Q).

sf (0.93 FAR) one-story vacant light industrial building on Lot 223 would be re-tenanted with a conforming light industrial use within the M1-1 zoning district.[7]

No other development would be expected to occur as residential development is not permitted within the existing M1-1 zoning district. Other lots within the Affected Area would be expected to remain the same as the existing conditions.

Future With Action Conditions

In the future with the Proposed Actions, the Affected Area would be rezoned to R7A. The Applicant-owned Block 1536, Lots 80 and 223 would develop to the maximum permitted FAR within the new zoning district. Other lots within the Affected Area would be expected to remain the same as the existing conditions.

Projected Development Site

80-52 47th Avenue (Block 1536, Reapportioned Lot 80) would be developed with a 9-story, 95-foot-tall residential building under RWCDS. 45-20 83rd Street (Block 1536, Reapportioned Lot 223) would be developed (as described under Future No Action Conditions) with a 4-story plus mezzanine community facility building, as approved under the BSA Special Permit Application. The Proposed residential building and UG 3 school building would total approximately 228,982 GSF (204,397 ZSF, 4.60 FAR).

- Lot 80 will be developed with a 161,696 GSF (141,133 ZSF; 3.18 FAR) building that rises to a height of 95 feet at nine stories. The building will include 163 total dwelling units, at least 20% of which would be permanently set aside at or below 80% AMI. Pursuant to MIH between 41 and 49 units would be permanently set aside as affordable (25% and 30%); MIH Option 1 would require 25% floor area set aside at or below 60% AMI, while MIH Option 2 would require 30% floor area set aside at or below 80% AMI.[8] 72 parking spaces would be provided at the cellar level in an enclosed garage.

- Lot 223 will be developed with a 67,286 GSF (63,264 ZSF; 1.42 FAR) community facility building that rises to a height of 53' -11" at four stories, including a mezzanine. The building will be used as a charter school.

Other Sites Not Expected to Be Affected by the Proposed Actions

The remaining lots within the rezoning area, Block 1536, Lots 79, p/o 75, p/o 85, and p/o Condo Lots 1101-1242 (formerly Lot 215), are not expected to redevelop as a result of the Proposed Actions.

[7] The eastern portion of the vacant light industrial building on Lot 223 is being renovated and expanded with a 4-story UG 3 Charter School under future conditions absent the Proposed Actions per the Special Permit Application from the NYC Board of Standards and Appeals (BSA) pursuant to Section 73-19 of the Zoning Resolution of the City of New York. The school building would be accessed from 83rd Street and would contain a total of 67,286 GSF (63,264 ZSF) of floor area and a FAR of 1.42. The proposed 4-story plus mezzanine school building would rise to a height of 53'-11" at the mezzanine roof, where a rooftop recreation space is proposed. The second-floor roof would contain a terrace along the northern and eastern portion of the building, respectively. The remaining 9,850 sf western portion of the existing building, which is accessed from 47th Avenue, would be partitioned off and would remain designated as light industrial space.

[8] For childcare analysis, 20% of residential floor area will be assumed to be set aside at or below 80% AMI.

- Lot 79 is a small, irregularly shaped lot owned by the City of New York and is currently used for parking. Due to the size and shape of the lot, as well as the setback regulations between R6B and R7A zoning districts, the redevelopment of this lot under the Proposed Actions is not likely.

- Lot 75 would be split between the existing R6B and the proposed R7A zoning district. A 3-story, 14,400 GSF 9-unit apartment building exists on-site and was constructed in 1984. Due to the 25-foot setback regulations between R6B and R7A districts and the split lot conditions of this site, it would not be possible to fully realize the development potential of the lot.

- Lot 85 is an approximately 234,574 sf railroad bed owned by the Long Island Railroad. This lot would not develop as a result of the rezoning.

- Condo Lots 1101-1242 (formerly Lot 215) was recently developed in 2019 with an 8-story, 406,080 GSF condominium building with 138 total dwelling units. The building is built well over the maximum allowed FAR, and redevelopment of the lot is not expected to occur with the Proposed Actions.

The Projected Development Sites are shown in **Figure 1.** The RWCDS Analysis Framework described above is shown in **Table 1.8-1**.

The environmental review technical analyses will be based on the increment between the no-action and with-action condition on the Projected Development Site. The incremental development would consist of one new 9-story, 95-foot-tall building, and a new 4-story plus mezzanine UG 3 charter school building on the Projected Development Site.

Table 1.8-1: RWCDS Analysis Framework Table

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Land Use				
Residential	☐ Yes ☑ No	☐ Yes ☑ No	☑ Yes ☐ No	
If "yes," specify the following:				
Describe type of residential structures	N/A	N/A	One multi-family building	
No. of dwelling units	N/A	N/A	163	163
No. of low- to moderate-income units	N/A	N/A	33	33
Gross floor area (sq. ft.)	N/A	N/A	161,696	161,696
Commercial	☑ Yes ☐ No	☑ Yes ☐ No	☐ Yes ☑ No	
If "yes," specify the following:				
Describe type (retail, office, other)	N/A	N/A	N/A	
Gross floor area (sq. ft.)	N/A	N/A	N/A	
Manufacturing/Industrial	Yes	Yes	N/A	
If "yes," specify the following:				
Type of Use	Light Industrial	Light Industrial	N/A	
Gross floor area (sq. ft.)	41,320	41,320	N/A	-41,320
Open storage area (sq. ft.)	0	0	N/A	
If any enclosed activities, specify:	N/A	N/A	N/A	
Community Facility	☐ Yes ☑ No	☐ Yes ☑ No	☑ Yes ☐ No	
If "yes," specify the following:				
Type of Use	N/A	N/A	Ug 3 Charter School	
Gross floor area (sq. ft.)	N/A	N/A	67,286	67,286
Vacant Land	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes", describe:	Vacant lot	N/A	N/A	
Publicly Accessible Open Space	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," specify type (mapped City, State, or Federal Parkland, wetland-mapped or otherwise known, other):	N/A	N/A	N/A	
Other Land Uses	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," describe:	N/A	N/A	N/A	
Parking				
Garages	☐ Yes ☑ No	☐ Yes ☑ No	☑ Yes ☐ No	
If "yes," specify the following:				
No. of public spaces	N/A	N/A	0	0
No. of accessory spaces	N/A	N/A	72	72
Operating hours	N/A	N/A	24/7	
Attended or non-attended	N/A	N/A	Non-attended	
Lots	☑ Yes ☐ No	☑ Yes ☐ No	☐ Yes ☑ No	
If "yes," specify the following:				
No. of public spaces	N/A	N/A	N/A	
No. of accessory spaces	5	5	N/A	-5
Operating hours	N/A	N/A	N/A	
Other (includes street parking)	☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	
If "yes," describe:	N/A	N/A	N/A	

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Population				
Residents	☐ Yes ☑ No	☐ Yes ☑ No	☑ Yes ☐ No	
If "yes," specify number:	N/A	N/A	544	544
Briefly explain how the number of residents was calculated:	Queens CD 4 average household size of 3.34 (2017 ACS)			
Businesses	☑ Yes ☐ No	☑ Yes ☐ No	☐ Yes ☑ No	
If "yes," specify the following:				
No. and type	1 Light Industrial	1 Light Industrial	Charter School	
No. and type of workers by business	3	3	270	267
No. and type of non-residents who are not workers	201	201	1,216	1,015
Briefly explain how the number of businesses was calculated:	Light Industrial = 1 worker per 15,000 GSF and 4.9 patrons per 1,000 GSF Charter School = 1 staff per 250 GSF and 18 patrons per 1,000 GSF			
Other (students, visitors, concert-goers, *etc*.)	☐ Yes ☑ No	☐ Yes ☑ No	☑ Yes ☐ No	
If any, specify type and number:	N/A	N/A	567	567
Briefly explain how the number was calculated:	Number of students in K-6th grade based on projections from the approved BSA Special Permit (CEQR No. 20BSA002Q) affecting Block 1536, Lot 223			
Zoning				
Zoning classification	M1-1	M1-1	R7A	
Maximum amount of floor area that can be developed	0.93	0.93	4.60	+3.67
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	Mixed commercial/res; commercial/office; public facilities; multifamily residential. Zoning: R6B, R7A, C2-3, C2-2, R6, M1-1, R5	Mixed commercial/res; commercial/office; public facilities; multifamily residential. Zoning: R6B, R7A, C2-3, C2-2, R6, M1-1, R5	Mixed commercial/res; commercial/office; public facilities; multifamily residential. Zoning: R6B, R7A, C2-3, C2-2, R6, M1-1, R5	
Attach any additional information that may be needed to describe the project. If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				

2.0 Summary of the Environmental Assessment Supplement to the EAS Short Form Part I: General Information

The following technical sections are provided as supplemental studies to the Environmental Assessment Statement ("EAS") Short Form. Technical Analyses of the EAS forms a series of technical thresholds for each analysis area in the respective chapter of the City Environmental Quality Review (CEQR) Technical Manual. If the proposed project was demonstrated not to meet or exceed the threshold, the 'NO' box in that section was checked, and additional analyses were not needed. If the proposed project was expected to meet or exceed the threshold, or if this was not able to be determined, the 'YES' box was checked on the EAS Short Form, resulting in a preliminary analysis to determine whether further analyses were needed. For those technical sections, the relevant chapter of the CEQR Technical Manual was consulted for guidance on providing additional analyses (and supporting information, if needed) to determine whether a detailed analysis was needed. The analyses contained within this report follow the 2020 CEQR Technical Manual guidelines, and serve as supplemental (technical) studies to Part II of the EAS Short Form, to determine if the Proposed Action would result in a significant adverse impact to the following analysis categories of the Environmental Assessment Statement:

PII. Q1. CEQR Technical Manual Chapter 4: Land Use, Zoning, and Public Policy

(b) The proposed project would result in a change in zoning different from surrounding zoning.

PII. Q3. CEQR Technical Manual Chapter 6: Community Facilities

(b) The project would result in more than 50 elementary/middle school students based on the number of residential dwelling units.

PII. Q4. CEQR Technical Manual Chapter 7: Open Space

(d) The proposed project is located in an area that is neither under-served nor well-served and would generate more than 200 additional residents.

PII. Q5. CEQR Technical Manual Chapter 8: Shadows

(a) The proposed project would result in a net height increase of any structure of 50 feet or more.
(b) The proposed project would result in an increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource.

PII. Q6. CEQR Technical Manual Chapter 9: Historic and Cultural Resources

(b) The proposed development would involve construction resulting in in-ground disturbance to an area not previously excavated.
(c) The Landmarks and Preservation Commission (LPC) reviewed the Proposed Action and determined the proposed project(s) would not potentially affect any architectural or archeological resources (See LPC letter in **Appendix B**)

PII. Q7. CEQR Technical Manual Chapter 10: Urban Design and Visual Resources

(a) The proposed project would introduce a new building and building height that is not currently allowed by existing zoning.

PII. Q9. CEQR Technical Manual Chapter 12: Hazardous Materials

(a) The proposed project would allow community facility use in an area that is currently, or was historically, a manufacturing area that involved hazardous materials.
(c) The proposed project would require soil disturbance in a manufacturing area, on or near historic facilities listed in Appendix 1.
(d) The proposed project would result in the development of a site where there is reason to suspect the presence of hazardous materials.
(e) The project would result in development on or near a site that has or had underground and/or aboveground storage tanks.
(g) The proposed project would result in development on or near a site with potential hazardous materials issues such as railroad tracks or rights-of-way.
(h) A Phase I Environmental Site Assessment has been performed for the site, and a Vapor Encroachment Condition could not be ruled out.

PII. Q13. CEQR Technical Manual Chapter 16: Transportation

(a) The proposed project would exceed the thresholds identified in Table 16-1 in Chapter 16.

Vehicular Trips: The proposed project would result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour;

Subway/Rail or Bus Trips: The proposed project would result in more than 200 subway/rail or bus trips per project peak hour;

Pedestrian Trips: The proposed project would result in more than 200 pedestrian trips per project peak hour.

PII. Q14. CEQR Technical Manual Chapter 17: Air Quality

(a) Mobile Sources:
- The proposed project would generate peak hour auto traffic resulting in greater than 170 or more auto trips. However, as shown in Section 16 below, the proposed project would not generate greater than 170 auto trips at any one Study Intersection.
- The proposed project would generate peak hour heavy-duty diesel vehicle traffic or its equivalent in vehicular emissions.

(b) Stationary Sources: The proposed project would result in condition(s) outlined in Section 220 in Chapter 17.
- The proposed project would result in new uses (particularly schools, hospitals, parks, and residences) within 400 feet of manufacturing or processing facilities.
- The proposed project would introduce a new HVAC system for building heating and cooling.

(c) The proposed project would involve multiple buildings on the Project Site.

PII. Q16. CEQR Technical Manual Chapter 19: Noise

(a) The proposed project would generate vehicular traffic.
(b) The proposed project would introduce new or additional receptors near heavily trafficked roadways, and within 1,500 feet of an existing rail line.
(c) The proposed project would introduce a stationary (playground) noise source to operate within 1,500 feet of a receptor.

PII. Q17. CEQR Technical Manual Chapter 20: Public Health

(a) Based upon the analyses conducted herein, detailed analysis is provided for Air Quality, Hazardous Materials, and Noise.
(b) An assessment of public health is not warranted based on the guidance in Chapter 20 Public Health of the CEQR technical manual as no significant unmitigated adverse impact is found in other CEQR analysis areas such as air quality, hazardous materials or noise.

PII. Q18. CEQR Technical Manual Chapter 21: Neighborhood Character

(a) Based upon the analysis conducted herein, detailed analysis is provided for Open Space, Urban Design and Visual Resources, Transportation and Noise; preliminary screenings were also conducted for Land Use Zoning and Public Policy and Historic and Cultural Resources.
(b) A detailed assessment of neighborhood character is not warranted based on the guidance in Chapter 21 Neighborhood Character of the CEQR technical manual as no significant unmitigated adverse impact is found in any CEQR analysis areas related to neighborhood character. Additionally, the proposed project would not result in cumulative adverse impact due to any of the constituent elements of neighborhood character when considered together. A preliminary screening of the constituent and combined impact categories related to Neighborhood Character is found in Section 21.0 below.

PII. Q19. CEQR Technical Manual Chapter 22: Construction

(a) The project's construction activities would involve the following:
- closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements.

(b) All construction activities would be performed within two years in compliance with relevant City and/or State regulations and would not occur along an arterial or major thoroughfare. Construction of the proposed project would not result in any substantial adverse impacts in any of the areas of concern such as air quality, noise, and/or traffic that could be impacted by construction activities. A preliminary screening of Construction is found in Section 22.0 below.

4.0 CEQR Technical Manual Chapter 4: Land Use, Zoning, and Public Policy Analysis Supplemental Studies to the EAS Short Form Part II

This analysis of land use, zoning, and public policy follows the guidelines set forth in the *2020 City Environmental Quality Review (CEQR) Technical manual*. It characterizes the existing conditions in the area surrounding the project site and addresses potential impacts to land use, zoning, and public policy that would be associated with the proposed action.

Methodology

According to the *2020 CEQR Technical Manual,* a preliminary land use and zoning assessment include a basic description of existing and future land uses and zoning information and describes any changes in zoning that could cause changes in land use. It also characterizes the land use development trends in the area surrounding the project site that might be affected by the proposed action and determines whether the proposed project is compatible with those trends or may affect them. This preliminary assessment includes a basic description of the proposed project that would be facilitated by the proposed action in order to determine whether a more detailed assessment would be appropriate. For public policy, the *2020 CEQR Technical Manual* stipulates that a preliminary assessment should identify and describe any public policies (formal plans, published reports) that pertain to the study area, and should determine whether the proposed project could alter or conflict with identified policies. If so, a detailed assessment should be conducted. Otherwise, no further assessment is needed. The following land use, zoning, and public policy assessment follows this guidance and provides a description of existing conditions of the project site and surrounding area. This is followed by an assessment of the future without and with the proposed action (Future No-Action and With-Action Conditions, respectively), and a determination that no further analysis is needed.

Existing land uses, zoning districts, and applicable public policies were identified by referencing the New York City Zoning and Land Use (ZoLa) database and PLUTOTM 20v2 shapefiles. Land uses were then confirmed and documented through site visits. Public Policy research was performed through an evaluation of the New York City Department of City Planning (NYCDCP) and other city agencies' programs and documentation. Existing Zoning districts related to the 400-foot Study Area were identified and described by referencing New York City Zoning Maps and the Zoning Resolution of the City of New York. These sources served as the basis for the Zoning, Land Use, and Public Policy evaluation of the Future No-Action and Future With-Action Conditions.

4.1 Land Use

Pursuant to Chapter 4, Section 111 of the *2020 CEQR Technical Manual*, land use refers to the activity that is occurring on land and within the structures that occupy it. Types of uses include residential, retail, commercial, industrial, vacant land, and parks. DCP's Primary Land Use Tax Lot Output (PLUTO) database provides data on the following land use types: one- and two-family residential buildings, multi-family walk-up residential buildings, multi-family elevator residential buildings, mixed residential and commercial buildings, commercial and office buildings, industrial and manufacturing, transportation and utility, public facilities and institutions, open space and outdoor recreation, parking facilities, and vacant land.

Existing Conditions

Existing land use patterns within approximately 400 feet of the Project Site are presented in **Figure 6**. The *CEQR Technical Manual* suggests that a land use, zoning, and public policy Study Area should extend 400 feet from the site of the Proposed Action.

Projected Development Site

The Projected Development Site consists of Block 1536, Lots 223 and 80. Former Lot 223 is a 39,400 sf lot currently improved with a vacant 1-story, 41,320 GSF light industrial structure. Former Lot 80 is a 5,037 sf lot that is vacant and unimproved.[9] Together the lots comprise 44,437 sf. To date, construction of a UG 3 charter school as described under With-Action Conditions is underway pursuant to the approved /BSA architectural plans provided in **Appendix A**.

Land Use Study Area

*As indicated in **Figure 6** above, the area within a 400-foot radius of the Affected Area (the "Surrounding Area" or "Land Use Study Area") consists of a varied mix of residential, commercial, and institutional land uses.*

The M1-1 zoning district mapped over the Affected Area consists of the Projected Development Site, as well as Block 1536 Lot 79, and part of Lots 75, 85, and condo lots 1101-1242 (formerly lot 215). Lot 75 is developed with a residential multi-family walk-up building, and Lot 79 consists of an accessory surface parking lot for this use. Lot 85 is developed with a railroad bed owned by the Long Island Railroad, classified as transportation and utility uses. Condo lots 1101-1242 are improved with an 8-story, 406,080 GSF mixed-use residential condominium building with 138 total dwelling units and ground floor commercial use; this building was effectuated by the 45th Avenue/Elmhurst Rezoning effective 11/15/2006 (CEQR No. 02DCP044Q). Under the 45th Avenue/Elmhurst Rezoning, the adjacent area to the north of the Affected Area was rezoned from R6B and R6B/C2-3 zoning districts to the current R7A/C2-3 district.

P.S. 255/7, an elementary school for students on the Autism Spectrum, is located to the southeast beyond the LIRR and South Railroad Avenue, within an underlying R6 zoning district. An R5 zoning district is also located south of the Project Site and is developed with a varied and balanced mix of one- and two-family residential development, mixed commercial and residential buildings, and multi-family walkup and elevator buildings.

Commercial development is concentrated east of the Project Site within the commercial overlay districts mapped along Broadway and 83rd Street, as well as to the north of the Project Site along the south side of 45th Avenue. Further north of this area is Moore Homestead Playground, an approximately 2-acre neighborhood park accessed by Broadway, 82nd Street, and 45th Avenue.

The area west of the Affected Area within an underlying R6B zoning district consists of multi-family walkup and multi-family elevator buildings. A large institutional building (*Adult Care Center*) is developed along the

[9] Reapportioned Lot 80 - 20,112 sf
Reapportioned Lot 223 - 24,325 sf

westernmost portion of the block bounded by 45th and 47th Avenues and 80th and 82nd Streets (Block 1533, Lot 36) to the west of the site.

*The overall land use distribution for Queens Community District 4 is provided in **Table 4.1-1** below:*

Table 4.1-1: Land Use Distribution for Queens Community District 4

LAND USES	PERCENT OF TOTAL
Residential Uses	
1-2 Family	28.08
Multi-Family	39.82
Mixed Residential/Commercial	7.46
Subtotal of Residential Uses	*75.36*
Non-Residential Uses	
Commercial / Office	7.04
Industrial	2.05
Transportation/Utility	2.50
Institutions	6.95
Open Space/Recreation	2.75
Parking Facilities	1.93
Vacant Land	1.36
Miscellaneous	0.06
Subtotal of Non-Residential Uses	*24.64*
TOTAL	**100**

Source: *Community District Profiles, New York City Department of City Planning.*
Note: Percentages may not add up to 100.0 percent due to rounding.

Future No Action Conditions

The No-Action Scenario conservatively assumes that no development is anticipated within the rezoning area under future no-action conditions. The future No Action Conditions assessed for the purposes of the Environmental Assessment assumes that the 41,320 sf (0.93 FAR) one-story vacant light industrial building on Lot 223 would be re-tenanted with a conforming light industrial use within the M1-1 zoning district.

No other development would be expected to occur as residential development is not permitted within the existing M1-1 zoning district. Other lots within the Affected Area would be expected to remain the same as the existing conditions, and no other changes to land use within the Affected Area are anticipated.

Future With Action Conditions

The Proposed Actions would facilitate the development of the Projected Development Site (Reapportioned Lot 80) with a 9-story residential building accessed from 47th Avenue. The proposed residential building would contain 161,696 GSF (141,133 ZSF; 3.18 FAR) and would rise to a height of 95 feet tall. The building would contain 163 total dwelling units, at least 20 percent of which would be permanently set aside at or below 80

percent AMI. As described under Future No-Action Conditions, the With-Action Condition assumes that the remaining portion of the Projected Development Site (Reapportioned Lot 223) would be developed with a 1.42 FAR 4-story UG 3 school totaling 67,286 GSF (63,264 ZSF).

Conclusion
The residential building would effectively serve as an extension to the adjacent residential and institutional land use. The Proposed Action would permit a supportive community facility use as-of-right, which would serve the surrounding densely populated residential neighborhoods. Therefore, the proposed UG 3 and UG 2 use at the Projected Development Site would be consistent with established and ongoing surrounding land use patterns, would not create conflicts with existing land uses, and would not alter the overall land use pattern in the area. No other changes to land use within the Affected Area or the 400-foot study area are foreseen as a result of the Proposed Actions or resulting from other known actions in the area.

4.2 Zoning

The *New York City Zoning Resolution* dictates the use, density, and bulk of developments within New York City. The City has three basic zoning district classifications – residential (R), commercial (C), and manufacturing (M). These classifications are further divided into low, medium, and high-density districts. The zoning districts mapped over the Projected Development Site and the Surrounding 400-Foot Study Area are shown above in **Figure 5**.

Existing Conditions

Zoning Study Area
The M1-1 zoning district mapped over the Project Site consists of the subject property, as well as Block 1536 Lot 79, and part of Lots 75, 85 and condo lots 1101-1242. An R5 and R6 zoning district are located generally south of the Project Site beyond the LIRR and South Railroad Avenue. The R5 zoning district boundary begins directly south of the Project site. An R6B zoning district is located along the western portion of the study area, and an R7A zoning district is located along the eastern portion of the study area, with its boundary beginning directly north, and east of the project site.

An R7A/C2-3 zoning district is mapped over Block 1546, Lots 201, 210 and 214, north of the Project Site. Additionally, an R7A/C2-2 zoning district is mapped along the east side of Broadway, and several R7A/C1-3 zoning districts are mapped along Broadway to a depth of 100 feet.

Existing zoning districts within the Zoning Study Area include:

M1-1
M1 districts often serve as buffers between M2 or M3 and adjacent residential or commercial districts. M1-1 districts typically include light industrial uses, such as woodworking shops, repair shops, and wholesale service and storage facilities. Permitted uses in M1-1 districts are as follows: UG 4-14, 16 and 17. In an M1-1 zoning district, *UG 3 Schools* are not allowed as-of-right, pursuant to ZR Section 42-00; However, the Board of Standards and Appeals may permit schools that have no residential accommodations provided that they meet the findings as set forth in ZR Section 73-19. Houses of Worship and certain medical facilities are allowed as-of-right. M1-1 districts permit a FAR of 1.0 for permitted commercial and manufacturing uses, and 2.40 for permitted community facility uses. M1-1 districts are subject to parking requirements based on the type of use and size of an establishment (1

per 300 sf for PRC-B). Building heights are regulated by a sky exposure plane beginning at 30 feet (or two stories) above the street line.

R5

R5 districts allow a variety of housing at a higher density than permitted in R3-2 and R4 districts. The floor area ratio (FAR) of 1.25 typically produces three-and four-story attached houses and small apartment houses. With a height limit of 40 feet, R5 districts provide a transition between lower- and higher-density neighborhoods and permit Use Groups 1-4.

To ensure compatibility with the neighborhood scale, the maximum street wall height of a new building is 30 feet, and the maximum building height is 40 feet. Above a height of 30 feet, a setback of 15 feet is required from the street wall of the building; in addition, any portion of the building that exceeds a height of 33 feet must be set back from a rear or side yard line. Detached houses must have two side yards that total at least 13 feet, each with a minimum width of five feet. Semi-detached houses need one eight-foot-wide side yard. Apartment houses need two side yards, each at least eight feet wide. Front yards must be 10 feet deep or, if deeper, a minimum of 18 feet to prevent cars parked on-site from protruding onto the sidewalk. Cars may park in the side or rear yard, in the garage or in the front yard within the side lot ribbon; parking is also allowed within the front yard when the lot is wider than 35 feet. Off-street parking is required for 85% of the dwelling units in the building, 42.5% of IRHU (*inclusionary residential housing*) units (outside transit zone) and 10% of AIRS (*affordable independent residences for seniors*) units (outside transit zone). Parking is not required for IRHU/AIRS units within a transit zone.

R6

R6 are medium-density non-contextual zoning districts widely mapped in built-up, medium-density areas in Brooklyn, such as the Study Area. Developers can choose between two sets of bulk regulations. Standard height factor regulations, introduced in 1961, produce small multi-family buildings on small zoning lots and, on larger lots, tall buildings that are set back from the street. Optional Quality Housing regulations produce high lot coverage buildings within height limits that often reflect the scale of older, pre-1961 apartment buildings in the neighborhood. In districts mapped R6 within an MX-8 district, all buildings shall comply with the height and setback regulations as set forth in ZR 123-662, Table A.

Height Factor Option

Buildings developed pursuant to height factor regulations are often tall buildings set back from the street and surrounded by open space and on-site parking. The floor area ratio (FAR) in R6 districts ranges from 0.78 (for a single-story building) to 2.43 at a typical height of 13 stories; the open space ratio (OSR) ranges from 27.5 to 37.5. Generally, the more open space, the taller the building. The maximum floor area ratio is achievable only where the zoning lot is large enough to accommodate a practical building footprint as well as the required amount of open space. There are no height limits for height factor buildings, although they must be set within a sky exposure plane, which begins at the height of 60 feet above the street line and then slopes inward over the zoning lot.

Off-street parking is generally required for 70 percent of a building's dwelling units, but requirements are lower for IRHU's and are further modified in certain areas, such as within the Transit Zone and the Manhattan Core, or for lots less than 10,000 square feet. Parking can be waived if five or fewer spaces are required.

Quality Housing Option

The optional Quality Housing regulations produce high lot coverage buildings set at or near the street line. Height limitations ensure that these buildings are often more compatible with older buildings in the neighborhood. As an incentive for developers to choose the Quality Housing option outside the Manhattan Core, greater floor area ratio, and therefore, more apartments, is permitted for buildings on or within 100 feet of a wide street than would be permitted under height factor regulations. The FAR is 3.0; the maximum base height before setback is 65 feet with a maximum building height of 75 with a qualifying ground floor (70 feet without). On a narrow street (beyond 100 feet of a wide street), the maximum FAR is 2.2; the maximum base height before setback is 45 feet with a maximum building height of 55 feet. The area between a building's street wall and the street line must be planted, and the buildings must have interior amenities for the residents pursuant to the Quality Housing Program. Higher maximum FAR and heights are available for buildings participating in the Inclusionary Housing Program or that provide certain senior facilities.

Off-street parking is generally required for 50 percent of a building's dwelling units, but requirements are lower for IRHU's and are further modified in certain areas, such as within the Transit Zone and the Manhattan Core, or for lots less than 10,000 square feet. Parking can be waived if five or fewer spaces are required.

R6B

R6B zoning districts permit residential and community facility uses with a maximum FAR of 2.0, a minimum street wall height of 30 feet, a maximum street wall height of 40 feet, and a maximum building height of 50 feet. R6B districts require off-street parking for 50 percent of the dwelling units in a building, with an exemption from parking for income-restricted units within the Transit Zone and a prohibition on curb cuts on zoning lots that are less than 40 feet in width. The Quality Housing program is mandatory for residential developments.

R7A

R7A contextual districts produce high lot coverage, seven- to nine-story apartment buildings set at or near the street line designed to be compatible with older buildings in medium-density neighborhoods. R7A is a contextual district that allows for new medium-density residential development up to 4.6 FAR in IHDAs and MIH Areas with a maximum base FAR of 3.45, and community facility uses up to 4.0 FAR. The building form requires a street wall of 40 to 75 feet, a setback above the maximum base height, and a maximum building height of up to 95 feet for Inclusionary Housing buildings with a qualifying ground floor. R7A districts require off-street parking for 50 percent of the dwelling units in a building, with an exemption from parking for income-restricted units within the Transit Zone.

C1-3 Commercial Overlays

C1-3 districts are commercial overlays mapped within residential districts. Mapped along streets that serve local retail needs, they are found extensively throughout the city's lower- and medium-density areas and occasionally in higher-density districts.

Typical retail uses include neighborhood grocery stores, restaurants and beauty parlors. In mixed buildings, commercial uses are limited to one or two floors and must always be located below the residential use.

When commercial overlays are mapped in R1 through R5 districts, the maximum commercial floor area ratio (FAR) is 1.0; when mapped in R6 through R10 districts, the maximum commercial FAR is 2.0. Commercial buildings are subject to commercial bulk rules.

C2-2/C2-3 Commercial Overlays

C2 districts are commercial overlays mapped within residential districts. Mapped along streets that serve local retail needs, they are found extensively throughout the city's lower- and medium-density areas and occasionally in higher-density districts. Typical retail uses include neighborhood grocery stores, restaurants, and beauty parlors. C2 districts permit a slightly wider range of uses, such as funeral homes and repair services. In mixed buildings, commercial uses are limited to one or two floors and must always be located below the residential use.

When commercial overlays are mapped in R1 through R5 districts, the maximum commercial floor area ratio (FAR) is 1.0; when mapped in R6 through R10 districts, the maximum commercial FAR is 2.0. Commercial buildings are subject to commercial bulk rules.

*The zoning designation distribution within Queens Community District 4 is listed in **Table 4.2-1**, and the zoning districts within 400 feet of the Project Site are listed in **Table 4.2-2.***

Table 4.2-1: Zoning Distribution for Queens Community District 4

ZONING DESIGNATIONS	PERCENT OF TOTAL
Commercial	4.96
Industrial/Manufacturing	3.32
Residential	90.03
Park	1.70
TOTAL	**100.01**

Source: *Community District Profiles, New York City Department of City Planning.*
Note: Percentages may not add up to 100.0 percent due to rounding.

Analysis

Future No Action Conditions

Under future No-Action Conditions, it is assumed that the Affected Area would continue to be subject to the zoning regulations of the underlying M1-1 zoning district.

Future With Action Conditions

Pursuant to the Proposed Actions, the Affected Area would be rezoned from the existing M1-1 zoning district to an R7A zoning district.

Conclusion

The Proposed Action will result in changes in the existing zoning districts on the Project Site from M1-1 to R7A, and it would add MIH Area to Queens Community District 4 Map in Appendix F within the New York City Zoning Resolution. Additionally, due to the site's adjacency to four residential zoning districts where UG 3 Schools and residential uses are permitted as-of-right, the Proposed Actions will not result in development that is inconsistent with the established zoning patterns. As such, the proposed rezoning would not adversely impact established zoning patterns or jeopardize the intent of the Zoning Resolution.

Table 4.2-2: Summary of Existing Zoning Regulations within 400-foot Study Area

Zoning District	Type and Use Group (UG)	Floor Area Ratio (FAR)	Parking (Required Spaces)
R5	Non-Contextual Residential UGs 1-4	1.25 FAR – Residential 2.00 FAR – Community Facility	85% of DU; 42.5% of IRHU (outside transit zone); 10% of AIRS (outside transit zone).
R6	Non-Contextual Residential UGs 1-4	2.20 – 3.60 FAR – QH Residential 0.78 – 2.43 FAR – HF Residential 4.80 FAR – Community Facility	50% of DU (QH Res); 70% of DU (HF Res); 50% of DU for lots less than 10,000 sf.; 25% of IRHU (outside transit zone); 10% of AIRS (outside transit zone). *Waived if 5 or fewer spaces*
R6B	Contextual Residential UGs 1-4	2.00 – 2.20 FAR – Residential 2.0 FAR – Community Facility	50% of DU; 25% of IRHU (outside transit zone); 10% of AIRS (outside transit zone). *Waived if 5 or fewer spaces*
R7A	Contextual Residential UGs 1-4	4.00 – 4.60 FAR – Residential 4.00 FAR – Community Facility	50% of DU; 15% of IRHU (outside transit zone); 10% of AIRS (outside transit zone); 30% of DU for lots less than 10,000 sf. *Waived if 15 or fewer spaces*
C1-3/R7A	UGs 1-4 Commercial UGs 5-6	1.00 FAR (R1 – R5) 2.00 FAR (R6-R10)	Varies by Use and Size of Establishment (1 per 400 sf PRC-B)
C2-2/R7A	Residential UGs 1-4 Commercial UGs 5-9, 14	1.00 FAR (R1 – R5) 2.00 FAR (R6-R10)	Varies by Use and Size of Establishment (1 per 300 sf PRC-B)
C2-3/R7A	Residential UGs 1-4 Commercial UGs 5-9, 14	1.00 FAR (R1 – R5) 2.00 FAR (R6-R10)	Varies by Use and Size of Establishment (1 per 400 sf PRC-B)
M1-1	Light Manufacturing UGs 4-14, 16, 17	1.00 FAR – Manufacturing 1.00 FAR – Commercial 2.40 FAR – Community Facility	Varies by Use and Size of Establishment (1 per 300 sf PRC-B)

QH = Quality Housing
IRHU = Inclusionary Residential Housing Units
AIRS = Affordable Independent Residences for Seniors
HF = Height Factor
DU = Dwelling Units

Source: Zoning Handbook, New York City Department of City Planning, 2019
Note: Grey denotes the subject zoning district

4.3 Public Policy

For public policy, the *2020 CEQR Technical Manual* stipulates that a preliminary assessment should identify and describe any public policies (formal plans, published reports) that pertain to the study area, and should determine whether the proposed project could alter or conflict with identified policies. If so, a detailed assessment should be conducted. Otherwise, no further assessment is needed.

The project site is not part of, or subject to, an Urban Renewal Plan (URP), adopted community 197-a Plan, Solid Waste Management Plan, Business Improvement District (BID), or Industrial Business Zone (IBZ). The Proposed Actions are also not a large publicly sponsored project, and as such, consistency with the City's PlaNYC 2030 for sustainability is not required.

Public Policy for the Project Site is defined by the NYC Zoning Resolution. As the Project Site lies within the boundaries of a Transit Zone where lower accessory parking requirements apply for various types of affordable housing and the Proposed Actions would result in residential use, the development would therefore be applicable to this policy.

Analysis

Future No Action Condition
There are no relevant changes to public policy expected in the study area in the Future No-Action Condition.

Future With Action Condition
There are no relevant changes to public policy expected in the study area in the Future With-Action Condition. The Proposed Actions would introduce a substantial amount of affordable housing to the Affected Area, and, given its location within a Transit Zone, the development would not be required to provide residential accessory parking spaces for all affordable housing units.

Conclusion
The proposed rezoning would not alter the essential character of the neighborhood or district or substantially impair the appropriate use or development of an adjacent property, nor would it be detrimental to the public welfare or jeopardize the intent of the Zoning Resolution. Accordingly, no further analysis of Public Policy is warranted.

6.0 CEQR Technical Manual Chapter 6: Community Facilities Analysis Supplemental Studies to the EAS Short Form Part II

A community facilities assessment may be necessary if an action could potentially affect the provision of services provided by public or publicly funded community facilities such as schools, hospitals, libraries, daycare/Head Start facilities, and fire and police protection. Per the screening levels established in the CEQR Technical Manual, there are direct and indirect effects. An assessment of the project's impacts on community facilities is generally warranted if:

- a project would add new population to an area that would increase the demand for services and cause potential indirect effects on service delivery. Depending on the size, income characteristics, and age distribution of the new population there may be effects on public or publicly funded schools, libraries, health care facilities, or daycare/Head Start facilities.

- a project would physically alter a community facility, whether by displacement of the facility or other physical change. This direct effect triggers the need to assess the service delivery of the facility and the potential effect that the change may have on that service delivery.

Preliminary Screening

The incremental development effectuated by the Proposed Actions under the RWCDS would include 163 total units. For the purposes of a conservative community facilities analysis, 20 percent affordable units will be analyzed. Therefore, 33 of the 163 dwelling units would be considered affordable.

Based on a preliminary assessment of Queens CEQR thresholds for analysis, as shown in **Table 6-1,** this project does trigger a detailed CEQR analysis for public schools but does not trigger a detailed CEQR analysis for publicly funded daycare, libraries, health care facilities, or Police and Fire Protection services. The incremental development scenario results in 63 combined elementary and middle school students, 21 high school students. As shown below in **Table 6-1**, this is above the applicable threshold of 50 combined elementary and middle school students and below the threshold of 150 high school students.

Table 6-1 Community Facilities-Preliminary Assessment of CEQR Thresholds				
Community Facility	Threshold	163 total DUs 33 low income DUs		Exceeds Criteria Threshold
Public Schools Elementary School and Middle School Students High School Students	 >50 elementary and middle school children (combined) >150 high school students	 0.38 0.13 0.10	 63 21 17	 Yes No
Libraries >5% Increase in ratio of residential units	>622 DUs in Queens	NA	NA	No
Health Care Facilities >600 low or low-to-moderate income units	NA	NA	NA	No
Publicly Funded Day Care/ Head Start Facilities <6 years old	>139 permanently affordable residential DUs in Queens	NA	NA	No
Fire Protection	Direct Effect			No
Police Protection	Direct Effect			No

Multipliers for Public Schools Defined by The School Construction Authority February 2020 Data Package with November 2019 Schools Multiplier per the CEQR App.

Primary and Intermediate Schools—Detailed Assessment

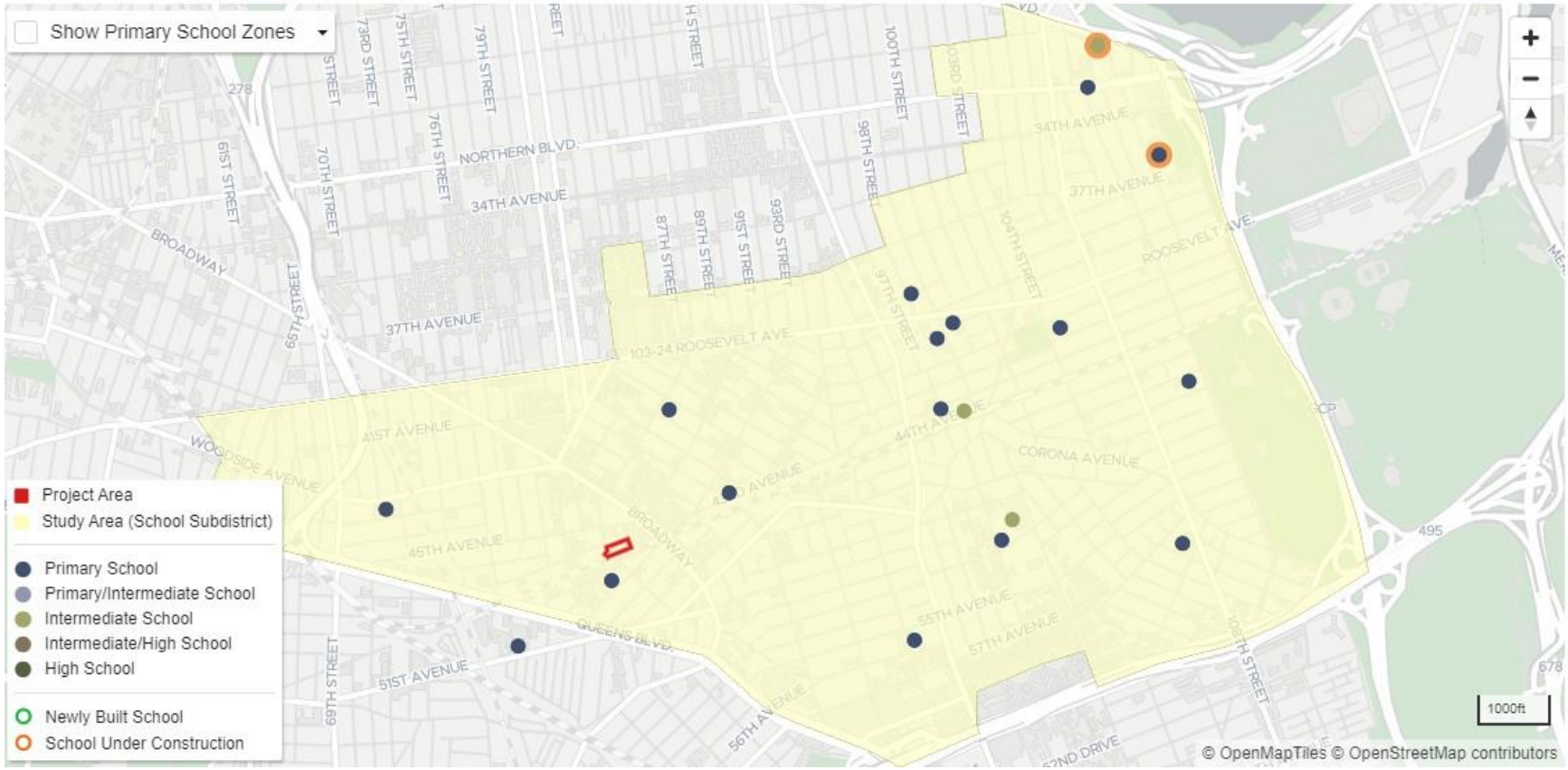
Based on the preliminary analysis, the Proposed Actions are expected to result in a total of 84 additional public-school students (63 primary and 21 intermediate students), which is above the threshold of 50 students.

Study Area

Per the *2020 CEQR Technical Manual*, the study area for the analysis of primary and intermediate schools is to be conducted in the school district's sub-district in which the project is located. The Affected Area is located entirely within Community School District 24 (CSD 24), Sub-District 1 (**Figure 6-1**). CSD 15 Sub-District 1 has 16 primary and 2 intermediate schools for a total of 18 primary and intermediate schools combined.

Figure 6-1 shows primary and intermediate schools within CSD 24 Sub-District 1. **Tables 6-2 and 6-3** provide their location, enrollment capacity, and utilization rate.

Figure 6-1: School Study Area



Existing Conditions

Primary Schools CSD 24 Sub-District 1

As shown in **Table 6-2** (excluding charter schools and special education schools) CSD 24 Sub-District 1 has a capacity of 12,910 seats at the primary level with a current enrollment of 15,169 students. Primary Schools are currently over capacity by 2,259 seats resulting in a utilization rate of 118 percent.

Intermediate Schools CSD 24 Sub-District 1

As shown in **Table 6-3** (excluding charter schools and special education schools) CSD 24 Sub-District 1 has a capacity of 2,879 seats at the intermediate level with a current enrollment of 3,012 students. Intermediate Schools are currently over capacity by 133 seats resulting in a utilization rate of 105 percent.

Table 6-2: Primary Schools

Org. ID	Bldg. ID	School Name	Address	Enrollment	Target	Available	Utilization (%)
Q007	Q007	P.S. 007 Louis F. Simeone P.S. 7 - Queens	80-55 CORNISH AVENUE	943	956	13	99%
Q007	Q877	P.S. 007 Louis F. Simeone 51ST AVENUE ACADEMY - Queens	76-05 51 AVENUE	432	486	54	89%
Q012	Q012	P.S. 012 James B. Colgate P.S. 12 - Queens	42-00 72 STREET	1157	846	-311	137%
Q013	Q013	P.S. 013 Clement C. Moore P.S. 13 - Queens	55-01 94 STREET	1515	1303	-212	116%
Q014	Q014	P.S. 014 Fairview P.S. 14 - Queens	107-01 OTIS AVENUE	1374	1193	-181	115%
Q014	Q322	P.S. 014 Fairview PS 14 Annex	89-11 43RD AVENUE	200	177	-23	113%
Q016	Q721	P.S. Q016 The Nancy DeBenedittis School P.S. 16 (OLD Q721 SPED) - Queens	41-15 104 STREET	1509	1127	-382	134%
Q019	Q019	P.S. 019 Marino Jeantet P.S. 19 - Queens	98-02 ROOSEVELT AVENUE	1889	1653	-236	114%
Q028	Q028	P.S. 28 - The Thomas Emanuel Early Childhood Center P.S. 28 - Queens	109-10 47 AVENUE	473	302	-171	157%
Q089	Q089	P.S. 089 Elmhurst P.S. 89 - Queens	85-28 BRITTON AVENUE	1810	1299	-511	139%
Q110	Q315	P.S. 110 P.S. 315 - Queens	43-18 97TH PLACE	894	1027	133	87%
Q143	Q143	P.S. 143 Louis Armstrong P.S. 143 - Queens	34-74 113 STREET	792	745	-47	106%
Q143	Q908	P.S. 143 Louis Armstrong P.S. 908 - Queens	98-07 38TH AVENUE	204	168	-36	121%
Q211	Q298	Elm Tree Elementary School P.S./ I.S. 298 – Queens	50-51 98TH STREET	517	545	28	95%
Q307	Q260	Pioneer Academy P.S. 307- Queens	40-20 100TH STREET	899	654	-245	138%
Q330	Q287	Helen M. Marshall School P.S. 330 - Queens	110-08 NORTHERN BOULEVARD	561	429	-132	131%
Totals (District 24 - Subdistrict 1)				**15169**	**12910**	**-2259**	**118%**

Source: SCA Enrollment, Capacity, and Utilization (Blue Book) [2017-18]
*Capacity from charter schools, citywide gifted and talented, D75 Special Ed, and D79 alternative high schools are excluded from this analysis.

Table 6-3: Intermediate Schools

Org. ID	Bldg. ID	School Name	Address	Enrollment	Target	Available	Utilization (%)
Q061	Q061	I.S. 061 Leonardo Da Vinci I.S. 61 - Queens	98-50 50 AVENUE	2251	2065	-186	109%
Q311	Q311	Corona Arts & Sciences Academy *P.S./ I.S. 311 - Queens*	98-11 44TH AVENUE	761	814	53	94%
Totals (District 24 - Subdistrict 1)				**3012**	**2879**	**-133**	**105%**

Source: SCA Enrollment, Capacity, and Utilization (Blue Book) [2017-18]
*Capacity from charter schools, citywide gifted and talented, D75 Special Ed, and D79 alternative high schools are excluded from this analysis.

Future No Action Conditions

The Department of Education works with city agencies to develop a comprehensive list of new housing starts and incorporates the expected increase in school-age population into its projections. **Table 6-4** below shows the projected enrollment for the 2025-2026 school year, which represents the No-Action Condition.

Table 6-4: No-Action 2025 Enrollment

Study Area	Projected 2025 Enrollment	Students Introduced by No Action Residential Development	Total No Action Enrollment	Capacity	Available Seats	Utilization (%)
Primary Schools						
District 24 - Subdistrict 1	14538	871	15409	12910	-2499	119%
Intermediate Schools						
District 24 - Subdistrict 1	2722	293	3015	2879	-136	105%

Future With Action Conditions

The Proposed Actions would effectuate 163 new dwelling units. Based on the number of dwelling units, it is projected that 63 primary school students and 21 intermediate school students would be introduced into the study area by the Proposed Actions. **Table 6-5** below shows the With Action enrollment for the 2025 build year.

Table 6-5: Projected 2025 Public Primary and Intermediate School Enrollment

School Level	Projected Enrollment Without Project	Students Generated by Project	Projected Enrollment with Project	Projected Capacity	Available Seats	Utilization (%) with Project	Change in Utilization (%) from No Action
Primary Schools	15409	63	15472	12910	-2562	120%	0.49%
Intermediate Schools	3015	21	3036	2879	-157	105%	0.73%

Conclusion

As stated in Section 6-410 of the 2020 CEQR Technical Manual, a significant impact may result warranting consideration of potential mitigation if a proposed project would result in both of the following conditions:

- A collective utilization rate of the primary or intermediate schools that is equal to or greater than 100 percent in the With-Action Condition; and
- An increase of five percent or more in the collective utilization rate between the No-Action and With-Action conditions.

This analysis indicates that in the Future With-Action Condition, the utilization rate for primary schools would be 120 percent, and the utilization rate for intermediate schools would be 105 percent. However, the Proposed Actions would result in only a 0.49 percent increase in utilization from the No-Action Condition for Primary Schools and a 0.73 percent increase in utilization from the No-Action Condition for Intermediate Schools. Therefore, pursuant to CEQR Technical Manual methodology, the Proposed Actions would not result in significant adverse impacts related to primary or intermediate school utilization.

7.0 CEQR Technical Manual Chapter 7: Open Space Analysis Supplemental Study to the EAS Short Form Part II

Open space is defined as publicly or privately-owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment.

Pursuant to Chapter 7, Section 100 of the *2020 CEQR Technical Manual*, Open Space Resources are defined as active and/or passive, and may include, but is not limited to, the following:

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

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

Methodology

The affected area is within an area that is neither underserved nor well served by open space, which has an analysis threshold of 200 new residential units or 500 additional employees. The population increment that would result from the Proposed Actions is above the relevant threshold size, thus warranting an assessment of indirect effects on open space resources. Because the study area has a large residential population, the existing, no-action, and with-action residential population will be considered for a more conservative analysis under CEQR. According to the guidelines of the City's *CEQR Technical Manual* for analysis of residential development, census tracts with at least half of their geographic area within a one-half mile radius of the development site should comprise the open space study area. Using current population figures, an open

space ratio is calculated for both the future no-action and future action scenarios, expressed as the amount of open space acreage per 1,000 user population. Typically, a comparison is made to the median open space ratio, which is 1.50 acres per 1,000 residents, and the city's planning goal of 2.50 acres per 1,000 residents. A reduction in the open space ratio increment of more than 5 percent over future no-action conditions generally warrants a more detailed analysis, unless the open space ratio is below the citywide average, in which case even a small reduction could be considered significant.

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

Preliminary Open Space Assessment

The Proposed Action would result in the incremental development of one new 9-story residential development and one new 4-story UG 3 School at the Projected Development Site. The proposed development would include 161,696 GSF of residential use and 163 dwelling units within the Affected Area. Assuming an average occupancy of 3.34 persons based on the average household size within the subject community district (Queens Community District 4), the population introduced as a result of the Proposed Action would be approximately 544 residents and 267 new employees (No Action Light Industrial = 3 or 1 worker per 15,000 GSF With Action Charter School 270 or 1 staff per 250 GSF). The population is above the relevant threshold size requiring assessment of open space utilization and availability. The Affected Area is within an area that is not identified as underserved or well-served by open spaces, and therefore the threshold for assessment of the potential for indirect impacts is 200 new residents or 500 additional employees. Therefore, an assessment of indirect effects on public open space resources is warranted.

Study Area Definition

In accordance with the guidelines established in the City's *2020 CEQR Technical Manual*, the open space study area is defined to analyze both the nearby open spaces and the population using those open space resources. It is generally defined by a reasonable walking distance that users would travel to reach local open spaces and recreational areas. Pursuant to the *2020 CEQR Technical Manual*, the open space study area ("The Study Area") includes all U.S. Census Tracts that have 50 percent or more of their area within a half-mile radius of the Affected Area, as shown in **Figure 7-1** below, consisting of the following Census Tracts shown in **Table 7-1** below. Using these criteria, the census tracts that have 50% or more of their area within the ½ mile study area are 267, 269.01, 269.02, 271, 467, 469, 471, 473, 479, 481, and 485.

Study Area Population

Secondary sources were used to determine the residential and non-residential populations served by the existing open space resources in the study area. Pursuant to *CEQR Technical Manual* Methodology, the total residential population for the Study area was established using data from the most recent estimates from the 2014-2018 American Community Survey (ACS) Census for the Study Area developed by the Department of City Planning's (DCP) Population Division. Based on the 2014-2018 ACS data, as of 2018, the Study Area had a residential population of 61,277 persons, as shown in **Table 7-1** below. The total non-residential population for the study area was established using data from the 2012-2016 American Community Survey Reverse Journey to Work. As of 2016, the Study Area had a non-residential population of 10,235 workers, as shown in **Table 7-1** below.

Figure 7-1: Open Space Study Area Census Tracts

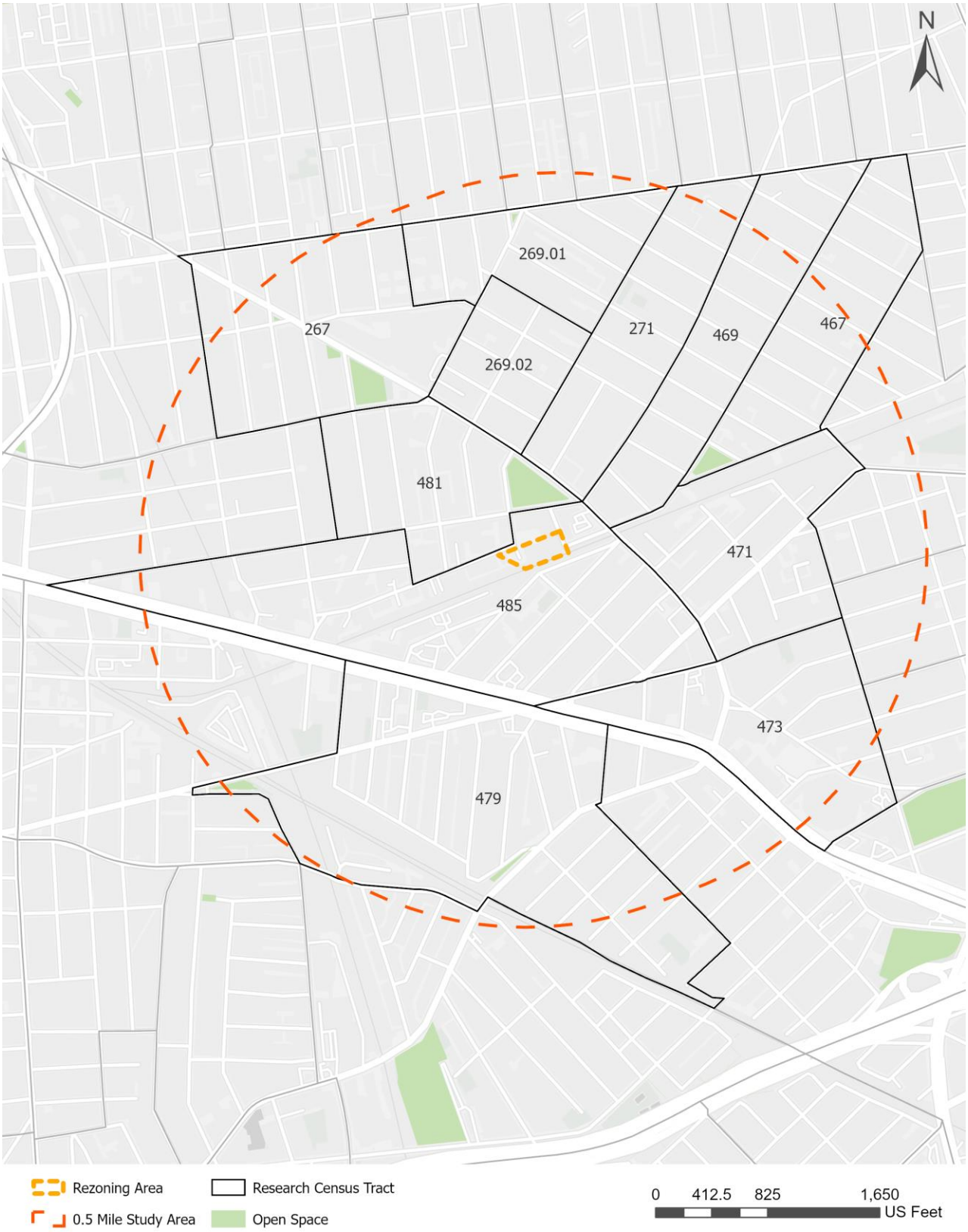


Table 7-1: Existing Study Area Population

Census Tract	Residents*	Workers**
267	5,894	5,040
269.01	4,885	480
269.02	3,527	200
271	8,311	425
467	5,982	160
469	8,167	380
471	4,309	210
473	4,356	1,455
479	5,270	715
481	6,386	390
485[10]	4,190	780
Total	**61,277**	**10,235**

*Source: 2014-2018 American Community Survey
**Source: 2012-2016 American Community Survey Reverse Journey to Work

Existing Conditions

As shown in **Table 7-1** above, according to the 2018 American Community Survey, the existing residential population within the Study Area is 61,277, and the 2016 worker population within the study area is 10,235.

Future No-Action Conditions

As shown below in **Figure 7-2** and listed below in **Table 7-2**, in the future, without the Proposed Actions, according to DOB records, there are 37 additional major construction projects (not including the UG 3 school assessed under Future With Action Conditions) within the Study Area. These new projects would add 105,891 SF of commercial space, 61,101 SF of community facility space, and 632 proposed new dwelling units. Using the same 3.34 residents per household figure as above, the no-action condition would have 2,111 new residents introduced to the study area by the 2025 build year. Assuming 3 employees per 1,000 SF of commercial use (318) and 1 employee per 250 SF of community facility use (244), the major construction projects below would add 562 non-residents to the Study Area. Therefore, the Study Area No-Action Condition worker population is assumed to be the 2016 non-residential population plus the additional 562 new non-residents that would be introduced to the area from the active major construction projects. The Future No-Action Condition non-residential population would be 10,797 non-residents. The Study Area No-Action Condition residential population is assumed to be the 2018 residential population, plus the additional 2,111 new residents introduced by the active construction projects, for a total no-action population of 63,388 residents. By adding together the residential population and the non-resident population, there would be 74,185 total residents and non-residents within the Study Area under future conditions in 2025 absent the Proposed Actions.

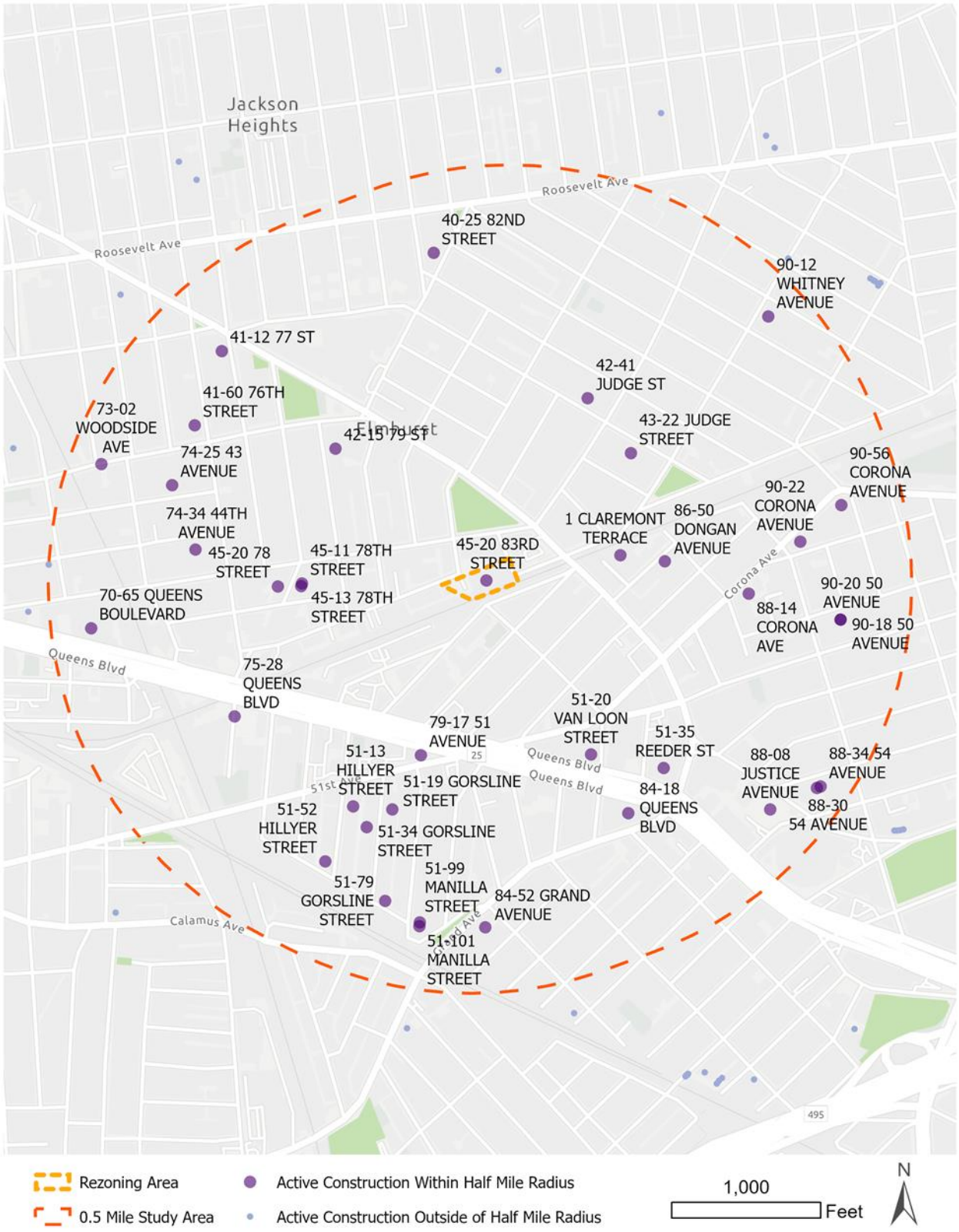
[10] Note: Shaded Row indicates Census Tract of the Affected Area

Table 7-2: 2025 No Action Study Area Population

Site ID	Permit Type	Commercial SF	Dwelling Units	CF SF	Job Location	Proposed Occupancy Class
1	ALT 1 Enlargement		2		84-52 GRAND AVENUE	RESIDENTIAL: 1 & 2 FAMILY HOUSES
2	New Building		2		51-101 MANILLA STREET	RESIDENTIAL: 1 & 2 FAMILY HOUSES
3	New Building		2		51-99 MANILLA STREET	RESIDENTIAL: 1 & 2 FAMILY HOUSES
4	ALT 1 Enlargement		2		51-79 GORSLINE STREET	RESIDENTIAL: 1 & 2 FAMILY HOUSES
5	ALT 1 Enlargement		2		51-52 HILLYER STREET	RESIDENTIAL: 1 & 2 FAMILY HOUSES
6	ALT 1 Enlargement		2		51-34 GORSLINE STREET	RESIDENTIAL: 1 & 2 FAMILY HOUSES
7	New Building		33		84-18 QUEENS BLVD	RESIDENTIAL: APARTMENT HOUSES
8	New Building		184		88-08 JUSTICE AVENUE	RESIDENTIAL: APARTMENT HOUSES
9	ALT 1 Enlargement		2		51-19 GORSLINE STREET	RESIDENTIAL: 1 & 2 FAMILY HOUSES
10	ALT 1 Enlargement		2		51-13 HILLYER STREET	RESIDENTIAL: 1 & 2 FAMILY HOUSES
11	New Building		7		88-30 54 AVENUE	RESIDENTIAL: APARTMENT HOUSES
12	New Building		7		88-34 54 AVENUE	RESIDENTIAL: APARTMENT HOUSES
13	New Building		142		51-35 REEDER ST	RESIDENTIAL: APARTMENT HOUSES
14	New Building			50134	79-17 51 AVENUE	EDUCATIONAL
15	New Building		15		51-20 VAN LOON STREET	RESIDENTIAL: APARTMENT HOUSES
16	New Building				75-28 QUEENS BLVD	STORAGE: MODERATE HAZARD
17	New Building		91		70-65 QUEENS BLVD	RESIDENTIAL: APARTMENT HOUSES
18	New Building		3		90-20 50 AVENUE	RESIDENTIAL: APARTMENT HOUSES
19	New Building		3		90-18 50 AVENUE	RESIDENTIAL: APARTMENT HOUSES
20	ALT 1 Enlargement		2		88-14 CORONA AVE	RESIDENTIAL: 1 & 2 FAMILY HOUSES
21	ALT 1 Enlargement		2		45-20 78 STREET	RESIDENTIAL: 1 & 2 FAMILY HOUSES
22	New Building		3		45-13 78 STREET	RESIDENTIAL: APARTMENT HOUSES
23	New Building		3		45-11 78 STREET	RESIDENTIAL: APARTMENT HOUSES
24*	ALT 1 Enlargement			43959	45-20 83RD STREET	EDUCATIONAL
25	New Building		25		86-50 DONGAN AVENUE	RESIDENTIAL: APARTMENT HOUSES
26	ALT 1 Enlargement		12		1 CLAREMONT TERRACE	RESIDENTIAL APT HOUSE
27	ALT 1 Enlargement		2		74-34 44TH AVENUE	RESIDENTIAL: 1 & 2 FAMILY HOUSES
28	New Building		3		90-22 CORONA AVENUE	RESIDENTIAL: APARTMENT HOUSES
29	ALT 1 Enlargement		2	10967	90-56 CORONA AVENUE	ASSEMBLY: OTHER
30	New Building		10		74-25 43 AVENUE	RESIDENTIAL: APARTMENT HOUSES
31	New Building		29		73-02 WOODSIDE AVE	RESIDENTIAL: APARTMENT HOUSES
32	ALT 1 Enlargement		2		43-22 JUDGE STREET	RESIDENTIAL: APARTMENT HOUSES
33	ALT 1 Enlargement		2		42-15 79 ST	RESIDENTIAL: 1 & 2 FAMILY HOUSES
34	ALT 1 Enlargement		4		41-60 76TH STREET	RESIDENTIAL: APARTMENT HOUSES
35	New Building		10		42-41 JUDGE ST	RESIDENTIAL: APARTMENT HOUSES
36	New Building	12175			41-12 77 ST	BUSINESS
37	New Building		20		90-12 WHITNEY AVENUE	RESIDENTIAL: APARTMENT HOUSES
38	New Building	93716			40-25 82ND STREET	MERCANTILE
	Total	**105891**	**632**	**61,101**		

*With-Action UG 3 Charter School excluded from totals

Figure 7-2: No Action Study Area DOB Active Construction



Future With Action Conditions

The Study Area With-Action residential population is determined by adding the With-Action population increment of 544 residents derived from the 163 increased dwelling units under the reasonable worst-case scenario on the No-Action residential population of 63,388, resulting in a Study Area residential population of 63,932 in the 2025 build year. The Study Area With-Action worker population is determined by adding the With-Action population increment of 267 new employees under the reasonable worst-case scenario to the No-Action worker population of 10,797, resulting in a Study Area worker population of 11,064 in the 2025 build year. As shown below in **Table 7-3**, by adding together the residential population and the non-resident population, there would be 74,996 total residents and non-residents within the Study Area under Future With Action Conditions.

Table 7-3: Existing, No-Action, and With-Action Populations

Existing	No-Action	With-Action
Residential Population		
*61,277	*63,388	*63,932
Worker Population		
**10,235	*10,797	**11,064
Total Population		
71,512	74,185	74,996

*Existing = 2014-2018 American Community Survey; *No-Action = Existing plus 632 proposed dwelling units from active DOB permits; *With-Action = No-Action plus 544 additional residents from the Projected Development Site residential building
**Existing = 2012-2016 American Community Survey RJTW; **No-Action = Existing plus 562 workers from active DOB permits; **With-Action = No-Action plus 267 additional incremental workers from the Projected Development Site community facility building

Open Spaces Resources

There are seven open space resources within the Study Area identified in **Table 7-4**. There are 4.68 acres of open space resources in the Study area, of which 3.35 are considered active and 1.33 are considered passive. The location of these resources in the Study Area is shown in **Figure 7-3**.

Table 7-4: Open Space Resources									
Name	**Address**	**Type**	**Ownership**	**Acreage**	**% Active**	**% Passive**	**Total Active**	**Total Passive**	**Features**
Moore Homestead Playground	Broadway., 82 St., 45 Ave.	Neighborhood Park	NYC DPR	1.98	75	25	1.49	0.5	BC, FE, Pg, Ba, HC, SS
Frank D. O'Connor Playground	Broadway and Woodside Ave. bet. 77 St. and 79 St.	Neighborhood Park	NYC DPR	1.54	75	25	1.16	0.39	BC, FE, Pg, Ba, HC, SS, Ea
Veterans Grove	Whitney Ave., 43 Ave., bet. Judge St. and Ketcham St.	Playground	NYC DPR	0.63	75	25	0.47	0.16	Pg
Long Island Mews	51 Ave., 51 Rd., 72 Pl.	Neighborhood Park	NYC DPR	0.32	75	25	0.24	0.08	Pg
O'Connor's Tail	Broadway and Woodside Ave. bet. 77 St. and 78 St.	Greenstreet	NYC DPR	0.15	0	100	0.00	0.15	Be
Manuel de Dios Unanue Triangle	Roosevelt Ave., 83 St., Baxter Ave.	Triangle/Plaza	NYC DPR	0.04	0	100	0.00	0.04	Be
Nine Heroes Plaza	Broadway, 41 Ave., 76 St.	Triangle/Plaza	NYC DPR	0.02	0	100	0.00	0.02	Be
Total				**4.68**			**3.35**	**1.33**	

SS = Spray Showers; Pg = Playgrounds; BC = Basketball Courts; Ba = Bathrooms; HC = Handball Courts; Ea = Eateries; FE = Fitness Equipment; Be = Benches

Figure 7-3: Open Space Resources within the Study Area



Analysis

Existing Conditions

The study area has 4.68 acres of open space and an existing residential population of 61,277 and a non-residential population of 10,235 for a total population of 71,512. The open space ratio (OSR) under existing conditions is 0.065 acres per thousand residents and non-residents (0.076 residential and 0.457 non-residential).

No Action Conditions

In the future, without the Proposed Actions, the residential and non-residential population for the Study Area in the 2025 build year is forecasted to be 74,185, including 63,388 residents and 10,797 workers. The Study Area is projected to be served by the same 4.68 acres of open space as in the existing condition. With this population, the OSR would be 0.063 per thousand residents and non-residents (0.074 residential and 0.433 non-residential). The OSR is substantially below the citywide average of 1.5 acres per 1,000 residents and reflects the area's shortfall of open spaces.

With Action Conditions

The Proposed Actions would result in an increase in the No-Action population of 544 residents and 267 non-residents by the 2025 build year. The total 2025 build year With-Action population would be 74,996 residents and non-residents, including 11,064 non-residents and 63,932 residents. With this increase in population, the OSR would be 0.062 acres per 1,000 residents and non-residents (0.073 residential and 0.423 non-residential), or a 1.08% percent reduction from the combined No-Action OSR.

Table 7-5: Open Space Ratio Findings

	Combined	Residential	Non-Residential
Existing OSR	0.065	0.076	0.457
No Action OSR	0.063	0.074	0.433
With Action OSR	0.062	0.073	0.423
% Change	- 1.08%	- 0.85%	- 2.41%

Under the existing, No-Action, and With-Action conditions, the OSR is substantially below the citywide average of 1.5 acres per 1,000 residents and reflects the area's shortfall of open spaces. In the event that a Study Area has a low open space ratio (e.g., below the citywide average of 1.5 acres per 1,000 residents or 0.15 acres of passive space per 1,000 non-residential users), the *CEQR Technical Manual* recommends preparing a detailed analysis if the Proposed Action would reduce the OSR by even a small decrease, which could be less than 5%. According to the Technical Manual, a detailed analysis of open space effects on residents is generally unnecessary if the open space ratio decreases by less than 1 percent; for non-residential open space resources, the more the open space ratio drops below 0.15 acres of passive open space per 1,000 non-residents, the more likely the project is to have an effect on the non-residential population's use of open space. Given the analysis above, the Proposed Actions would reduce the combined OSR by 1.08 percent—0.85 percent for the residential population and 2.41 percent for non-residents. Because the non-residential OSR is above 0.15 acres, and the change in OSR for non-residents is 2.41 percent, a detailed analysis for non-residents is not required. However, the residential OSR is well below 1.5 acres per 1,000 residents. Therefore it was determined that a detailed analysis of open space resources for the residential population was warranted and that analysis is provided below.

Section 340 of the Open Space section of the CEQR Technical Manual states, "Where it is clear from the outset that the project would affect a particular type of open space or particular age group, the analysis may focus on those issues." Based on the above findings, a detailed analysis will be conducted focusing on residential open space.

Detailed Open Space Analysis

A detailed open space analysis, per *CEQR Technical Manual* guidelines, breaks down study area population by age group and details the amount and quality of various types of open space to assess the availability of particular types of open space for particular age groups. In conducting this assessment, the analysis focuses on where shortfalls in open space exist now or in the future, to identify whether the shortfalls are a result of the project.

Demographic Characteristics of the Study Area

The age distribution of the existing population is relied upon as an indicator of the types of open space that may be most utilized by the population. The detailed population assessment breaks down the total study area population calculated in the Preliminary Assessment above by six age groups: Under 5, 5 to 9, 10 to 14, 15 to 19, 20 to 64, and 65 and above. The total persons of each age group and the percentage of the age group within the total study area population were summarized as each age group represents a different type of open space user.

To determine the demographic characteristics of the residential population served by existing open space resources, 2014-2018 ACS data were compiled for the 11 census tracts comprising the study area. As mentioned above, the open space study area is comprised of census tracts 267, 269.01, 269.02, 271, 467, 469, 471, 473, 479, 481, and 485. **Table 7-6** shows the 2014-2018 ACS total population figures with age groups breakdown for each census tract in the study area, as well as for the study area as a whole. Meanwhile, the population figures with the same age group breakdown for Queens are also provided as references for demographic characteristics assessment.

Table 7-6: 2014-2018 ACS Residential Population by Age Group

Age Category	Persons	Percent of Population
4 and younger	3,892	6.35%
5-9	3,458	5.64%
10-14	3,074	5.02%
15-19	3,015	4.92%
20-64	39,227	64.02%
65 and older	8,611	14.05%
Total population	**61,277**	

The median population age for individual census tracts within the residential study is 38.1 years, which is slightly lower than the median age for Queens as a whole, which is 38.7 years.

Within a given area, the age distribution of a population affects the way open spaces are used and determines the need for various types of recreational facilities. Typically, children four years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages five through nine typically use traditional playgrounds, as well as grassy and hard-surfaced open spaces, which are important for activities such as ball playing, running, and skipping rope. Children ages 10 through 14 use playground equipment, court spaces, little league fields, and ball fields. Teenagers' and young adults' needs tend toward court game facilities such as basketball and field sports. Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, as well as more individualized recreation such as rollerblading, biking, and jogging, requiring bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, ad hoc active sports such as Frisbee, and recreational activities in which all ages can participate. Senior citizens (65+) typically engage in active recreation such as tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

As seen in **Table 7-6**, approximately 78.07 percent of the study area residents are adults, with approximately 64.02 percent between the ages of 20 and 64 and approximately 14.05 percent age 65 and older. Conversely, 21.93 percent of the study area population are children, with 6.35 percent under age five and 15.58 percent between ages five and 19.

Study Area Open Space Assessment

Open spaces are classified as "active" or "passive" by the uses that the design of the space allows. Active open space is the part of a facility used for active play such as sports or exercise and may include playground equipment, playing fields and courts, swimming pools, skating rinks, golf courses, lawns and paved areas for active recreation. Passive open space is used for sitting, strolling, and relaxation, and typically contains benches, walkways and picnicking areas. However, some passive spaces can be used for both passive and active recreation, such as a green lawn or riverfront walkway, which can also be used for ball playing, jogging or rollerblading.

The name, address, ownership, acreage, active and passive acreage, and features of each publicly accessible open space in the study area was included in **Table 7-4** above. **Table 7-7** further describes the characteristics of the open space facilities each age group would utilize for active use. Combining data collected from site visits, the New York City Department of Education website, the New York City Department of Parks and Recreation website, detailed assessments regarding the quality, accessibility, specific user groups of different age ranges, and utilization levels of the publicly accessible open space in the study area were summarized in **Table 7-8** below, which indicated that the conditions of most existing open spaces are acceptable and the utilization of the open spaces covers all age groups at a moderate level.

Table 7-7: Open Space Facility by Age Groups	
Age Appropriate Facilities	**Typical facilities and space**
Toddler facilities Ages 0-4 years	Simple play spaces with features such as sand box, climbing equipment, and seating for caregivers; under 1,000 square feet in size
	Tot lot: a complex of age appropriate play facilities over 1,000 square feet with a range of features such as swings, slides, climbing equipment, water features, sand box, and seating for caregivers
	Unstructured play area, grassy or hard surface
Active Play facilities appropriate for children 5 to 14 years old	Playground with a range of age appropriate features (swings, climbing equipment, sand and water play) and seating for caregivers.
	Age size sports facilities
	Fields (turf or hard surfaced) such as soccer, softball, football, baseball
	Courts such as tennis, handball, basketball
	Unstructured space (grassy or hard surface)
Active open space appropriate for teens and adults; Ages 15 and above.	Fields (turf or hard surface such as baseball, softball, soccer, football)
	Courts such as tennis, handball, basketball
	Courts such as bocce, shuffleboard, basketball, or backboards
	Skate park facility
	Jogging and biking areas (greenways, mountain biking trail, cross country course, track)
	Unstructured spaces designed for active use

Table 7-8: Study Area Open Space Resources				
Name	**Quality**	**Hours of Access**	**User Groups**	**Utilization Level**
Moore Homestead Playground	Acceptable	6AM – 9PM	Under 5; 5-9; 10-14; 15-19; 20-64; 65 and older	Moderate
Frank D. O'Connor Playground	Acceptable	6AM – 9PM	10-14; 15-19; 20-64; 65 and older	Moderate
Veterans Grove	Acceptable	6AM – 9PM	Under 5; 5-9; 10-14; 15-19; 20-64; 65 and older	Moderate
Long Island Mews	Acceptable	6AM – 9PM	Under 5; 5-9; 10-14; 15-19; 20-64	Low
O'Connor's Tail	Acceptable	6AM – 9PM	20-64; 65 and older	Low
Manuel de Dios Unanue Triangle	Acceptable	6AM – 9PM	20-64; 65 and older	Low
Nine Heroes Plaza	Acceptable	6AM – 9PM	20-64; 65 and older	Low

Open Space Adequacy Assessment

The adequacy assessment uses the open space data that has been gathered to provide an evaluation of the study area's existing open space conditions relative to the open space needs of the study area users. As previously shown in **Table 7-4**, the study area contains 4.68 acres of existing open space for all age groups, of which approximately 3.35 acres are available for active use and approximately 1.33 acres are available for passive use. As previously described, the study area has a total residential population of 61,277. Based on this information, the following open space ratios are calculated to determine the existing adequacy of open spaces:

- The study area has an overall residential open space ratio of 0.076 acres per 1,000 residents. This ratio is far below the planning guideline of 2.5 acres of combined active and passive open space per 1,000 residents, per the *CEQR Technical Manual*.

- The active open space ratio is 0.055 acres per 1,000 residents, which is far below the planning guideline of 2.0 acres of active open space per 1,000 residents, per the *CEQR Technical Manual*.

- The passive open space ratio of 0.022 acres per 1,000 residents, far below the planning goal of 0.5 acres passive open space per 1,000 residents specified in the *CEQR Technical Manual*.

As such, the study area currently has a shortfall of combined open space to serve the residential population, substantially below the citywide planning goal pursuant to the *CEQR Technical Manual*.

It should be noted that several open spaces are located to the southeast and south, just outside of the study area boundary. Elmhurst Park is approximately 0.65 miles to the south of the Projected Development Site, and is a 6.22-acre community park that features bathrooms, eateries, jogging paths, sculptures, and a playground designed for tots and young children. Also, to the southeast of the Projected Development Site, approximately 0.72 miles away, is Hoffman Park, a 2.86-acre park that includes a playground, basketball courts, handball courts, and spray showers. Both parks described above include facilities in good conditions and are both moderately utilized.

Although these resources are not included in the open space ratio calculations, they are important to mention as they may be utilized by study area residents. For a more conservative analysis, these resources are only considered in the qualitative assessment of impact significance at the end of this section.

Future No-Action Condition

Population

As shown in **Table 7-3** above, the 2025 study area residential population is projected to be 63,388 in the future without the Proposed Actions. It is expected the percentage of adults versus children in the residential population would be similar to that found in the existing population. Therefore, approximately 78 percent of the study area residents would be adults (64 percent between the ages of 20 and 64 and 14 percent age 65 and older) and approximately 22 percent of the study area population would be children (6.35 percent under age five and 15.65 percent between ages five and 19).

Open Space Resources

With the information posted at NYCDPR Capital Project Tracker[11], by the 2025 build year, NYCDPR will complete one project nearby, the Queens Medians Reconstruction. The ongoing project is anticipated to be completed by February 2022, but would not add any active or passive open space that could be utilized by the residential population within the study area. Therefore, the open space acreage within the study area would remain the same as the existing conditions under Future No Action Conditions, which would be 4.68 acres of overall open space (3.35 acres for active uses and 1.33 acres for passive uses).

Without any other open space anticipated to be added to the study area by 2025, a total of 4.68 acres of open space will be available for the projected 63,388 residents in the study area.

- The overall residential open space ratio of 0.074 for the No Action conditions would decrease from the 0.076 residential open space ratio in the existing conditions, remaining considerably below the CEQR recommended ratio of 2.5 acres of combined active and passive open space per 1,000 residents.

- The active open space ratio of 0.053 acres per 1,000 residents would decrease from 0.055 under existing conditions, remaining far below the targeted goal of 2.0 acres.

- The passive open space ratio of 0.021 would decrease slightly from 0.022 under existing conditions, remaining far below the *CEQR Technical Manual* guideline of 0.5 acres.

The changes between existing conditions and Future No-Action Condition are minimal, both with the overall OSR, active OSR, and Passive OSR falling far below the planning goal.

Future With-Action Condition

Population

As shown in **Table 7-3** above, the 2025 study area population is projected to be 63,932 in the future with the Proposed Actions. The new residential population attributed to Proposed Actions would not be expected to differ in any measurable way from that found in the existing population. Therefore, the percentage of adults versus children in the With-Action condition would be similar to that found in the existing population of approximately 78 percent as adults and 22 percent as children.

Open Space Resources

The Future With-Action Condition would have the same 4.68 acres of open space available for the projected 63,932 residents in the study area as identified for existing and No-Action conditions.

[11] https://www.nycgovparks.org/planning-and-building/capital-project-tracker

- The overall open space ratio of 0.073 for the With-Action conditions would remain considerably below the CEQR recommended ratio of 2.5 acres of combined active and passive open space per 1,000 residents.

- The active open space ratio of 0.052 acres per 1,000 residents decrease slightly from the Future No-Action Condition of 0.053, both far below the targeted goal of 2.0 acres.

- The passive open space ratio of 0.021 would remain the same as the Future No-Action Condition, far below the *CEQR Technical Manual* guideline of 0.5 acres.

Thus, the study area would have a deficit of total open space, active open space, and passive open space in the future with the Proposed Actions, which would be slightly greater than the shortfall projected in the No-Action conditions.

Impact Significance

As the Proposed Actions would increase the shortfall of active open space resources available by reducing the OSR by 0.85 percent for residents, further consideration is warranted. The OSR for non-residents is above the 0.15 acres per 1,000 non-resident city-wide average and only results in a 2.41 percent OSR change. Therefore, the analysis below is limited to the evaluation of open space resources utilized by residential users.

Quantitative Analysis

As noted in the *CEQR Technical Manual*, a Proposed Action is considered to have a significant adverse open space impact when:

- *There would be a direct displacement or alteration of existing open space within the study area that has a significant adverse effect on existing users (e.g., an action would result in a net loss of publicly accessible open space).*
- *The open space ratio would be reduced by more than 5 percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. A decrease as small as one percent may be considered significant in those areas that are extremely lacking in open space, depending on the area of the City. Such a reduction could be considered a significant adverse impact if it would result in overburdening existing facilities or further exacerbate a deficiency in open space.*

The Proposed Actions would not directly displace or alter any existing or planned open spaces. As exhibited in the analysis above, compared to conditions in the future without the Proposed Actions, the With-Action conditions would result in an overall reduction of approximately 1.08 in the combined OSR and 0.85 percent reduction in the residential OSR for both active and passive open space resources. Furthermore, the open space ratios under No-Action conditions and With-Action conditions would be significantly lower than the target open space ratios specified in the *CEQR Technical Manual*.

Qualitative Assessment

With respect to qualitative effects, the following factors are useful in determining whether a Proposed Action would result in a significant adverse impact to open space conditions:

- *The Proposed Action would have a significant physical effect on an existing or proposed open space due to an increase in shadows, noise, air pollutant emissions, or odors compared to the future without action conditions.*
- *A Proposed Action causes a qualitative impact such as might occur when the overall open space ratio is adequate, but a specific user group (such as young children or basketball players) would be adversely affected by being underserved or there would be conflicts in the utilization of open space.*

The Proposed Actions would not cause increased shadows, noise, or air pollutant emissions that would affect the usefulness of any study area open space, whether on a permanent or temporary basis. Furthermore, the Proposed Actions would not change the use of a publicly accessible open space so that it no longer serves the same user population, nor would it limit public access to any open spaces.

The amounts of total, active, and passive open space resources in the study area with the Proposed Actions are, and would continue to be, deficient in comparison to New York City guidelines. Field observations conducted for this EAS indicate that the existing open spaces in the study area have light to moderate utilization levels and are in acceptable condition, and as such, appear to have the capacity to serve additional users.

Additionally, two large public parks, although outside the study area, are within reasonable walking distance from the study area and could reasonably be expected to serve study area residents. Elmhurst Park is approximately 0.65 miles to the south of the Project Site and is a 6.22-acre community park that features bathrooms, eateries, jogging paths, sculptures, and a playground designed for tots and young children. Also, to the southeast of the Project Site, approximately 0.72 miles away, is Hoffman Park, a 2.86-acre park that includes a playground, basketball courts, handball courts, and spray showers. Both parks include facilities in good conditions and are both moderately utilized. These additional existing open space resources would assist in offsetting the projected deficit of both active and passive open space.

Conclusion

Pursuant to *2020 CEQR guidelines*, a significant adverse open space impact may occur if a proposed project would reduce the open space ratio by more than five percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. In areas that are extremely lacking in open space, a reduction as little as one percent may be considered significant, depending on the area of the city. These reductions may result in overburdening existing facilities or further exacerbating a deficiency in open space.

With respect to the reduction in open space in the study area compared to conditions in the future without the Proposed Actions, the With-Action conditions would result in an overall reduction of approximately 1.08 in the combined OSR, 2.41 percent reduction in the nonresidential OSR, and 0.85 percent reduction in the residential OSR for both active and passive open space resources. While the resulting open space ratios would continue to be less than the City's guideline ratios of 2.5 acres of open space, including 2.0 acres of

active open space and 0.5 acres of passive open space, per 1,000 residents, these guideline ratios are not considered CEQR impact thresholds on their own.

The reduction in the total open space ratio in the residential study area is further ameliorated by several factors, including the proposed rezoning area's proximity to additional open space resources not included in the quantitative open space analysis, and the current quality, condition, variety, and relatively low utilization of existing open space resources. Therefore, the Proposed Actions would not result in a significant adverse impact on open space within the Study Area.

8.0 CEQR Technical Manual Chapter 8: Shadows Analysis Supplemental Study to the EAS Short Form Part II

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

The duration and dimensions of shadows are determined by the geographic location of the area from which the shadow is cast and the time of day and season. Shadows cast during the morning and evening, when the sun is low in the sky, are longer, while midday shadows are shorter in length. Shadows in winter, when the sun arcs low across the southern sky, are also longer throughout the day than at corresponding times in spring and fall seasons. In summer, the high arc of the sun casts shorter shadows than at any other time of year, and early and late shadows during the summer are cast farther towards the south than shadows cast in early and late winter months.

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

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

Methodology

This preliminary analysis of shadows follows the guidelines set forth in the *2020 CEQR Technical Manual* for a preliminary assessment (Section 310). According to the *2020 CEQR Technical Manual*, a preliminary shadow assessment includes the development of a base map showing the site location in relation to any

sunlight-sensitive resources as per guidelines provided in the *2020 CEQR Technical Manual*. Following these guidelines, the longest shadow study area is determined, and a Tier 1 screening assessment is conducted to determine if any sunlight-sensitive resources fall within the study area. If no resources are identified, no further analysis would be required. If sunlight-sensitive resources lay within the longest shadow study area, the next tier of screening assessment should be conducted. This preliminary assessment includes a basic description of the proposed project that would be facilitated by the Proposed Actions in order to determine whether a more detailed assessment would be appropriate.

Analysis

Under RWCDS, the Projected Development Site would be developed with one new residential building 110 feet in height (95-foot building plus an additional 15 feet for mechanical bulkheads) and one new charter school building 53'-11" in height in the proximity of a sunlight sensitive resource. The shadows assessment considers the entirety of the Projected Development Site would be built to 110 feet. Accordingly, a preliminary assessment of shadows is warranted.

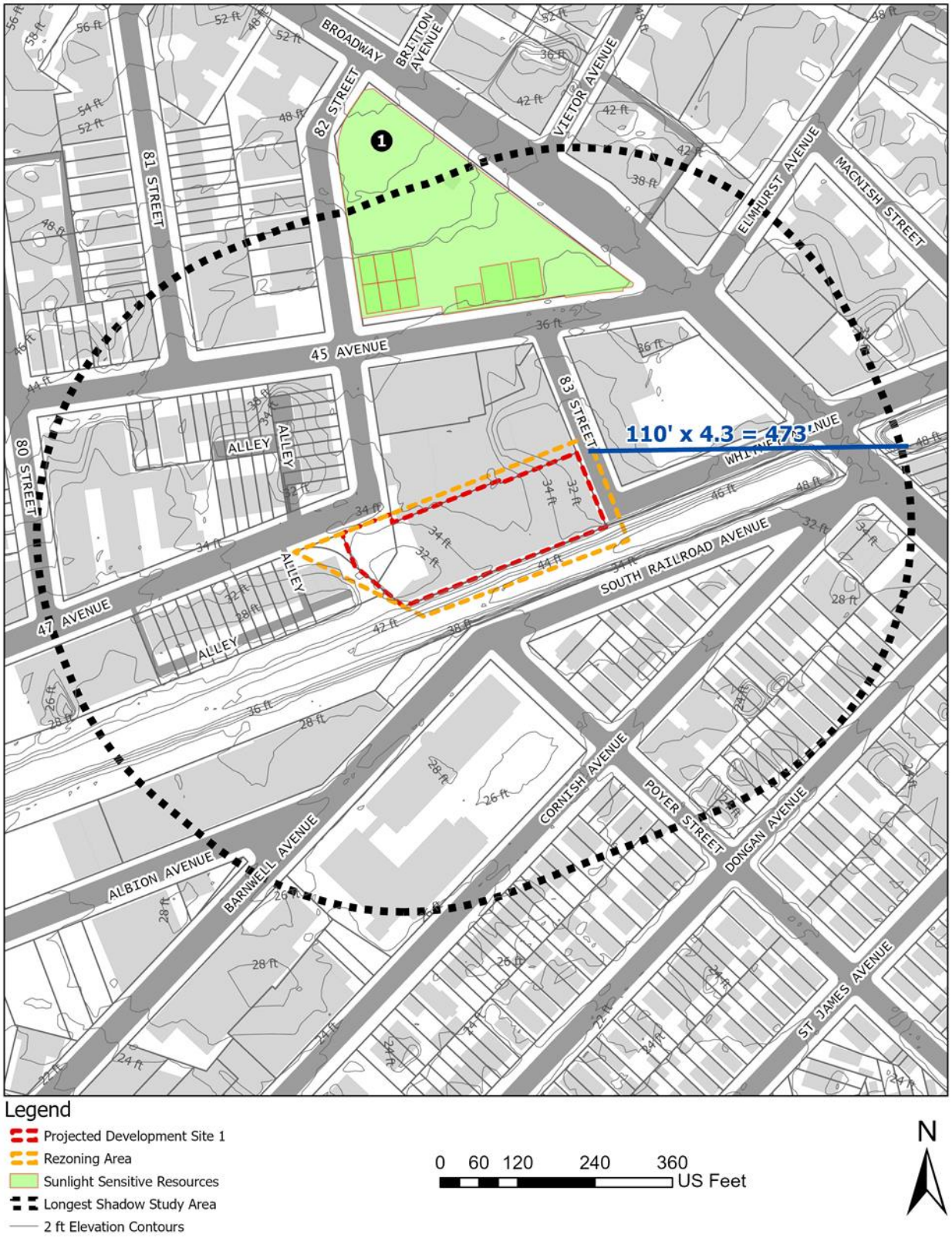
Tier 1 Shadow Screening Assessment

The shadow assessment begins with a preliminary screening assessment to ascertain whether a project's shadow may reach any sunlight-sensitive resources at any time of the year. If the screening assessment does not eliminate this possibility, a detailed shadow analysis may be warranted to determine the extent and duration of the net incremental shadow resulting from the project. The effects of shadows on a sunlight-sensitive resource are site-specific; therefore, as directed in the *CEQR Technical Manual*, the screening assessment was performed for the relevant Projected Development Site to determine whether it falls within the range of maximum possible shadow cast on potential sunlight sensitive resources as described above.

A Tier 1 Screening Assessment was performed in accordance with the *CEQR Technical Manual*. A base map is developed that illustrates the proposed site location in relation to any sunlight-sensitive resources. The longest shadow study area is then determined, which encompasses the site of the proposed project and a perimeter around the site's boundary with a radius equal to the longest shadow that could be cast by the proposed structure, which is 4.3 times the height of the structure that occurs on December 21st, the winter solstice. A map as shown in **Figure 8-1** was prepared by placing NYC Department of Parks Resources and Selected Facilities and Program Sites provided on NYC.gov Department of City Planning GIS portal, as well as a list of park and public spaces provided from NYC.gov DOITT- GIS and Mapping Portal, as well as a screen of SHPO and NYC Landmark Listed Properties. After this, a buffer map was prepared to display the maximum possible shadow of 473 feet, which could be cast from the Projected Development Site in the proposed rezoning area. This shadow cast was derived by multiplying the height of 110 feet (the maximum possible height under the proposed rezoning with MIH bonus plus a 15-foot bulkhead) by 4.3 (the CEQR Technical Manual multiplier representing the maximum shadow cast from any object as being 4.3 times its height). The potentially impacted area of shadow from the projected site was then compared to those resources identified above to see if any fell within the shadow cast area.

Based on the Tier 1 analysis in **Figure 8-1**, it was determined that there is one open space resource, Moore Homestead Playground, within the reach of the longest possible shadow that could be cast from the Projected Development building associated with the requested rezoning within the Affected Area. Therefore, a Tier 2 analysis is required.

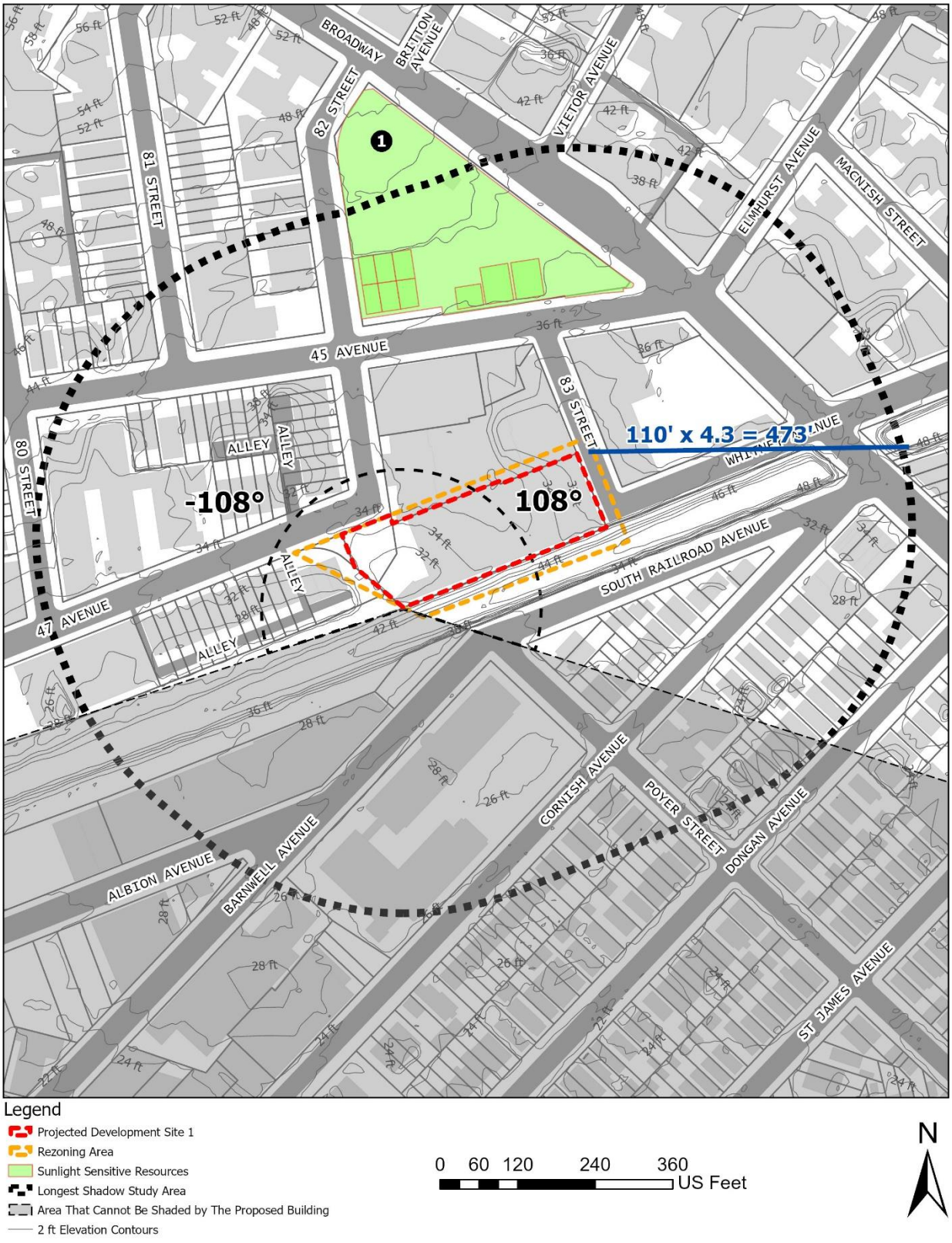
Figure 8-1: Tier 1 Shadow Assessment



Tier 2 Shadow Screening Assessment

Since there is a sunlight-sensitive resource, Moore Homestead Playground, falling within the longest action-induced shadow area, the Tier 2 screening assessment is conducted to further assess the potential impact of the Proposed Development on the resources within this playground. Given the path that the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City, this area lies between -108 and +108 degrees from true north. As shown in **Figure 8-2**, the grey shaded triangle area to the south of the development is the area that will never be interrupted by the new building. In other words, only the complementing portion to the north within the longest shadow study area is the area that can be shaded by the proposed project.

Figure 8-2: Tier 2 Shadow Assessment



Tier 3 Shadow Screening Assessment

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

For the New York City area, the months of interest for an open space resource encompass the growing season (March through October) and one month between November and February (usually December), representing a cold-weather month. Representative days for the growing season are generally the March 21 vernal equinox (or the September 21 autumnal equinox, which is approximately the same), the June 21 summer solstice, and a spring or summer day halfway between the summer solstice and equinoxes such as May 6 or August 6 (which are approximately the same). For the cold weather months, the December 21 winter solstice is usually included to demonstrate conditions during cold-weather when people who do use open spaces rely most heavily on available sunlight for warmth. Project shadows that reach a sunlight-sensitive resource during any of these months could be of concern.

The shadow assessment considers those shadows occurring between 1.5 hours after sunrise and 1.5 hours before sunset. Shadows occurring earlier and later are long, move fast, and generally blend with shadows from existing structures. The Tier 3 Shadow Analysis analyzed shadows cast from the Proposed Development approximately every 60 minutes from the start of the analysis day (1.5 hours after sunrise) until the end of the analysis day (1.5 hours before sunset).

As shown in **Figures 8-3** to **8-6**, shadows from the Proposed Building on the Projected Development Site would reach the sunlight-sensitive resource, Moore Homestead Playground, in the longest action-induced shadow area on December 21st. Therefore, a detailed shadow analysis was conducted to further determine the potential impact of the shadow cast from the Proposed Buildings.

Figure 8-3: Tier 3 Screening – December 21st

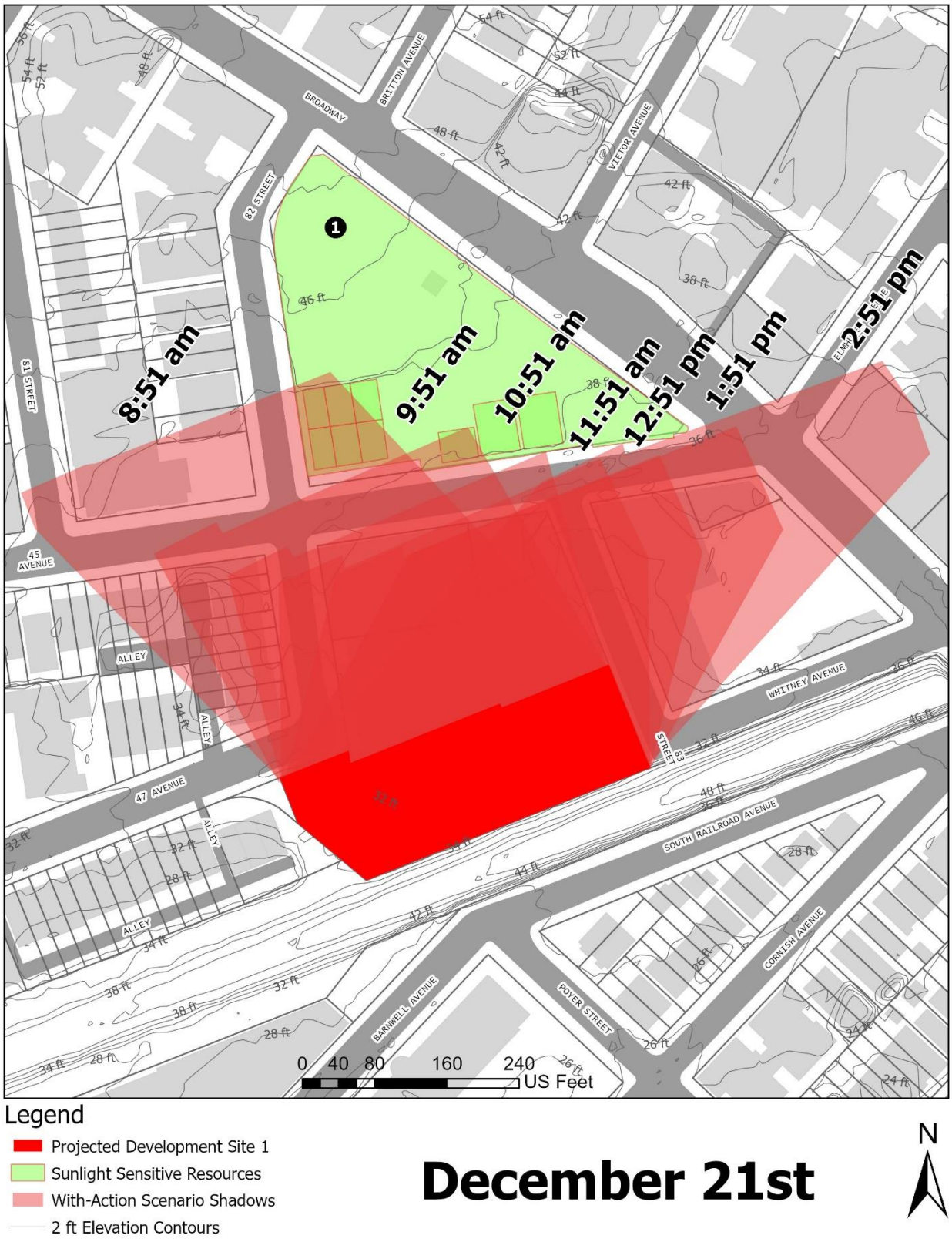


Figure 8-4: Tier 3 Screening – March/ September 21st

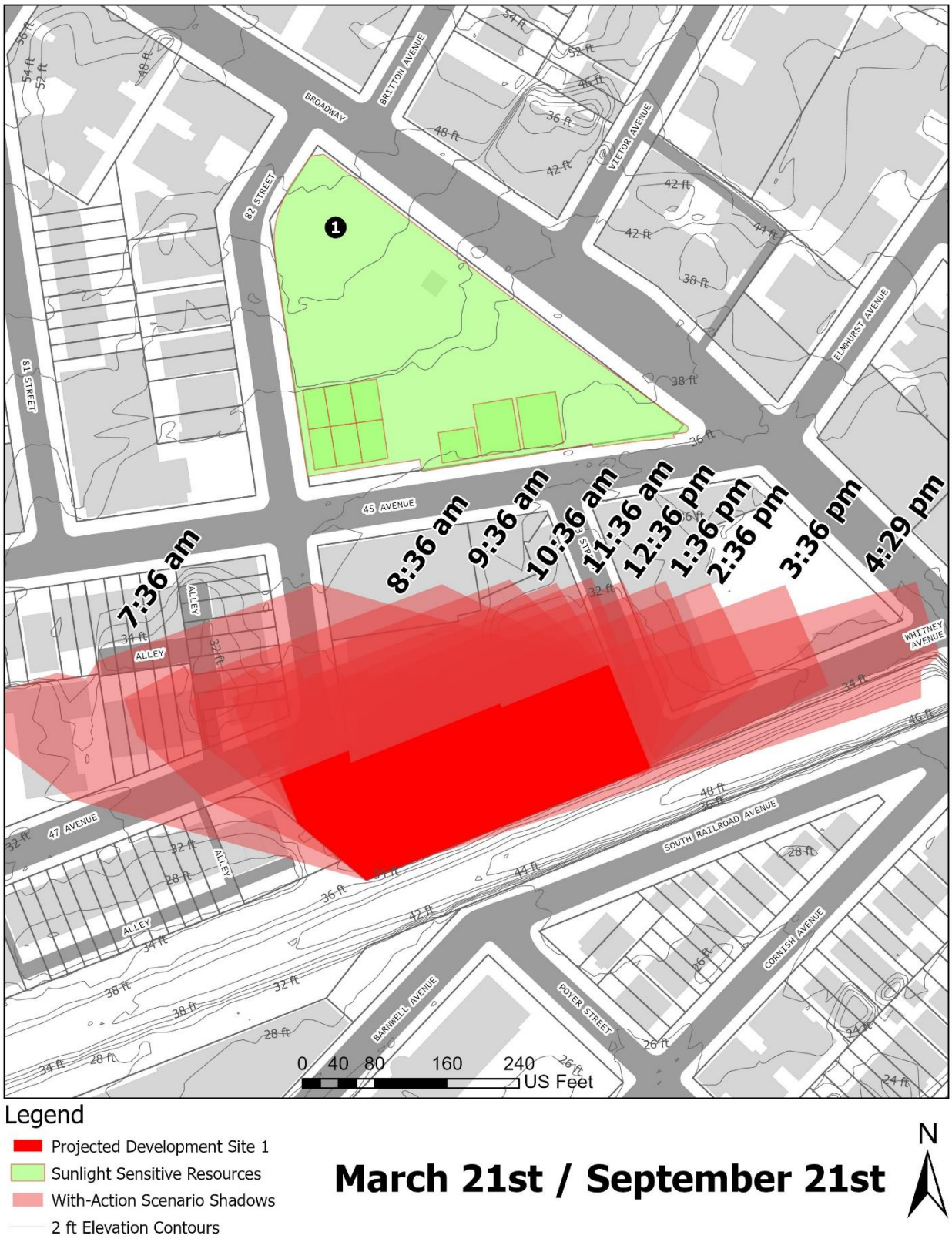


Figure 8-5: Tier 3 Screening – May/ August 6th

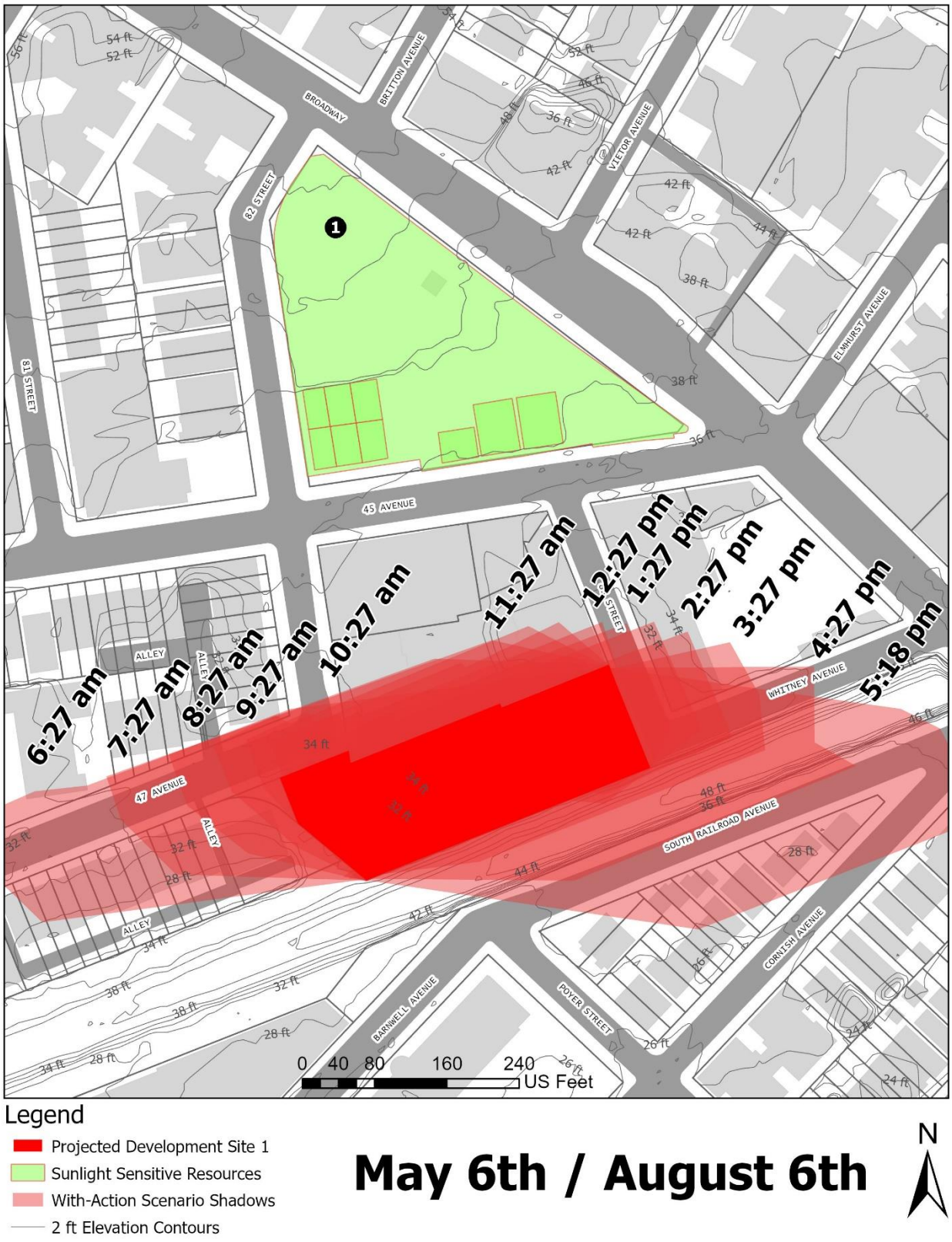
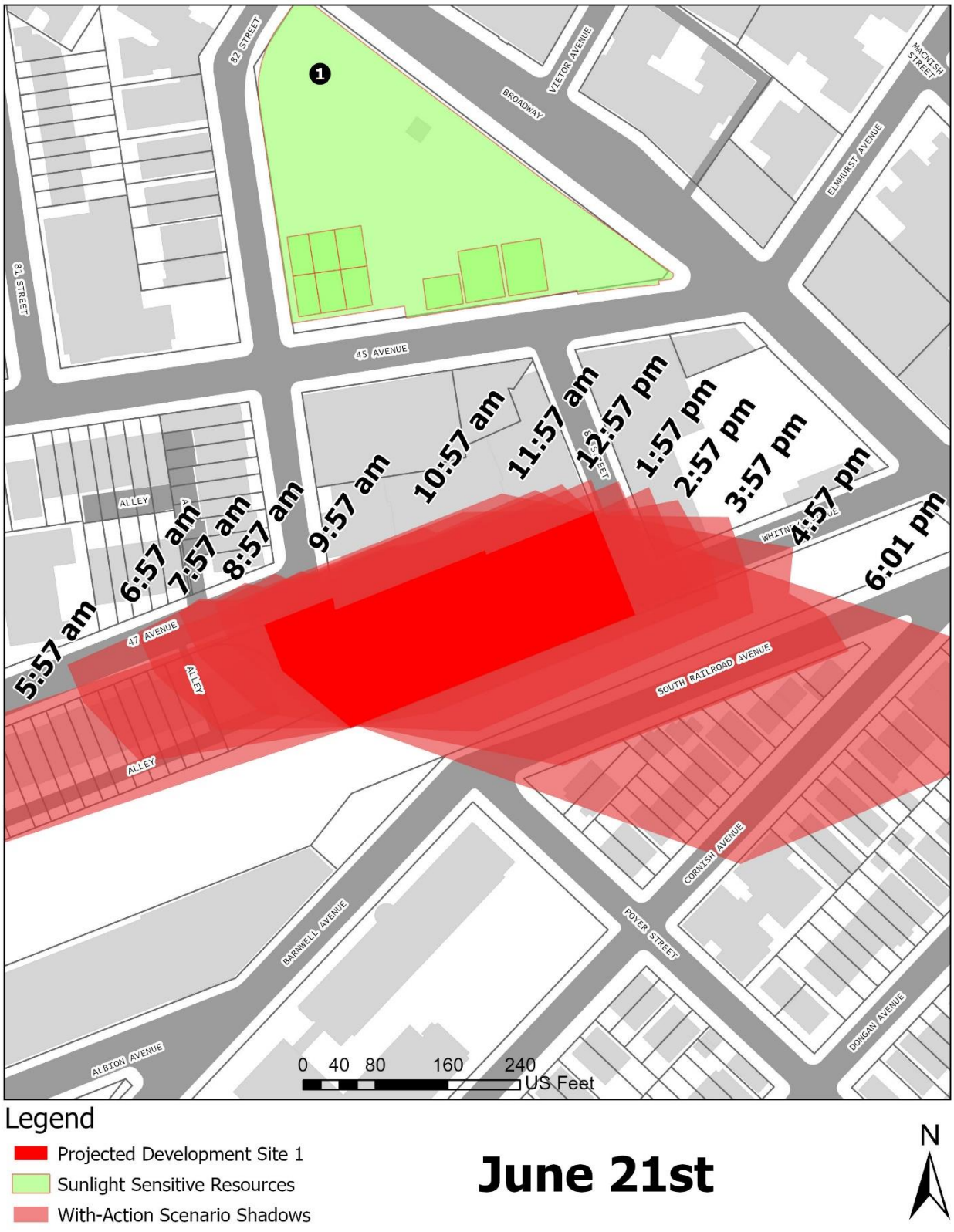


Figure 8-6: Tier 3 Screening – June 21st



Detailed Shadow Analysis

The *CEQR Technical Manual* states that a detailed shadow analysis is warranted when the screening analyses do not rule out the possibility that project-generated shadows would reach any sunlight-sensitive resources. The purpose of the detailed analysis is to determine the extent and duration of shadows that fall on a sunlight-sensitive resource as a result of the proposed project. The results of the detailed shadow analyses on the identified resources of concern are summarized in **Table 8-1**, and the incremental shadows cast from the Projected Development Site are shown in the figures above. It should be noted that the shadows of intervening buildings were not included in the detailed shadow analysis. Further, the shadows analysis conservatively assumes that the entirety of the Projected Development Site would be developed to 110 feet, although the eastern portion of the Projected Development Site would be developed with a 4-story UG 3 School of just under 54 feet in height.

Table 8-1: Tier 3 Shadows Table

Analysis Day	21-Dec	March 21 / September 21	May 6 / August 6	21-Jun
Timeframe Window	8:51 a.m. - 2:51 p.m.	7:36 a.m. - 4:29 p.m.	6:27 a.m. - 5:18 p.m.	5:57 a.m. - 6:01 p.m.
Sunlight Sensitive Resource 1	Moore Homestead Playground			
Shadow enter - exit times	8:51 am - 10:51 am	-	-	-
Incremental Shadow Duration	2 hours	-	-	-
Note: Daylight savings time not used				

Determination of Shadow Impact Significance

The *CEQR Technical Manual* states that the determination of the significance of shadow cast on a sunlight-sensitive resource is based on (1) the information resulting from the detailed shadow analysis describing the extent and duration of incremental shadows; and (2) an analysis of the resource's sensitivity to reduced sunlight. The goal of the assessment is to determine whether the effects of incremental shadows on a sunlight-sensitive resource are significant under CEQR. A shadow impact occurs when the incremental shadow from a proposed project falls on a sunlight-sensitive resource or feature and reduces its direct sunlight exposure. Determining whether this impact is significant or not, under CEQR, depends on the extent and duration of the incremental shadow and the specific context in which the impact occurs.

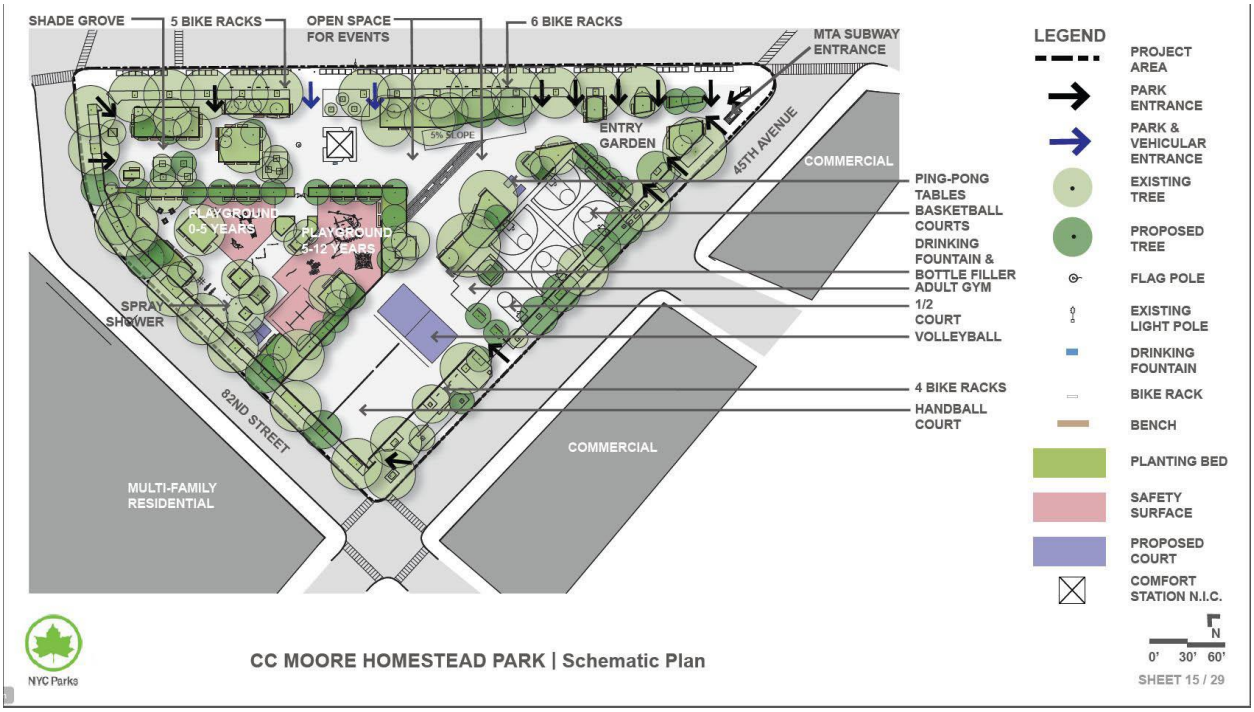
For open space and natural resources, the uses and features of a resource is an indicator of its sensitivity to shadows. Shadows occurring during the cold-weather months generally do not affect the growing season of outdoor vegetation; however, their effects on other uses and activities should be assessed. This sensitivity is assessed for warm-weather-dependent features (such as wading pools and sandboxes) or vegetation that could be affected by a loss of sunlight during the growing season, and for features (such as benches) that could be affected by a loss of winter sunlight. Vegetation requiring direct sunlight includes the tree canopy, flowering plants and plots in community gardens. Generally, four to six hours a day of sunlight, particularly in the growing season, is often a minimum requirement. Where the incremental shadows from the project fall on sunlight-sensitive features or uses, the analysis assesses the loss of sunlight relative to sunlight that would be available without the project.

As stated in the *CEQR Technical Manual*, to determine impact significance, an incremental shadow is generally not considered significant when its duration is no longer than 10 minutes at any time of year and the resource continues to receive substantial direct sunlight. A significant shadow impact generally occurs when an incremental shadow of 10 minutes or longer falls on a sunlight-sensitive resource and results in one of the following:

- *Vegetation* - A substantial reduction in sunlight available to a sunlight-sensitive feature of the resource to less than the minimum time necessary for its survival (when there was sufficient sunlight in the future without the project). Or, a reduction in direct sunlight exposure where the sunlight-sensitive feature of the resource is already subject to substandard sunlight (i.e., less than minimum time necessary for its survival).
- *Open Space Utilization* - A substantial reduction in the usability of open space as a result of increased shadow.
- *For Any Sunlight-Sensitive Feature of a Resource* - Complete elimination of all direct sunlight on the sunlight-sensitive feature of the resource, when the complete elimination results in substantial effects on the survival, enjoyment, or, in the case of open space or natural resources, the use of the resource.

The southern portion of Moore Homestead Playground to the north of the Affected Area will be influenced by the potential shaded area induced by the Proposed Development. The playground mainly consists of facilities that are shown below in **Figure 8-7**. The playground is mostly paved with handball courts, volleyball courts, basketball courts, bike racks, ping-pong tables, and an adult gym. Based on the Tier 3 shadow analysis (*See* **Figure 8-3**), the southern portion of Moore Homestead Playground will be affected by the Proposed Development. However, it is anticipated that shadows cast from the Proposed Building would cover these resources only in the winter season, where the shadow could reach the playground for a two-hour period from 8:51 am to 10:51 am. These facilities typically have lower utilization during the winter season, and it is anticipated that the shadows cast from the Proposed Building would not significantly affect the utilization of the facilities. Additionally, shadows cast from the Proposed Building would not impact the growth of the vegetation within the park, as the winter season is not a growing season for vegetation. Further, the vegetation shaded by the Proposed Building can still get 4-hours of sunlight on those days, which is the minimum requirement for direct sunlight.

Figure 8-7: Moore Homestead Playground Schematic Plan



Conclusion

All the sunlight-sensitive resources within the Projected Development's longest action-induced shadow area will either not be impacted or be impacted with limited timespan. Therefore, the Proposed Actions would not have the potential to cause a significant adverse impact related to shadows.

9.0 CEQR Technical Manual Chapter 9: Historic and Cultural Resources Analysis Supplemental Study to the EAS Short Form Part II

Pursuant to Chapter 9 of the *2020 CEQR Technical Manual*, an assessment of historic and cultural resources is usually necessary for projects that are located in close proximity to historic or landmark structures or districts, or for projects that require in-ground disturbance, unless such disturbance occurs in an area that has been formerly excavated.

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

Analysis

Future No Action Conditions

Currently, the Projected Development Site consists of an asphalt paved parking lot and an accessory light manufacturing/commercial building. The eastern portion of the vacant light industrial building on Lot 223 is being renovated and expanded with a 4-story UG 3 Charter School under future conditions absent the Proposed Actions per the Special Permit Application from the NYC Board of Standards and Appeals (BSA) pursuant to Section 73-19 of the Zoning Resolution of the City of New York.

However, to assess the cumulative impacts of the UG 3 charter school and proposed residential development, the No-Action Scenario conservatively assumes that the 41,320 sf (0.93 FAR) one-story vacant light industrial building on Lot 223 would be re-tenanted with a conforming light industrial use within the M1-1 zoning district.

Future With Action Conditions

The Applicant seeks a rezoning as part of the Action analyzed herein to modify the zoning districts of the Projected Development Site from M1-1 to R7A to facilitate the development of a 9-story residential building on the western portion of the site and a UG 3 charter school building on the eastern portion of the site.

Architectural Resources

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

The LPC was contacted for their initial review of the project's potential to impact nearby historic and cultural resources and by letter dated December 17th, 2018, indicated that the Study Area does not contain any sites or buildings of known historic, architectural or cultural significance (*See* **Appendix B).**

Archaeological Resources

Unlike the architectural evaluation of a study area that extends beyond the footprint of a project's block and lot lines, the analysis of potential and/or projected impacts to archaeological resources is controlled by the actual footprint of the limits of soil disturbance. Archeological resources are physical remains, usually subsurface, of the prehistoric and historical periods such as burials, foundations, artifacts, wells, and privies. The CEQR Technical Manual requires a detailed evaluation of a project's potential effect on the archeological resources if it would potentially result in an in-ground disturbance to an area not previously excavated. The proposed developments would require minimal ground disturbance within the existing building footprint associated with plumbing and utility work.

The LPC was contacted for their initial review of the project's potential to impact on-site archeological resources, and a response was received on December 17th, 2018 (*See* **Appendix B**). The LPC has indicated that no archaeological significance is associated with the Proposed Development. Therefore, significant adverse impacts to archaeological resources are not anticipated as a result of the Proposed Action(s), and further analysis is not warranted.

Conclusion

Based on the above screening and LPC review letter, there are no potentially significant impacts associated with Historical or Cultural resources as a result of the Proposed Action(s), and no further analysis is warranted.

10.0 CEQR Technical Manual Chapter 10: Urban Design and Visual Resources Analysis Supplemental Study to the EAS Short Form Part II

According to the *CEQR Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. Elements that play an important role in the pedestrian's experience include streets, buildings, visual resources, open space, and natural features, as well as wind as it relates to channelization and downwash pressure from tall buildings. Pursuant to the *2020 CEQR Technical Manual*, an assessment of Urban Design may be warranted when a Proposed Action may affect one or more of the elements that contribute to the pedestrian experience of an area, specifically the arrangement, appearance, and functionality of the built environment.

The proposed rezoning of the Affected Area from M1-1 to R7A would alter permitted use, bulk, and height within the Affected Area. Therefore, further analysis is warranted. The differences between existing and proposed zoning, with regards to those aspects of zoning affecting urban design, are presented in the following **Table 10-1**.

Table 10-1: No-Action and With-Action Zoning

	No-Action	With-Action
Zoning	M1-1	R7A
Permitted Uses	Manu., Com., CF	Res., CF
Maximum FAR	Manu. and Com.: 1.00 CF: 2.40	Res.: 4.60 CF: 4.00
Maximum Height	Sky exposure plate	Base Height: 40-75 feet Building Height: 95 feet (w/QGF)
Lot Coverage (corner lot)	100%	100%

Com. = Commercial; CF = Community Facility; Manu. = Manufacturing; Res. = Residential; QGF = Qualifying Ground Floor

Existing Conditions

The Affected Area consists of approximately 69,869 square feet on the southeastern portion of Block 1536, including the 6 contiguous tax lots and portions of tax lots, Lots 80, 223, 79, p/o 75, p/o 85, and p/o condo lots 1101-1242 along Long Island Railroad (LIRR) in Elmhurst neighborhood, Queens, which is described in detail in Sections 1.3 and 1.4.

The Development Site is located at 45-20 83rd Street and 80-52 47th Avenue (Block 1536, Lots 80 and 223). Former Lot 80 is a 5,137-sf lot that is vacant and unimproved. Former Lot 223 is a 39,400-sf lot currently improved with a vacant 1-story, 41,320 GSF light industrial structure. Together the lots comprise 44,437 sf. The lots have since been reapportioned with reapportioned Lot 223 comprising 24,325 sf of the zoning lot, and reapportioned Lot 80 comprising 20,112 sf of the zoning lot.

Other lots within the Affected Area include residential buildings on lots 75 and condo lots 1101-1242. Lot 75 is a 9,852-sf interior lot improved with a 14,400 GSF, 3-story multi-family walk-up building that was constructed in 1984. Condo lots 1101-1242 is a 37,024-sf lot recently developed with a 406,080 GSF 8-story condominium building with 138 dwelling units. Lot 79 is a 1,475-sf irregularly shaped interior lot owned by the City of New York, which is vacant and unimproved and used for vehicle parking. To the south of the

Development Site, a 234,574-sf railroad bed owned by Long Island Railroad runs from east to west on Lot 85.

The traffic grid is irregular as a result of the confluence of 47th Avenue and 82nd Street. The surrounding area includes major commercial thoroughfares, including Broadway and Queens Boulevard. The area is well-served by transit, and is within a Transit Zone. The Elmhurst Avenue M and R subway stop and the Broadway/Whitney Avenue Q53-SBS bus stop are located within walking distance to the Projected Development Site.

Sidewalks are in good condition, with regular trees and street lights throughout the study area. The Surrounding Area is predominantly characterized by commercial and residential development, with two large institutional buildings located to the southeast (*P.S. 255/7*) and northeast (*Queens Adult Care Center*). Moore Homestead Playground, a 1.9-acre neighborhood park, is located one block north of the Projected Development Site bounded by 45th Avenue to the south, Broadway to the east, and 82nd Street to the west.

Analysis

Future No Action Conditions

To assess the cumulative impacts of the UG 3 charter school and proposed residential development, the future No Action Conditions assessed for the purposes of the Environmental Assessment assumes that the 41,320 sf (0.93 FAR) one-story vacant light industrial building on Lot 223 would be re-tenanted with a conforming light industrial use within the M1-1 zoning district. Other lots within the Affected Area would be expected to remain the same as the existing conditions. The overall use of the buildings within the study area would remain the same. Any physical changes to buildings in the study area would comply with designated zoning regulations and other surrounding districts. No significant changes to the area's urban character are anticipated. In addition, no changes to the area's views to the adjacent parks and open spaces are expected.

Future With-Action Conditions

Pursuant to the Proposed Actions, the eastern portion of Lot 223 (the entirety of reapportioned Lot 223) would be occupied with a charter school, as described under Future No Action Conditions in Section 1.8, while the western portion of Lot 223 and the whole Lot 80 (the entirety of reapportioned Lot 80) would be developed with a residential building.

The proposed residential building would replace the 9,850 sf of the light industrial building along the western portion of the Projected Development Site fronting 47th Avenue. As shown in **Figure 10-2**, the residential building would be 161,696 GSF (141,133 ZSF; 3.18 FAR), rising to a height of 95 feet at 9 stories. The building will include 163 total dwelling units, at least 20% of which would be permanently set aside at or below 80% AMI. 72 parking spaces would be provided at the cellar level in an enclosed garage. In total, the zoning lot would contain approximately 228,982 GSF (204,397 ZSF; 4.60 FAR). The pedestrian experiences would be improved with the proposed charter school and the new residential building induced by the Proposed Actions, which are more compatible with the surrounding residential and commercial buildings. The existing one-story unoccupied light industrial building with a large parking lot would be replaced with modern-looking buildings, which would entice various pedestrian activities and activate the pedestrian realm.

The Proposed Actions would introduce development that is generally larger in scale than surrounding buildings but with similar uses as those within the immediate surrounding area. As shown below in **Figure**

10-3, the proposed residential building effectuated by the Proposed Actions would be similar in scale to the adjacent development on condo lots 1101-1242 (Elmhurst Plaza Towers) effectuated by the 45th Avenue/Elmhurst Rezoning effective 11/15/2006 (CEQR No. 02DCP044Q), and would result in a more consistent and continuous street wall along the 47th Avenue street frontage of the Projected Development Site. The UG 3 school building would be developed within the allowable bulk available for a conforming community facility use within the existing M1-1 zoning district. The new development on the Projected Development Site with residential use, currently improved with an unoccupied manufacturing building and surface parking, is intended to improve the overall pedestrian experience.

Conclusion

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

Figure 10-1: Urban Design Study Area – Photomontage Locations

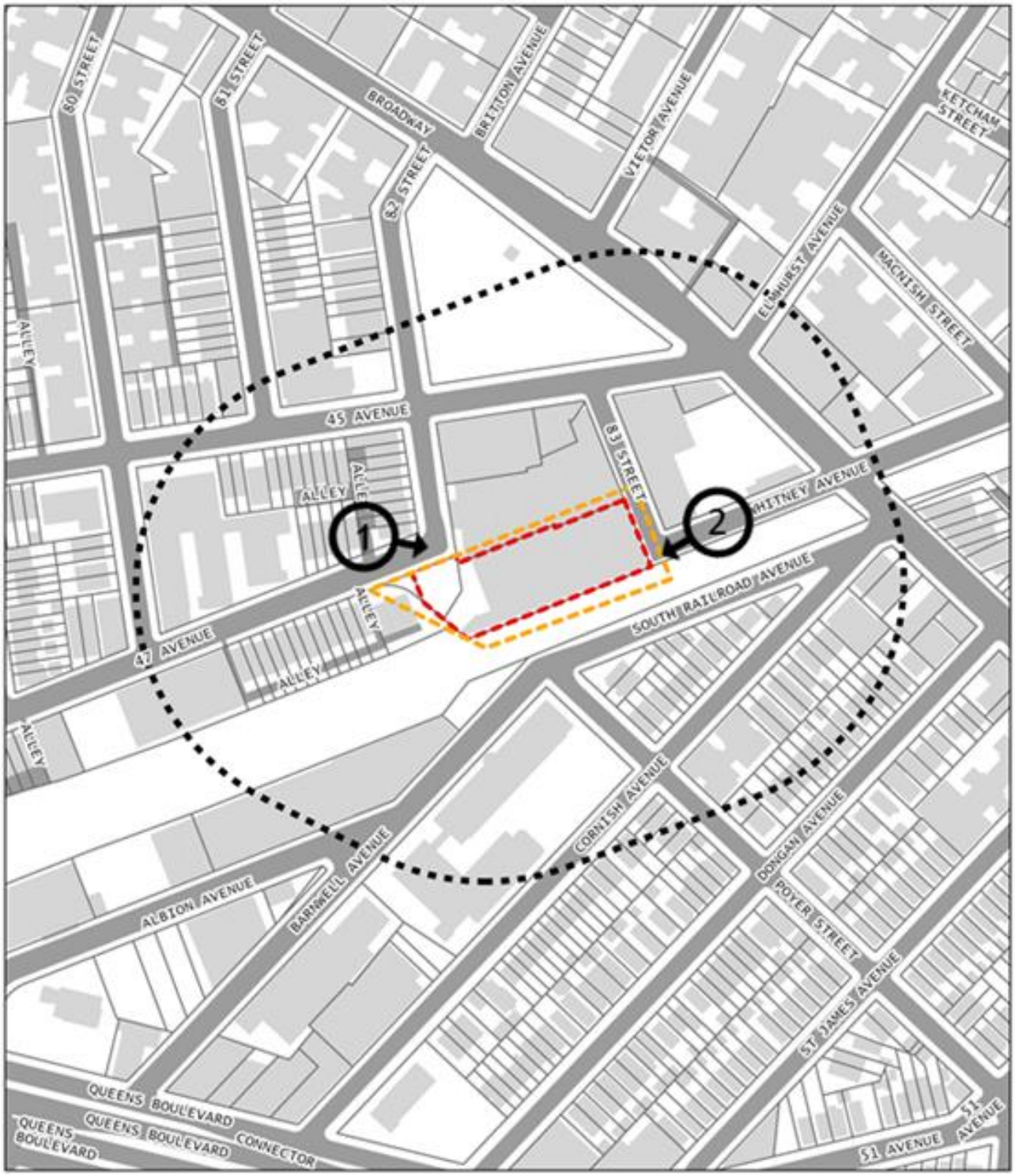


Figure 10-2: Existing Condition and No-Action Condition 1
Looking Southeast at 47 Avenue and 82 Street



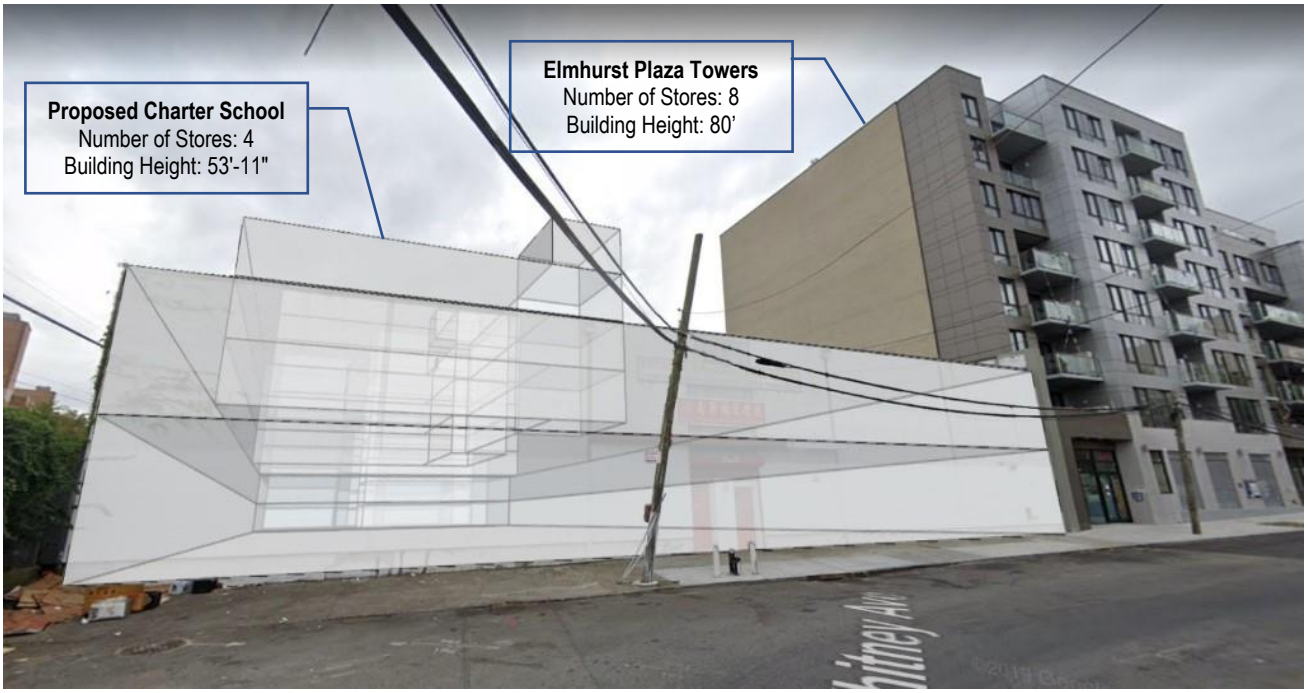
Figure 10-3: With-Action Condition 1
Looking Southeast at 47 Avenue and 82 Street



Figure 10-4: Existing and No-Action Condition 2
Looking West at Whitney Avenue and 83 Street



Figure 10-5: With-Action Condition 2
Looking West at Whitney Avenue and 83 Street



12.0 CEQR Technical Manual Chapter 12: Hazardous Materials Analysis Supplemental Studies to the EAS Short Form Part II

According to Chapter 12 of the CEQR Technical Manual, the potential for significant impacts from hazardous materials can occur when: (a) hazardous material exists on a site, and (b) an action would increase pathways to their exposure, or (c) an action would introduce new activities or processes using hazardous materials.

Methodology

The hazardous materials assessment begins with a Phase I Environmental Site Assessment ("Phase I ESA"), which is a qualitative evaluation of the environmental conditions present at a site, based on a review of available information site observations, and interviews. Pursuant to the *2020 CEQR Technical Manual,* the Phase I ESA is conducted in accordance with the standards established by the current ASTM Phase I ESA Standard and includes research and field observations to determine whether the site may contain contamination from either past or present activities on the site, or as a result of activities on adjacent or nearby properties. If a potential recognized environmental condition ("REC") is identified during this assessment, then building any subsurface investigations are usually conducted as part of a Phase II Environmental Site Investigation ("Phase II ESI") to confirm the presence and extent of the contamination.

ASTM Definitions:

- **Recognized Environmental Condition (REC)** - The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property due to release to the environment; under conditions indicative of a release to the environment; or conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.
- **Historical Recognized Environmental Condition (HREC)** - A past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).
- **Controlled (Recognized Environmental Condition (CREC)** - A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).
- **A Vapor Encroachment Condition (VEC)** - The presence or likely presence of chemical of concern vapors in the subsurface of the target property caused by the release of vapors from contaminated soil and/or groundwater either on or near the target property.

Environmental Site Assessment and Investigation for School Site

Summary of the Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment dated December 14, 2018, was prepared by Equity Environmental Engineering, LLC for the Projected Development Site pursuant to the Special Permit Application with the NYC BSA in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-13. The Phase I ESA identified no RECs in connection with the Site. However, based on information provided by the database search, due to five historic cleaners and six reported spills within 1/10th of a mile of the Projected Development Site, and a historic auto garage previously developed on-site, a Vapor Encroachment Condition (VEC) could not be ruled out.

Summary of Phase II Hazardous Materials Investigation

Based on the results of the Phase I Environmental Site Assessment, the project team met with the NYC Office of Environmental Remediation (OER) in July 2019 to discuss the project and to initiate the process for securing an OER Notice to Proceed (NTP). The applicant team initially reached out to the NYC Office of Environmental Remediation (OER) because of the possibility of enrolling in the New York City Voluntary Cleanup Program (NYC VCP). However, VCP enrollment is no longer being considered and the project team elected to work with the Department of Environmental Protection (NYCDEP) to address the CEQR requirements for the Site and to obtain necessary approvals for the UG 3 school development.

In consultation with OER, a Remedial Investigation Work Plan (RIWP) was prepared by HydroTech Environmental in July 2019 and was submitted for approval. The RIWP was approved by the OER on July 23, 2019. Subsequent to the RIWP submittal, a Request for a Letter of No Objection was submitted to the MTA Long Island Railroad (LIRR) on July 24, 2019. Clearance from LIRR to perform the RIWP was necessary due to the site's proximity to the LIRR right of way. The investigation scope was performed August 27 through August 29, 2019. A Remedial Investigation Report dated October 15th, 2019, was prepared by Hydrotech Environmental. The findings of the investigation are provided in the Remedial Site Investigation Report and are summarized below.

The Phase II field investigation consisted of the installation and sampling of ten soil probes, four monitoring wells, four sub slab vapor probes and three soil vapor probes. The wells were surveyed to establish a site-specific groundwater flow direction. The fieldwork was performed under the direct guidance and oversight of a HydroTech Geologist and in accordance with the July 2019 RIWP.

The October 15th, 2019 RIR identified the following:

- With the exception of Acetone, no VOCs were detected in any of the soil samples at concentrations exceeding Unrestricted Use SCOs.
- Several BTEX compounds associated with petroleum and its derivatives were detected at concentrations exceeding their MDLs in the intermediate and deep samples collected from the central portion of the site (inside the warehouse) at SP-7 and SP-8. This is supported by the fact that organic vapors were detected with the PID during field screening of these soil samples.
- Several SVOCs were detected at each soil probe location in the shallow, intermediate and deep soil, at concentrations exceeding their MDLs but below Unrestricted Use SCOs.

- The shallow soil across the Site contains metals, including Copper, Iron, Lead, Selenium, Zinc and Mercury at concentrations exceeding their respective Unrestricted Use SCOs.
- Dissolved petroleum-range VOCs were detected in groundwater beneath the central portion of the Site, as evidenced by the findings from monitoring well GW-3. The dissolved VOCs appear to be localized to this location, as no other wells were found to contain any VOCs at concentrations exceeding GQS. The presence of the VOCs in groundwater is in the immediate vicinity of the gasoline tank depicted in the 1951 Sanborn Map. Based upon this information, the NYSDEC spill hotline was contacted and spill case number #1906766 was assigned. The petroleum spill will be addressed under the regulatory jurisdiction of the NYSDEC and the oversight of the Spill Case Manager, Mr. Rick Ling.
- Several metals including Manganese, Lead, Chromium, Barium, and Magnesium were detected in filtered and unfiltered groundwater samples.
- Soil vapor and indoor air concentrations of chlorinated compounds were compared to New York State Department of Health (NYSDOH) Final Guidance for Evaluation of Soil Vapor Intrusion Matrices (October 2006). Based upon a comparison of the detected concentrations to the concentrations provided in the NYSDOH Decision Matrices, TCE concentrations exceed the respective threshold and warrant mitigation.

Summary of Remedial Action

Based on the above findings, a Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) were prepared as part of the BSA Special Permit application related to the on-site school development. The RAP and CHASP were reviewed by DEP under CEQR # 20BSA002Q. The RAP provides the intended remedial strategy for Lot 223 of the Projected Development Site (the proposed school building site). A separate Remedial Action Work Plan (RAWP) was also prepared for submittal to the New York State Department of Environmental Conservation (NYSDEC) to address the open spill case #1906766. A summary is provided below:

Block 1536, Lot 223 (school building site)
The January 2020 RAP proposes the remediation of New York State Department of Environmental Conservation Spill # 1906766; the excavation, transportation and off-site disposal of soil in accordance with all applicable federal, state and local regulations; stockpiled soil will be covered with polyethylene sheeting; dust control; air monitoring; installation of a vapor barrier system consisting of 20-mil SilverBlack SR beneath the foundation slab of the new development; and installation of an active sub-slab depressurization system (SSDS). The January 2020 CHASP addresses worker and community health and safety during construction. By DEP letter dated February 7th, 2020, under the BSA Special Permit Environmental Review under CEQR # 20BSA002Q, DEP approved the January 2020 RAP and CHASP for the school (*See* **Appendix B**).

Analysis Framework

Future No Action Conditions

Currently, the Project Site consists of an asphalt paved parking lot and an accessory light manufacturing/commercial building. Under a future condition with no-action, pursuant to the approved Special Permit application from the NYC BSA, the eastern portion of the light industrial building on the Projected Development Site would be renovated and expanded with a 4-story UG 3 charter school. The school building

would be accessed from 83rd Street and would contain a total of 67,286 GSF (63,264 ZSF) at a FAR of 1.42. The 4-story plus mezzanine school building would rise to a height of 53'-11" at the mezzanine roof. The remaining 9,850 square foot western portion of the existing light industrial building, which is accessed from 47th Avenue, would be partitioned off and would remain designated as light industrial space.

Future With Action Conditions

The Applicant seeks a rezoning modifying the zoning districts of the Project Site from M1-1 to R7A to facilitate the development of a 9-story residential building on the site adjacent to the school. The proposed residential building, accessed from 47th Avenue, would contain a total of 161,696 GSF (141,133 ZSF) of floor area at a FAR of 3.18. The Proposed Actions would also bring the UG 3 school building to be developed at the Projected Development Site under future conditions absent the Proposed Action into conformance as-of-right under the proposed zoning district.

As discussed above and identified in the BSA Resolution for the approved charter school development (*See* **Appendix E**), the following hazardous materials conditions were placed on the development of the school building:

- That a vapor barrier and sub slab depressurization system (SSDS) will be installed and soil removed and disposed of in accordance with NYSDEC regulations.
- A remedial closure report will be submitted to DEP for review and approval prior to completion of the project.

If the proposed rezoning is approved, the BSA Special Permit will be relinquished by The Applicant as the proposed school would be permitted as-of-right in the new zoning district. Accordingly, the BSA Special Permit requirements for Hazardous Materials specified above will be ensured through an E-Designation imposed as part of the Proposed Actions.

By letter dated May 28th, 2021 (*See* **Appendix B**), DEP reviewed the provided materials for the Proposed Actions, and found the January 2020 RAP and CHASP for the proposed project acceptable. DEP instructed the Applicant that at the completion of the project, a Professional Engineer (P.E.) certified Remedial Closure Report should be submitted for DEP review and approval for the proposed project. The P.E. certified Remedial Closure Report should indicate that all remedial requirements have been properly implemented (i.e., transportation/disposal manifests for removal and disposal of soil in accordance with applicable local, state, and federal laws and regulations; installation of vapor barrier; installation of active SSDS, etc.).

Based on the above, an E-Designation (E-630) will be placed on Lot 80 and 223 of the Projected Development Site for Hazardous Materials to assure that testing and mitigation will be performed, as necessary, before any future development and/or soil disturbance. The proposed E-Designation language related to Hazardous Materials is as follows:

E-Designation (E-630)

Block 1536, Lot 80 and Lot 223

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

If remediation is indicated from 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 the (E) designation in place, no significant adverse impacts related to hazardous materials are expected, and no further analysis is warranted.

16.0 CEQR Technical Manual Chapter 16: Transportation Analysis Supplemental Studies to the EAS Short Form Part II

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

Methodology

The CEQR Technical Manual states that if an analysis is warranted, a preliminary trip generation assessment should be prepared to determine whether a quantified analysis of any technical areas of the transportation system is necessary. Except in unusual circumstances, further quantified analysis would typically not be needed for a technical area if the proposed development would result in fewer than the following increments:

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

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

The above thresholds for the pedestrian element assessment do not apply for new or expanded schools, for which detailed pedestrian analyses are typically required. These analyses should concentrate on the safety and operations of pedestrian elements (i.e., intersections with a high number of pedestrian accidents, uncontrolled pedestrian crossing(s), narrow sidewalks, non-ADA-compliant pedestrian ramps, etc.) along key access routes to/from the school.

The Affected Area is located in CEQR Traffic Zone 2 and will introduce the following incremental development:

+163 Dwelling Units
+67,286 GSF Community Facility
- 41,320 GSF Light Industrial

The incremental development induced by the Proposed Actions is above the relevant development threshold, warranting a preliminary traffic analysis for this area of the city per *Table 16-1* of the 2020 CEQR Technical Manual. The above threshold for the pedestrian element assessment does not apply for new or expanded schools, for which detailed pedestrian analyses are typically required. The UG 3 school was subject to review by the Department of Transportation School Safety Division as part of the Environmental Assessment related

to the Approved 73-19 Special Permit with the Board of Standards and Appeals. Accordingly, a school safety assessment was excluded from this analysis.

16.1 Analysis Framework

Future No-Action Condition

The Applicant received a BSA Special Permit from the New York City Board of Standards and Appeals pursuant to ZR Section 73-19 to facilitate the conversion and enlargement of a portion of the existing 41,320 square foot (sf) one-story plus partial mezzanine vacant light industrial building on-site for occupancy by a Use Group (UG) 3 Kindergarten through 6th- grade charter school in June of 2020. However, to assess the cumulative impacts of the UG 3 charter school and proposed residential development, the No-Action Scenario conservatively assumes that no development is anticipated within the rezoning area. Former Lot 80 is a 5,037 sf lot that is vacant and unimproved. Former Lot 223 is a 39,400 sf lot currently improved with a vacant 1-story, 41,320 gsf light industrial structure. Together the lots comprise 44,437 sf. The future No Action Conditions assessed for the purposes of the Environmental Assessment assumes that the 41,320 sf (0.93 FAR) one-story vacant light industrial building on Lot 223 would be re-tenanted with a conforming industrial use within the M1-1 zoning district. In the future, absent the proposed actions, it is assumed that existing conditions would prevail. The existing 41,320 square building on-site is assumed to be tenanted by a light industrial user.

Future With-Action Condition

The Proposed Actions would modify the zoning districts of the Projected Development Site from M1-1 to R7A to facilitate the development of a 9-story residential building with 163 dwelling units on the site adjacent to the school. In addition, the Proposed Actions would bring the UG 3 school into conformance as of right, thereby rescinding the BSA Special Permit (CEQR No. 20BSA002Q).

The Proposed residential building and UG 3 school building would total approximately 228,982 GSF (204,397 ZSF, 4.60 FAR).

- Lot 80 will be developed with a 161,696 GSF (141,133 ZSF; 3.18 FAR) building with 163 total dwelling units. 72 parking spaces would be provided at the cellar level in an enclosed garage. The residential building would be accessed from 47th Avenue.
- Lot 223 will be developed with a 67,286 GSF (63,264 ZSF; 1.42 FAR) community facility. The building will be used as a UG 3 charter school and would be accessed from 83rd Street.

The identified charter school occupant, the Renaissance Charter School 2 (TRCS2), would incubate at an off-site facility for the first two school years after commencement while the eastern portion of the building is renovated and expanded as the permanent home of the school. The school would move from their temporary off-site school space to the Project Site in the 2022-2023 school year with approximately 324 students in Kindergarten through Third Grade and 46 staff members. As shown in **Table 16.1-1** below, enrollment will increase on a gradient basis, with one grade level added per year until 6th-grade enrollment is reached in the 2025-2026 school year. TRCS2 intends to accommodate approximately 567 students from Kindergarten to 6th Grade and 88 faculty members in the 2025-2026 school year.

Build Year

The 2025-2026 school year is considered as the year of analysis as it relates to future traffic conditions.

Table 16.1-1 TRCS 2 Student and Staff Population by Year										
School Year	Grades	Total Students	K	1	2	3	4	5	6	Total Staff
2020-2021	K-1	162	81	81	0	0	0	0	0	25
2021-2022	K-2	243	81	81	81	0	0	0	0	38
2022-2023	K-3	324	81	81	81	81	0	0	0	46
2023-2024	K-4	405	81	81	81	81	81	0	0	65
2024-2025	K-5	486	81	81	81	81	81	81	0	76
2025-2026	K-6	567	81	81	81	81	81	81	81	88

*Grey denotes years at off-site incubation.

16.2 Transportation Study Area

The Transportation Study Area (*See* **Figure 16.3-1**) was selected to include the intersections and pedestrian elements most likely to be used by concentrations of project-generated vehicles and pedestrians traveling to and from the proposed Project Site. The ½ mile radius represents a ten (10) minute walk or the maximum walking distance between a point of departure and a destination.

As indicated below, the following Transit Resources/Transportation Conditions exist within the Transportation Study Area:

The Project Site, also known as Block 1536, Lots 80 and 223 on the New York City Tax Map, has approximately 79 feet of frontage on the south side of 47th Avenue and 116 feet on the west side of 83rd Street, both classified by the New York State Department of Transportation as a local street (Functional Class 19). The school building would be accessed from the west side of 83rd Street, which is bounded by Whitney Avenue to the east and 45th Avenue to the north.

- 83rd Street is a single-lane northbound roadway, with parking provisioned on both sides.
- Whitney Avenue is a single-lane westbound roadway, with parking provisioned on both sides.
- 47th Avenue is a two-way east and westbound street with one moving travel lane in each direction and parking provided on both sides of the roadway.

The area is located in a Transit Zone and is well served by mass transit. The Elmhurst Avenue station is located one block north of the Project Site and is served by the M train during weekdays, the R train during weekdays and weekends, and the E train during nights and disruptions. Additionally, the Q53-SBS bus has a stop along Broadway/Whitney Ave, approximately one block east of the Project Site. The Long Island Railroad (LIRR) runs in an east and west direction along the southern border of the Project Site.

16.3 Level 1 Trip Generation Screening Assessment

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

people traveling to and from the site would travel by that particular mode. The modal split percentages are then applied to the hourly trip generation estimates to determine the number of persons traveling to and from the site by each mode for each of the analysis peak hours.

To determine the potential effects of the Proposed Actions on traffic conditions, data gathering was conducted to document prospective student and staff transportation to and from the school. The trip generation characteristics are based on emergency contact sheets for the existing TRCS location, a summary of afterschool travel characteristics which document the mode of student travel, information collected from the CEQR Technical Manual, U.S. Census data, previously-approved studies, and other references, including information provided by TRCS on school operations and programs at the existing location.

The Transportation Planning Factors that form the basis of this assessment are provided in **Table 16.3-3** and **16.3-4** and are discussed below. Factors are shown for the weekday AM ("Morning Arrival") Peak Hour, MD Peak Hour, School Dismissal Peak Hour, PM ("Afterschool Dismissal") Peak Hour and Saturday Peak Hour. The project peak hours are based on the proposed Charter School's intended hours of operation and programming as well as standard peak hours pursuant to the CEQR Technical Manual.

No-Action Light Industrial & With Action Residential Transportation Planning Factors – See Table 16.3-3

To determine the incremental project-generated trip-ends associated with the Proposed Actions, the No-Action transportation conditions of the light industrial building was considered. East New York FEIS, the ITE Trip Generation Manual, and U.S. Census Bureau, American Community Survey 2012-2016 Five-Year-Estimates Total Workers 16 Years and Over by Means of Transportation at Workplace for the subject Census Tract and all bounding Census Tracts including 271, 469, 471, 473, 479, 481, 483, 485, and 489 (*See* **Figure 16.3-3** below*)* were referenced.

The With-Action Residential Development traffic generation model was developed using factors provided by the CEQR Technical Manual, NYC DOT provided factors, Jerome FEIS, and 2015-2019 U.S. Census Bureau, American Community Survey Journey to Work data.

With Action School Transportation Planning Factors – See Table 16.3-4

Daily Trip Rate/Peak Hours & Temporal Distribution/Directional Distribution

Students/Caregivers

The school opens at 7:30 a.m. and will be open for students to eat breakfast starting at 7:40 a.m. The earliest arrival for breakfast is 7:40 a.m., and the latest arrival is 8:10 a.m. Class begins at 8:20 a.m. and ends at 3:10 p.m. The official end of the school day is 4:00 p.m., permitting a 50-minute period of staggered student dismissal. Yellow bus students are the first dismissal group, and are released by bus group prior to students departing by private car and on foot.

An afterschool program begins at the end of the school day and ends at 6:00 p.m. Based on the existing afterschool program attendance at TRCS1 (8 students in K-2 of the total 74 K-2 students or 76 K-6 students of the total 238 K-6 students). It is anticipated that approximately 32% of all students K-6 would attend afterschool. This equates to an afterschool attendance at TRCS2 of approximately 181 of the total 567 Kindergarten through 6th Grade students at the 2025-2026 enrollment projections.

Based on the above school operations, the AM ("morning arrival") peak hour is 7:30 a.m. – 8:30 a.m., the PM ("school dismissal") peak hour is 3:15 p.m. to 4:15 p.m. and the PM ("afterschool dismissal") peak hour is 5:15 p.m. to 6:15 p.m.

Table 16-2 of the *2020 CEQR Technical Manual* was referenced for data on weekday daily person trips for a public-school use. Pursuant to Table 16-2 of the *2020 CEQR Technical Manual*, 2 weekday student trips and 4 weekday caregiver trips would occur per day. Per guidance from the NYC Department of Transportation (DOT), in order to account for the possibility of sibling accompaniment in lieu of an adult caregiver, as well as the likelihood of parents accompanying multiple children attending the same school or escorting their children's classmates, a student to caregiver ratio of one caregiver per every 1.28 children was applied to all caregiver pedestrian and vehicular trips.

50% of daily student/caregiver trips are anticipated to occur during the AM peak hour, 34% of daily student trips are anticipated to occur during the PM "School Dismissal" peak hour, and 16% of daily student trips are anticipated to occur during the PM "Afterschool Dismissal" peak hour. Similar to the previously approved *Brownsville Ascend Charter School EAS*, to account for student absences, an absentee rate of 5% was applied.

Lastly, the directional distribution was derived based on the operations and programs of the proposed school. 100% of peak hour staff and student trips would be inbound during the AM peak hour, and 100% of peak hour staff and student trips would be outbound during the School Dismissal and Afterschool Dismissal peak hours, respectively. 50% of peak hour caregiver trips would be inbound and 50% of peak hour caregiver trips would be outbound during each peak hour of analysis to account for an arriving trip, and a departing trip, respectively.

Staff

Pursuant to Table 16-2 of the *2020 CEQR Technical Manual*, two (2) weekday staff trips would occur per day. Staff temporal distribution and peak hours were derived from data provided by the Human Resources Department of the existing TRCS1 location. This data shows the hours of arrival by number of faculty (*See* **Appendix D**). Based on this information, approximately 38% of daily staff trips are anticipated to occur during the AM School Arrival Peak Hour, 40% of daily staff trips are anticipated to occur during the School Dismissal Peak Hour, and 10% of daily staff trips are anticipated to occur during the Afterschool Dismissal Peak Hour.

Modal Split

Staff Modal Split

Data on staff trips and vehicular occupancy, as well as the associated staff parking demand was derived from the U.S. Census Bureau, American Community Survey (ACS) 2012-2016 Five-Year-Estimates Total Workers 16 Years and Over by Means of Transportation at Workplace for the subject Census Tract and all bounding Census Tracts including 271, 469, 471, 473, 479, 481, 483, 485, and 489 (*See* **Figure 16.3-3** below*).*

Student Modal Split

The identified Modal Splits for all student trips were determined based on information collected from the existing TRCS location as further discussed below:

AM/School Dismissal Emergency Contact Forms

The identified Modal Splits for all morning arrival and school dismissal student trips were determined based on information collected from the existing TRCS location derived from emergency contact forms, completed

for every student at the existing TRCS location (*See* **Table 16.3-1**). TRCS2 is a replication of TRCS, a Kindergarten through 12th Grade charter school located at 35-59 81st St, Jackson Heights, Queens, less than a mile away from the Project Site in Community School District 30. Although TRCS serves a student population of Kindergarten through 12th-grade students, the data was only extracted for the applicable grade levels.

By referencing the emergency contact sheets, the extracted data effectively serves as an accurate and reliable survey with a 100% response rate, which can be used to determine the mode of travel for all TRCS2 students.

As indicated below in **Figure 16.3-2**: TRCS/TRCS2 Comparison Map, TRCS was selected as a representative sample population to determine the anticipated modal split factors for TRCS2 due to the following similarities:

1) Data was available for an equivalent grade composition as proposed (K-6);
2) TRCS/TRCS2 are located within the same borough;
3) TRCS is located within proximate distance to the proposed school location (less than 1 mile apart);
4) Existing location utilizes the Department of Education Office (DOE) of Pupil Transportation yellow school buses, with a similar projected ridership to that anticipated at TRCS2;
5) Similar surrounding residential land use composition; and
6) Similar transit (subway and MTA bus) access within walking distance.

Table 16.3-1: TRCS AM/School Dismissal Travel Characteristics

		Subway		MTA Bus		Private Car		Yellow School Bus		Walk		
Grade Level	Total Students	# Students	% Students	# Students	% Students	# Students	% Students	# Students	% Students	# Students	% Students	Total %
Kindergarten	23	3	13.04%	3	13.04%	2	4.35%	5	21.74%	10	43.48%	100.00%
1	27	1	3.70%	1	3.70%	9	33.33%	6	22.22%	10	37.04%	100.00%
2	24	1	4.17%	4	16.67%	5	20.83%	5	20.83%	9	37.50%	100.00%
Total K-2	**74**	**5**	**6.76%**	**8**	**10.81%**	**16**	**21.62%**	**16**	**21.62%**	**29**	**39.19%**	**100.00%**
3	26	3	11.54%	2	7.69%	4	15.38%	5	19.23%	12	46.15%	100.00%
4	26	3	11.54%	2	7.69%	6	23.08%	4	15.38%	11	42.31%	100.00%
Total 3-4	**52**	**6**	**11.54%**	**4**	**7.69%**	**10**	**19.23%**	**9**	**17.31%**	**23**	**44.23%**	**100.00%**
5	55	2	3.64%	2	3.64%	7	12.73%	17	30.91%	27	49.09%	100.00%
6	57	10	17.54%	5	8.77%	8	14.04%	6	10.53%	28	49.12%	100.00%
Total 5-6	**112**	**12**	**10.71%**	**7**	**6.25%**	**15**	**13.39%**	**23**	**20.54%**	**55**	**49.11%**	**100.00%**

Source: TRCS 1 Emergency Contact Sheets

Afterschool Dismissal

The existing afterschool program is held at an offsite facility, the school was able to provide separate summary data on the number of students who attend afterschool, and how many students of those who arrive

by yellow school bus, as the absence of DOE yellow school buses was not reflected in the emergency contact sheets. Based on the afterschool data, yellow school bus ridership was removed, and the modal split was adjusted based on the number of TRCS afterschool students arriving by yellow school bus in the morning. Yellow school bus riders were assumed as private car trips. The resulting modal split for afterschool students is shown in **Table 16.3-2** below.

Table 16.3-2: TRCS Afterschool Dismissal Travel Characteristics

Grade Level	Total Afterschool Students	Total TRCS students w/out yellow bus riders (+ Afterschool Private Car Riders)	Subway		MTA Bus		Private Car			Walk		Total %
			Subway Riders	%	MTA Bus Riders	%	Additional Private Car Riders	Total Private Car Riders	%	Walkers	%	
Kindergarten	**3**	18 (19)	3	15.79%	3	15.79%	1	3	15.79%	10	52.63%	100%
1	2	21	1	4.76%	1	4.76%	0	9	42.86%	10	47.62%	100%
2	3	19	1	5.26%	4	21.05%	0	5	26.32%	9	47.37%	100%
Total K-2	**8**	**58 (59)**	**5**	**8.47%**	**8**	**13.56%**	**1**	**17**	**28.81%**	**29**	**49.15%**	**100%**
3	4	21 (22)	3	13.64%	2	9.09%	1	5	22.73%	12	54.55%	100%
4	2	22	3	13.64%	2	9.09%	0	6	27.27%	11	50.00%	100%
Total 3-4	**6**	**43 (44)**	**6**	**13.64%**	**4**	**9.09%**	**1**	**11**	**25.00%**	**23**	**52.27%**	**100%**
5	29	38 (47)	2	4.26%	2	4.26%	9	16	34.04%	27	57.45%	100%
6	33	51 (54)	10	20.37%	5	14.81%	3	11	20.37%	28	44.44%	100%
Total 5-6	**62**	**87 (101)**	**12**	**11.88%**	**7**	**6.93%**	**14**	**27**	**26.73%**	**55**	**54.46%**	**100%**

Other Trip Generation Assumptions

As discussed above, the school will arrange for yellow school bus service through the Department of Education (DOE) Office of Pupil Transportation. School buses would not be stored on-site and would be parked at a DOE school bus lot when not in use. A passenger car equivalent factor (PCE) of 1.5 was applied for yellow school buses with two axels pursuant to Table 16-3 of the CEQR Technical Manual, as this is the standard school bus size that is anticipated to be provided by DOE.

Table 16.3-3 below provides the No-Action Light Industrial and With-Action Residential transportation planning factors described above.

Table 16.3-4 below provides the With-Action School transportation planning factors described above.

Table 16.3-5 summarizes the net daily and peak vehicular and person trips for each peak hour of analysis.

Figure 16.3-1: Transportation Study Area

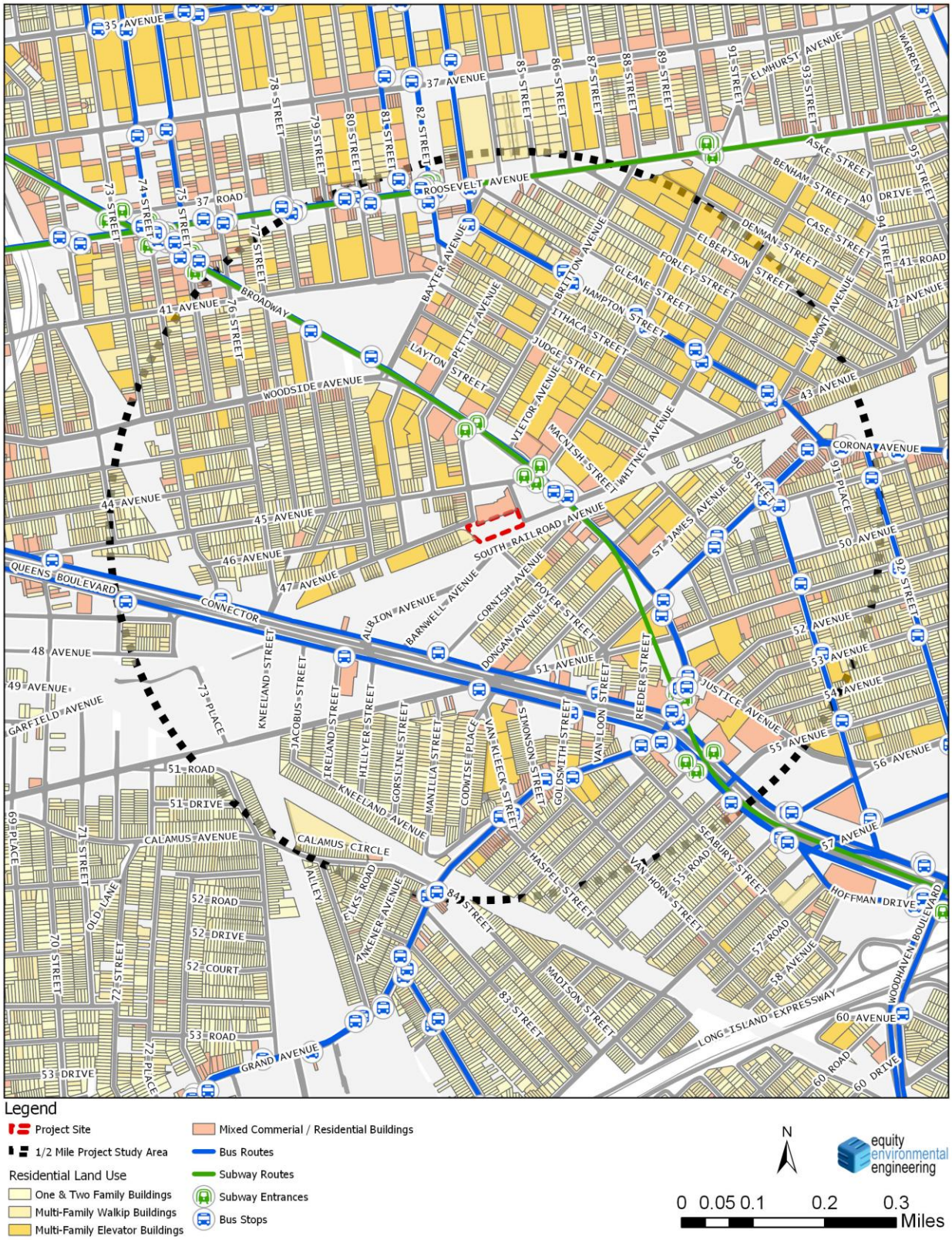


Figure 16.3-2: Existing TRCS/Proposed TRCS2 Comparison Map

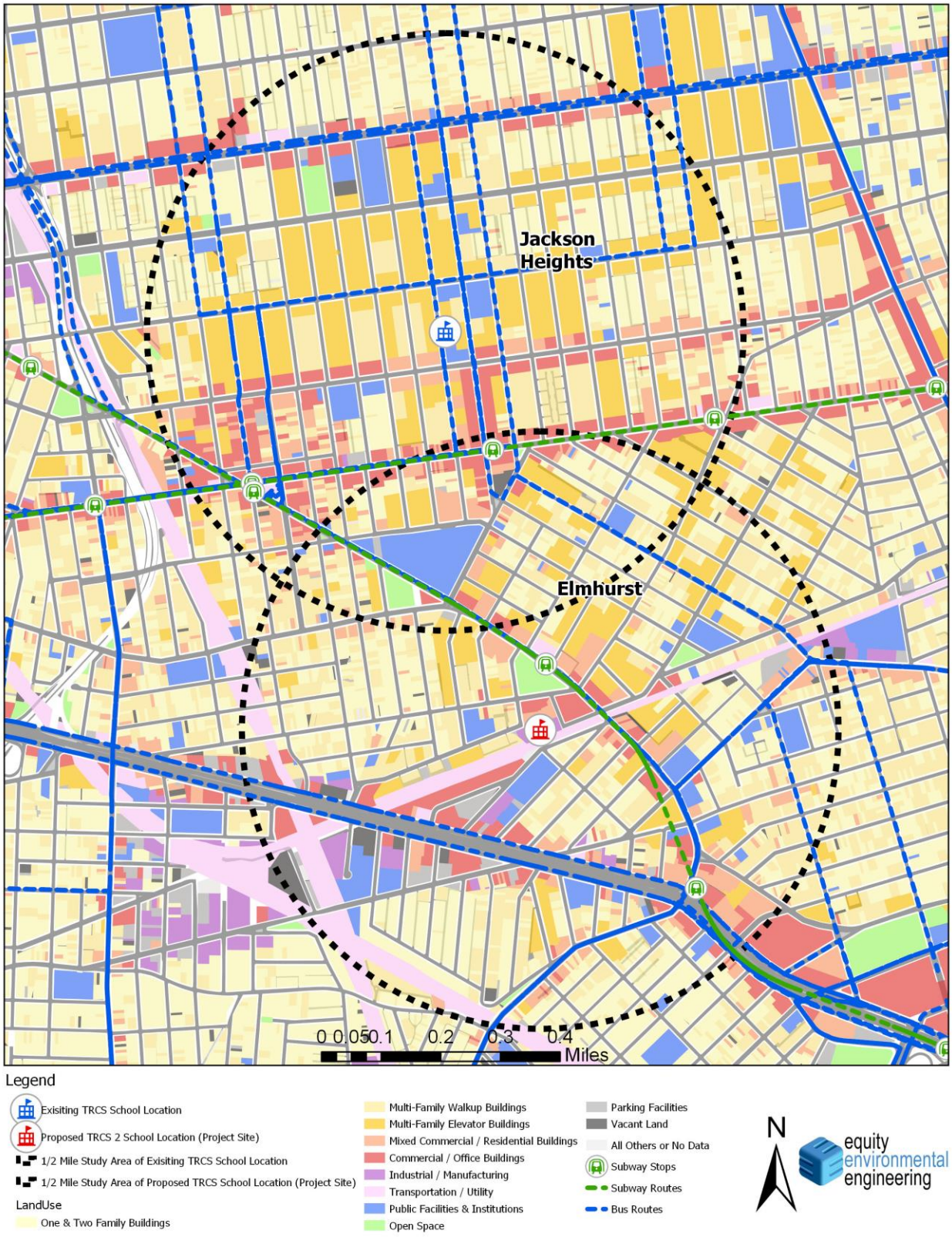


Figure 16.3-3: Census Tract Study Area

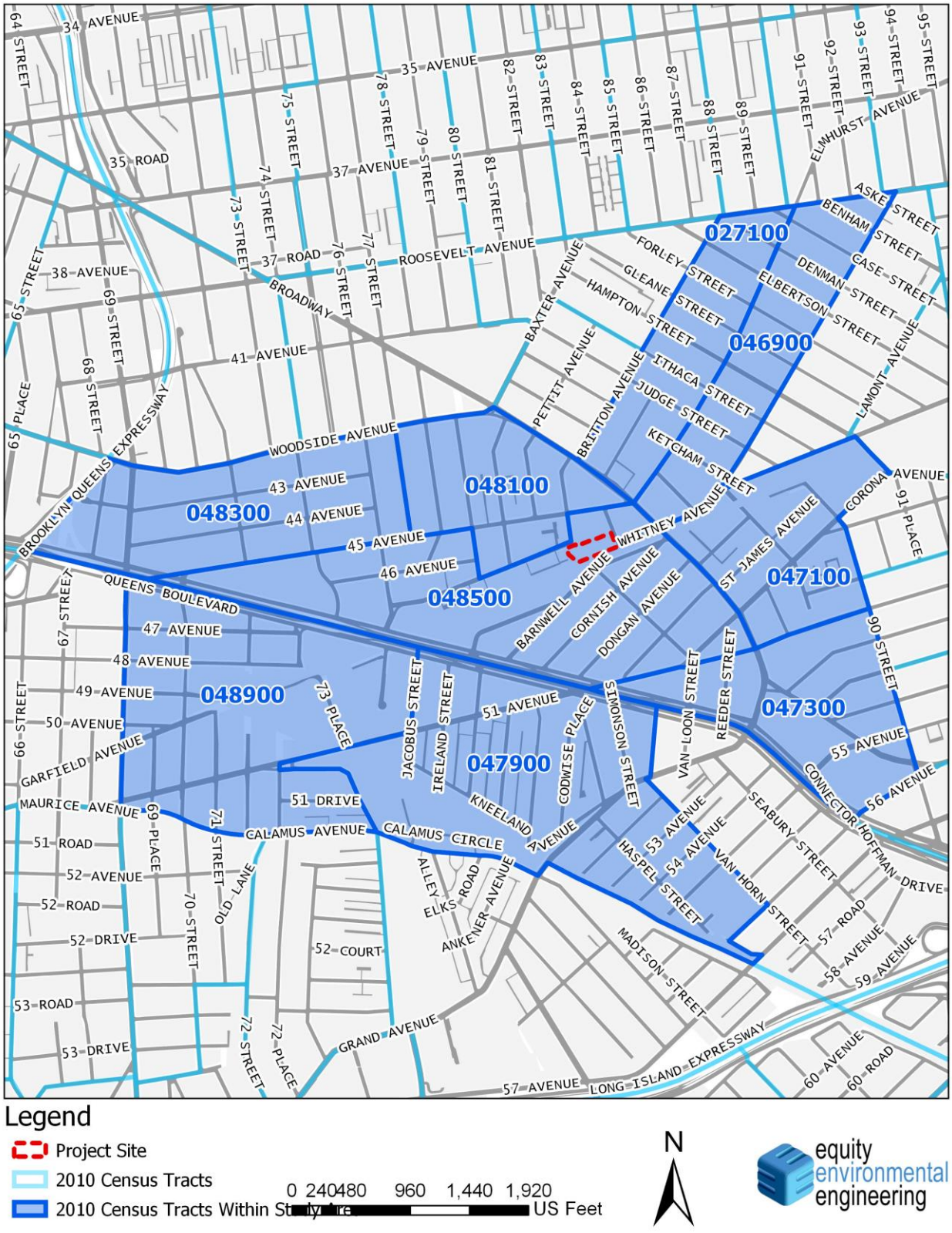


Table 16.3-3: No Action Light Industrial and With Action Residential Transportation Planning Factors					
	No-Action		**With-Action**		
	No Action Light Industrial		**With Action School**	**With Action Residential**	
Daily Trip Rate	(4)			(1)	
Weekday	14.7			8.075	
Saturday	2.2			9.6	
	per 1000 sf			per 1 DU	
Temporal Distribution					
AM	13.20%	(4)		10.00%	(1)
MD	11.00%	(4)		5.00%	(1)
School Dismissal	9.30%	(6)		4.95%	(6)
PM	14.20%	(4)		11.00%	(1)
Sat MD	10.70%	(4)		8.00%	(1)
Modal Splits	(5)			(3)	
Auto	42.63%			21.58%	
Taxi	0.27%			1.41%	
Bus	11.15%			6.18%	
Subway	21.11%			61.42%	
Walk/Other	24.84%			9.41%	
In/Out Splits	In (4) (6)	Out (4) (6)		In (2) (6)	Out (2) (6)
AM	88.00%	12.00%		15.00%	85.00%
MD	50.00%	50.00%		50.00%	50.00%
School Dismissal	31.18%	68.82%		77.78%	22.22%
PM	12.00%	88.00%		70.00%	30.00%
Sat MD	47.00%	53.00%		50.00%	50.00%
Vehicle Occupancy	(4)			(3)	
Auto	1.2			1.17	
Taxi	1.2			1.17	
Truck Daily Trip Rate	(4)			(1)	
Weekday	0.67	per 1000 sf		0.06	per 1 DU
Saturday	0.67	per 1000 sf		0.02	per 1 DU
Truck Temporal Distribution					
AM	14.00%	(4)		12.00%	(2)
MD	9.00%	(4)		9.00%	(2)
School Dismissal	9.30%	(6)		4.95%	(6)
PM	1.00%	(4)		2.00%	(2)
Saturday	0.00%	(4)		9%	(2)
In/Out Splits	In (4)	Out (4)		In (2)	Out (2)
AM/MD/SD/PM/Sat	50.00%	50.00%		50.00%	50.00%

See School Travel Factors

Sources:
(1)- 2020 CEQR Technical Manual
(2)- Jerome Avenue FEIS
(3)- ACS 2015-2019 Journey to Work for Census Tracts 271, 469, 471, 473, 479, 481, 483, 485, 489
(4)- East New York Rezoning FEIS
(5)- ACS 2012-2016 Reverse Journey to Work for Census Tracts 271, 469, 471, 473, 479, 481, 483, 485, 489
(6)- School Dismissal Peak based on East New York Rezoning FEIS

Table 16.3-4: With Action School Transportation Planning Factors			
Land Use:	**UG 3 Charter School**		
Size:		**(3)**	
		2025-2026	
	Students Grade K		81
	Students Grade 1		81
	Students Grade 2		81
	Students Grade 3		81
	Students Grade 4		81
	Students Grade 5		81
	Students Grade 6		81
	Staff		88
Trip Generation:		**(1)**	
		Weekday Daily Person Trips:	
	Per Student		2
	Per Staff		2
	Per Caregiver		4
		(2)	**(8)**
Temporal Distribution:		**Students**	**Staff**
AM Morning Arrival Peak Hour (7:30 - 8:30 AM)		50%	38%
School Dismissal Peak Hour (3:15 - 4:15 PM)		34%	40%
Afterschool Dismissal Peak Hour (5:15 – 6:15 PM)		16%	10%
		(2)	
AM/School Dismissal Modal Split Students:	**K-2**	**3-4**	**5-6**
Auto	21.62%	19.23%	13.39%
Walk	39.19%	44.23%	49.11%
MTA Bus	10.81%	7.69%	6.25%
Subway	6.76%	11.54%	10.71%
Yellow Bus	21.62%	17.31%	20.54%
		100%	
		(2)	
Afterschool Dismissal Modal Split Students:	**K-2**	**3-4**	**5-6**
Auto	28.81%	25.00%	26.73%
Walk	49.15%	52.27%	54.46%
MTA Bus	13.56%	9.09%	6.93%
Subway	8.48%	13.64%	11.88%
Yellow Bus	0%	0%	0%
Total		**100%**	
		(4)	
Modal Split Staff:			
Auto		42.63%	
Taxi		0.27%	
Subway		21.11%	
MTA Bus		11.15%	
Walk		24.84%	
Total		**100%**	
Occupancy:			
Staff Vehicular Occupancy	1.12		**(4)**
Student Vehicular Occupancy	1.28		**(5)**
School Bus Occupancy	35.0		**(7)**
Students Per Caregiver (Walk/Transit)	1.28		**(5)**
Absentee Rate	5.0%		**(6)**
		(1)	
Passenger Car Equivalent	Yellow Bus (2 Axel Vehicle)		1.5
		(3)	
Directional Distribution	**In**		**Out**
AM Peak	100%		0%
PM Peak Hour	0%		100%
Afterschool Dismissal Peak Hour	0%		100%
Caregiver Trips (All Peak Hours)	50%		50%
Truck Trips Generation[1]		**(3)**	
		One delivery truck every day before school hours One Department of Sanitation truck before and after school hours	
Temporal Truck Distribution		-	

Sources:
(1)- 2020 CEQR Technical Manual, Table 16-2/16-3
(2)- TRCS Emergency Contact Sheets/Afterschool Dismissal Survey
(3)- TRCS Questionnaire
(4)- U.S. Census Bureau ACS 2012-2016 Five-Year-Estimates total workers 16 and over by Means of Transportation at Workplace for the subject Census Tract and all bounding Census Tracts
(5)- Based on DOT guidance
(6)- Brownsville Ascend Charter School EAS Table 11
(7)- Department of Education Office of Pupil Transportation average full-size bus capacity
(8)- Data Provided by the Human Resources Depart of TRCS on faculty arrival and departure
[1]Truck Trips would not occur during student and arrival and departure hours. Therefore, these trips were not cumulated with peak hour student and caregiver trip generation calculations.

Table 16.3-5: Level 1 Trip Generation

	No-Action	With-Action			Modified Increment*		
	Industrial	School		Residential			
Size/Units	41320 GSF	567 Students 88 Staff		163 DU			
Peak Hour Trips							
AM	80	1278		132	1329		
MD	67	0		66	0		
School Dismissal	56	894		65	903		
PM/Afterschool Dismissal	86	459		145	518		
Sat MD	10	0		125	115		
Person Trips							
AM	**In**	**Out**	**In (Caregiver / Student / Staff)**	**Out (Caregiver / Student / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	30	4	78 / 100 / 28	78 / 0 / 0	4	24	207	98	305
Taxi	0	0	0 / 0 / 0	0 / 0 / 0	0	2	0	2	2
Yellow Bus	0	0	0 / 108 / 0	0 / 0 / 0	0	0	108	0	108
Bus	8	1	36 / 46 / 7	36 / 0 / 0	1	7	90	42	132
Subway	15	2	39 / 50 / 14	39 / 0 / 0	12	69	103	106	208
Walk/Other	18	2	183 / 234 / 17	183 / 0 / 0	2	11	434	191	625
Total	71	10	336 / 539 / 66	336 / 0 / 0	20	112	941	439	1380
MD	**In**	**Out**	**In (Caregiver / Student / Staff)**	**Out (Caregiver / Student / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	14	14	0 / 0 / 0	0 / 0 / 0	7	7	0	0	0
Taxi	0	0	0 / 0 / 0	0 / 0 / 0	0	0	0	0	1
Yellow Bus	0	0	0 / 0 / 0	0 / 0 / 0	0	0	0	0	0
Bus	4	4	0 / 0 / 0	0 / 0 / 0	2	2	0	0	0
Subway	7	7	0 / 0 / 0	0 / 0 / 0	20	20	13	13	26
Walk/Other	8	8	0 / 0 / 0	0 / 0 / 0	3	3	0	0	0
Total	33	33	0 / 0 / 0	0 / 0 / 0	33	33	0	0	0
School Dismissal	**In**	**Out**	**In (Caregiver / Student / Staff)**	**Out (Caregiver / Student / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	8	17	53 / 0 / 0	53 / 68 / 30	11	3	57	152	208
Taxi	0	0	0 / 0 / 0	0 / 0 / 0	1	0	1	0	1
Yellow Bus	0	0	0 / 0 / 0	0 / 74 / 0	0	0	0	74	74
Bus	2	4	25 / 0 / 0	25 / 32 / 8	3	1	26	64	90
Subway	4	8	26 / 0 / 0	26 / 34 / 15	31	9	54	76	130
Walk/Other	4	10	124 / 0 / 0	124 / 159 / 18	5	1	125	301	426
Total	18	39	229 / 0 / 0	229 / 366 / 70	51	14	262	665	927
PM	**In**	**Out**	**In (Caregiver / Student / Staff)**	**Out (Caregiver / Student / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	4	32	37 / 0 / 0	37 / 47 / 8	22	9	54	91	145
Taxi	0	0	0 / 0 / 0	0 / 0 / 0	1	1	1	0	2
Yellow Bus	0	0	0 / 0 / 0	0 / 0 / 0	0	0	0	0	0
Bus	1	8	14 / 0 / 0	14 / 18 / 2	6	3	19	34	53
Subway	2	16	15 / 0 / 0	15 / 19 / 4	62	27	75	48	123
Walk/Other	3	19	69 / 0 / 0	69 / 89 / 4	10	4	76	163	239
Total	10	76	135 / 0 / 0	135 / 172 / 18	101	43	226	325	550
Saturday	**In**	**Out**	**In (Caregiver / Student / Staff)**	**Out (Caregiver / Student / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	2	2	0 / 0 / 0	0 / 0 / 0	14	14	12	11	23
Taxi	0	0	0 / 0 / 0	0 / 0 / 0	1	1	1	1	2
Yellow Bus	0	0	0 / 0 / 0	0 / 0 / 0	0	0	0	0	0
Bus	1	1	0 / 0 / 0	0 / 0 / 0	4	4	3	3	7
Subway	1	1	0 / 0 / 0	0 / 0 / 0	38	38	37	37	75
Walk/Other	1	1	0 / 0 / 0	0 / 0 / 0	6	6	5	5	9
Total	5	5	0 / 0 / 0	0 / 0 / 0	63	63	58	57	115
Vehicle Trips									
AM	**In**	**Out**	**In (Caregiver / Staff)**	**Out (Caregiver / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	25	3	78 / 25	78 / 0	4	21	104	95	199
Taxi	0	0	0 / 0	0 / 0	0	1	0	1	1
Taxi Balanced	0	0	0 / 0	0 / 0	1	1	1	1	3
Truck	2	2	0 / 0	0 / 0	1	1	0	0	0
Yellow Bus	0	0	3 / 0	3 / 0	0	0	3	3	6
Yellow Bus Factored	0	0	5 / 0	5 / 0	0	0	5	5	9
Total	27	5	83 / 25	83 / 0	6	23	108	100	208
MD	**In**	**Out**	**In (Caregiver / Staff)**	**Out (Caregiver / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	12	12	0 / 0	0 / 0	6	6	0	0	0
Taxi	0	0	0 / 0	0 / 0	0	0	0	0	1
Taxi Balanced	0	0	0 / 0	0 / 0	0	0	0	0	1
Truck	1	1	0 / 0	0 / 0	0	0	0	0	0
Yellow Bus	0	0	0 / 0	0 / 0	0	0	0	0	0
Yellow Bus Factored	0	0	0 / 0	0 / 0	0	0	0	0	0
Total	13	13	0 / 0	0 / 0	6	6	0	0	0
School Dismissal	**In**	**Out**	**In (Caregiver / Staff)**	**Out (Caregiver / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	6	14	53 / 0	53 / 27	9	3	56	80	136
Taxi	0	0	0 / 0	0 / 0	1	0	1	0	1
Taxi Balanced	0	0	0 / 0	0 / 0	0	0	0	0	1
Truck	1	1	0 / 0	0 / 0	0	0	0	0	0
Yellow Bus	0	0	3 / 0	3 / 0	0	0	3	3	6
Yellow Bus Factored	8	15	5 / 0	5 / 0	0	0	5	5	9
Total	6	14	58 / 0	58 / 85	10	3	60	85	145
PM	**In**	**Out**	**In (Caregiver / Staff)**	**Out (Caregiver / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	4	27	37 / 0	37 / 7	19	8	52	43	95
Taxi	0	0	0 / 0	0 / 0	1	1	1	0	2
Taxi Balanced	0	0	0 / 0	0 / 0	1	1	1	1	2
Truck/ Yellow Bus	0	0	0 / 0	0 / 0	0	0	0	0	0
Total	4	27	37 / 0	37 / 7	20	9	53	43	96
Saturday	**In**	**Out**	**In (Caregiver / Staff)**	**Out (Caregiver / Staff)**	**In**	**Out**	**In**	**Out**	**Total In/Out**
Auto	2	2	0 / 0	0 / 0	12	12	10	10	20
Taxi	0	0	0 / 0	0 / 0	1	1	1	1	1
Taxi Balanced	0	0	0 / 0	0 / 0	1	1	1	1	1
Truck/ Yellow Bus	0	0	0 / 0	0 / 0	0	0	0	0	0
Total	2	2	0 / 0	0 / 0	12	12	11	11	21

Notes:
All trips rounded to the nearest whole number
Yellow School Buses factored by a Passenger Car Equivalent Factor of 1.5 – Vehicular totals include factored yellow bus trips
Modified increment shows the total school trips, plus any incremental residential trips >0 when compared to the No Action light industrial trips by peak hour and direction of travel

Level 1: Trip Generation Assessment Conclusion

Pursuant to *CEQR Technical Manual* Methodology, except in unusual circumstances, a further quantified analysis would typically, not be needed for a technical area if the proposed development would result in fewer than the following increments:

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

Based on the Level 1 Trip Generation Assessment, the following Peak Hours (Identified in grey in **Table 16.3-6** below) exceed the applicable CEQR threshold and warrant further analysis (Level 2 Project Generated Trip Assignment):

Table 16.3-6: Level 1 Trip Generation Assessment Screening Results
Peak Hour Modified Incremental Trip – Ends

Peak Hour	AM	Midday	School Dismissal	PM	Saturday
Total Walk Only Trip-Ends	625	0	426	239	9
Total Subway Trip-Ends	208	26	130	123	75
Subway Threshold	**200**	**200**	**200**	**200**	**200**
Total MTA Bus Trip-Ends	132	0	90	53	7
MTA Bus Threshold	200	200	200	200	200
Total Pedestrian Trip-Ends	965	26	645	415	91
Pedestrian Threshold	200	200	200	200	200
Vehicular Trip-Ends	208	0	145	96	21
Vehicular Threshold	**50**	**50**	**50**	**50**	**50**

*Note: Areas highlighted **grey** denote exceedances to the applicable pedestrian and vehicular thresholds per Chapter 16 Section 313 of the 2020 CEQR Technical Manual*

Level 1 Vehicular Trip Generation Threshold

The preliminary screening thresholds in the 2020 CEQR Technical Manual suggest that any project which generates 50 or more peak hour incremental vehicle trip-ends is likely to warrant a Level 2: Vehicular Assignment to the Local Network. Conversely, projects that are anticipated to generate fewer than 50 peak hour incremental vehicle trip-ends do not warrant detailed traffic assessments, and potential traffic impacts are not expected.

As indicated above, a Level 2 Vehicular Assignment is warranted for the AM Peak Hour, School Dismissal Peak Hour, and PM Peak Hour.

Level 1 Pedestrian Trip Generation Threshold

The 2020 CEQR Technical Manual indicates that a Level 2: Pedestrian Trip Assignment to the Local Network Assessment be performed for projects that are likely to generate 200 or more incremental pedestrian trips during any peak hour.

As indicated above, a Level 2 Pedestrian Assignment is warranted for the AM Peak Hour, School Dismissal Peak Hour, and PM Peak Hour.

Level 1 Transit Trip Generation Threshold

If the proposed project is projected to result in fewer than 200 peak hour subway/rail riders assigned to a single subway station or on a single subway line, or 50 bus passengers assigned to a single bus line (in one direction), further transit analyses are not typically required as the proposed project is considered unlikely to create a significant transit impact.

Based on the *Level 1 Trip Generation Assessment,* greater than 200 subway trips are anticipated during the Morning Arrival Peak Hour. Accordingly, further analysis is warranted to determine if projected MTA subway riders would impact the capacity of any specific MTA subway line. Additionally, greater than 50 MTA bus trips are anticipated during the Morning Arrival and School Dismissal, and PM Peak Hour, respectively. Accordingly, further analysis is warranted to determine if projected MTA bus riders would impact the capacity of any specific MTA bus line.

16.4 Level 2: Project Generated Trip Assignment

Pursuant to Section 320 of the *CEQR Technical Manual*, when a proposed project exceeds 50 peak hour vehicle trip-ends, or 200 peak hour pedestrian trips as determined by the Level 1 Trip Generation Screening Assessment, a Level 2 Project Generated Trip Assignment should be prepared to determine whether a detailed assessment of any technical areas is warranted. Accordingly, based on the Level 1 Trip Generation Screening Assessment, project-generated vehicles and pedestrian trips-ends were assigned to the traffic network for all peak hours in which exceedances to the above thresholds are projected.

Level 2: Project Generated Trip Assignment Assumptions

The Level 2 Pedestrian Assignment assumptions are based on the surrounding residential density and composition, the 10-minute walk or ½ mile study area, and the transit access points identified in **Figure 16.4-1** below. Additionally, as discussed further below, the walk-only trip distribution was also informed by the American Community Survey (ACS) Population Census Data.

Pedestrian Assumptions

Transit Assumptions

As identified below in **Figure 16.4-1**, students, caregivers, residents and workers arriving by subway to the Projected Development Site would utilize the Elmhurst Avenue Subway Station serving the M and R trains during school and work peak hours. Additionally, the Q53-SBS bus has a stop along Broadway/Whitney Ave, approximately one block east of the Project Site. The Level 2 Pedestrian Assignment evaluates the AM Peak Hour MTA subway trip-ends to determine if greater than 200 trip ends would occur at a single subway station or on a single subway line. During the AM Peak Hour, 103 inbound and 106 outbound incremental subway trips are projected. Based on the Population Distribution within Community School District 24 (the school catchment area), it is assumed that 50% of inbound MTA subway trips would be northbound, and 50% of outbound MTA subway trips would be southbound during each peak hour. The Level 2 Pedestrian Assignment evaluates the AM, School Dismissal Peak Hour, and PM peak hour MTA bus trip-ends to determine if greater than 50 trip ends would occur to the Q53-SBS bus in a single direction (northbound or

southbound). During the AM Peak Hour, 90 inbound and 42 outbound incremental MTA bus trips are projected. Based on the Population Distribution within Community School District 24 (the school catchment area), it is assumed that 50% of inbound MTA bus trips would be northbound, and 50% of outbound MTA bus trips would be southbound during each peak hour.

Walk Assumptions

As indicated in **Figure 16.4-2** and **Table 16.4-3** 2013-2017, American Community Survey Census Population Data was reviewed for the Census Study Area to determine the population distribution within the study area Census Tracts. This forms the basis for the Level 2 Pedestrian Walk Trips using the percentage factors provided in **Table 16.4-1** below.

All pedestrian trips for the With-Action Residential building and the No-Action Light Industrial building were assigned to the 47th Avenue frontage of the Projected Development Site, whereas all pedestrian trips for the With-Action School building were assigned to the 83rd Street frontage of the Projected Development Site.

Table 16.4-1: 2013-2017 ACS Total Population by Census Tract Walk-Only Study Area

Census Tract	Population	% of Whole
271	8744	18%
469	7804	16%
471	4463	9%
473	4249	9%
479	5340	11%
481	6384	13%
483	4290	9%
485	4369	9%
489	1788	4%
Total	47431	100%

Figure 16.4-1: Subway and Bus Access Points

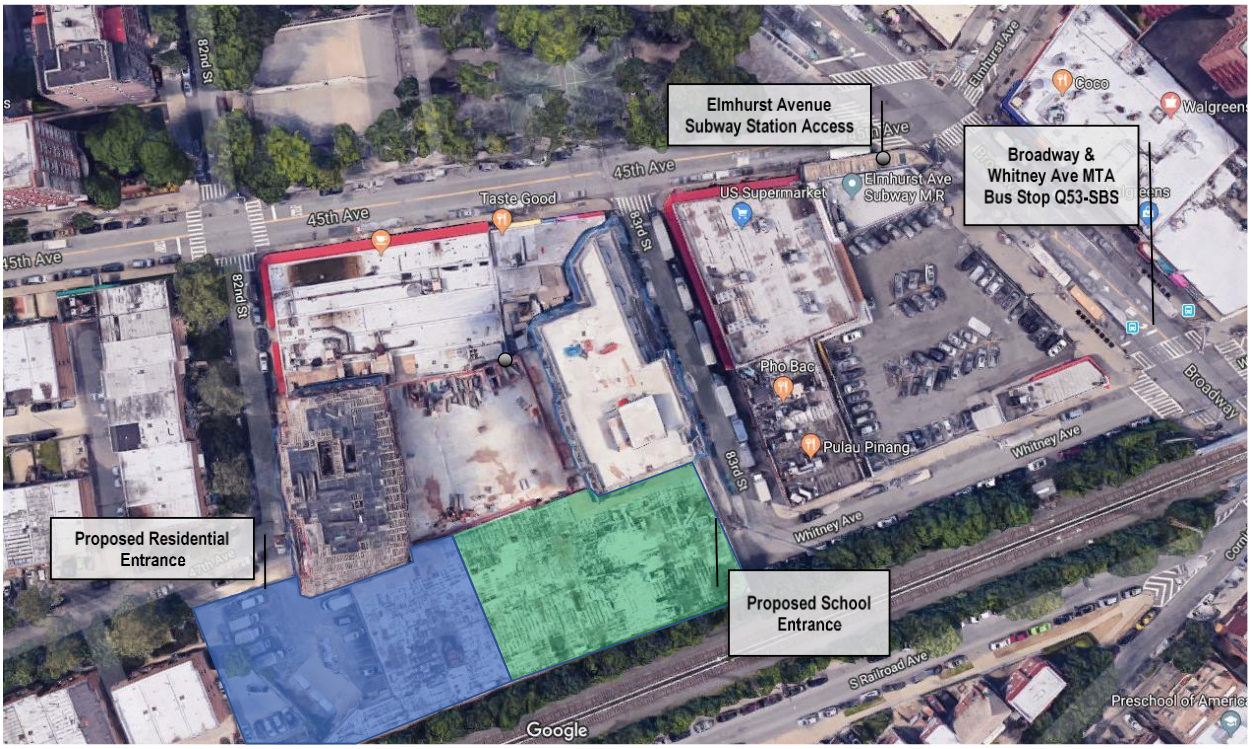
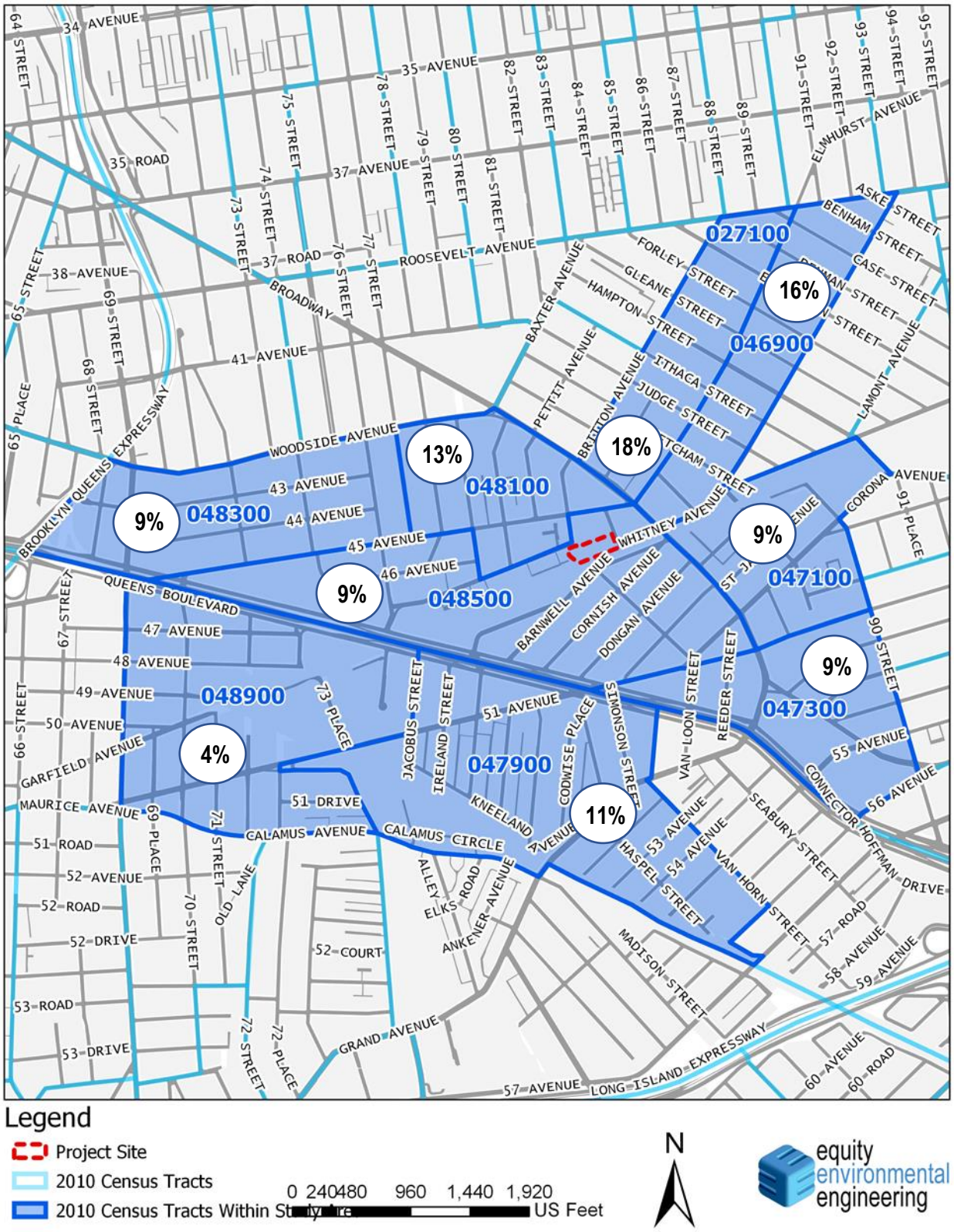


Figure 16.4-2: Walk Only Transportation Study Area Population Density



Vehicular Assumptions

With-Action UG 3 School Yellow Bus and Private Car Vehicular Assumptions

School bus and caregiver private car trip-ends were assigned based on 2013-2017 American Community Survey Census Population Data to determine the population distribution within the catchment area of Community School District 24, as shown in **Figure 16.4-3** below. The vehicular assignment for caregiver vehicles and yellow buses was also informed by the locations of proposed vehicular staging for yellow bus/private car drop-offs and pickups, and school egress/ingress locations further discussed below. The school building will be accessed from the east side of 83rd Street. This portion of the Projected Site has approximately 115'-6" of frontage on 83rd Street. 110 feet of No Standing School Days signage will be provided from 7 AM – 4 PM along the west side of 83rd Street in front of the school for private vehicle drop-off and pickups. Additionally, 80' of No Standing School Days signage would be provided from 7 AM – 4 PM along the north side of Whitney Avenue for yellow school bus drop-off and pickup; This will allow yellow bus students to exit the school buses directly onto the north sidewalk of Whitney Avenue. A total of three (3) yellow school buses are anticipated during the School Arrival and School Dismissal period, respectively. A crosswalk will also be installed across the intersection of 83rd Street and Whitney Avenue.

With-Action UG 3 School Staff Car Vehicular Assumptions

The Level 2 Vehicular Assignment for staff vehicles was based on the U.S. Census Bureau, ACS 2012-2016 Five-Year-Estimates Reverse Journey to Work origin and destination data for the subject Census Tract, and all bounding Census Tracts.

On-street parking is available surrounding the Projected Site, with limitations governed by sanitation schedules (*See* **Figure 16.4-4: Parking Regulations**). Off-street parking is not provided for the school building; however, the vehicular trip assignment conservatively assumes that all peak hour staff vehicles (with the exception of 5 staff vehicles during the AM and School Dismissal Peak Hours, respectively) arrive to and depart from the Projected Site street frontage. The five faculty vehicles that are not assumed to arrive at the Projected Site street frontage were assigned to the adjacent Elmhurst Plaza Towers, which provides an attended parking garage accessed from the east side of 82nd Street between 47th Avenue and 45th Avenue.

With-Action Residential Vehicular Assumptions

The Level 2 Vehicular Assignment for residential vehicles was based on the U.S. Census Bureau, ACS 2014-2018 Five-Year-Estimates Journey to Work origin and destination data for the subject Census Tract, and all bounding Census Tracts. Incremental residential vehicles, when compared to the no-action light industrial vehicles by peak hour, were assigned to the ingress/egress of the proposed 72 car below-grade parking lot, accessed from 47th Avenue.

The total With-Action incremental trip-ends for vehicles and pedestrians shown in the trip assignments below model the total school trip-ends plus the incremental residential trip-ends (any residential trip-ends by peak hour and direction > 0 when compared to the no-action light industrial trip-ends.

Figure 16.4-3: Transportation Study Area Population Density (Vehicular/MTA Bus Trips)

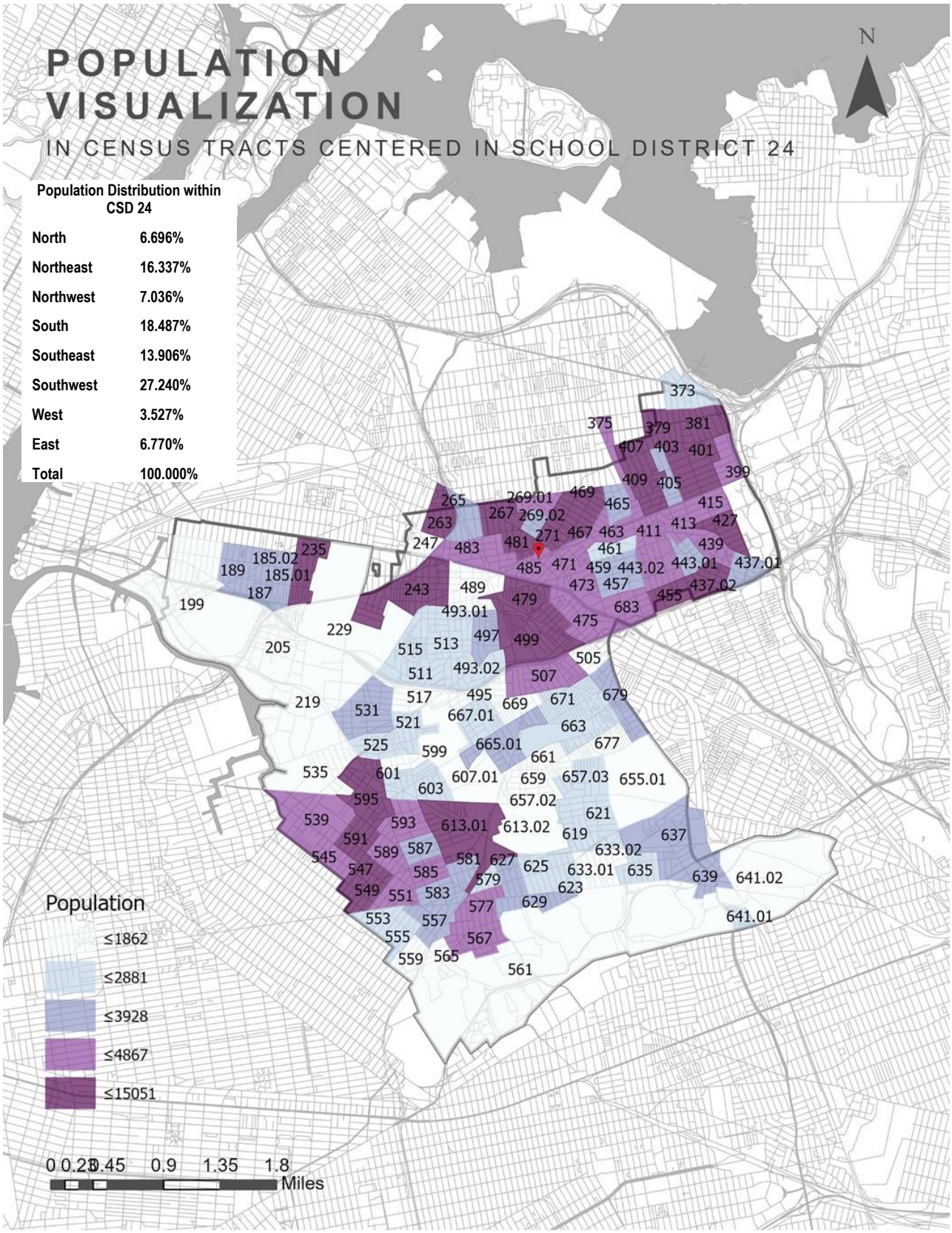
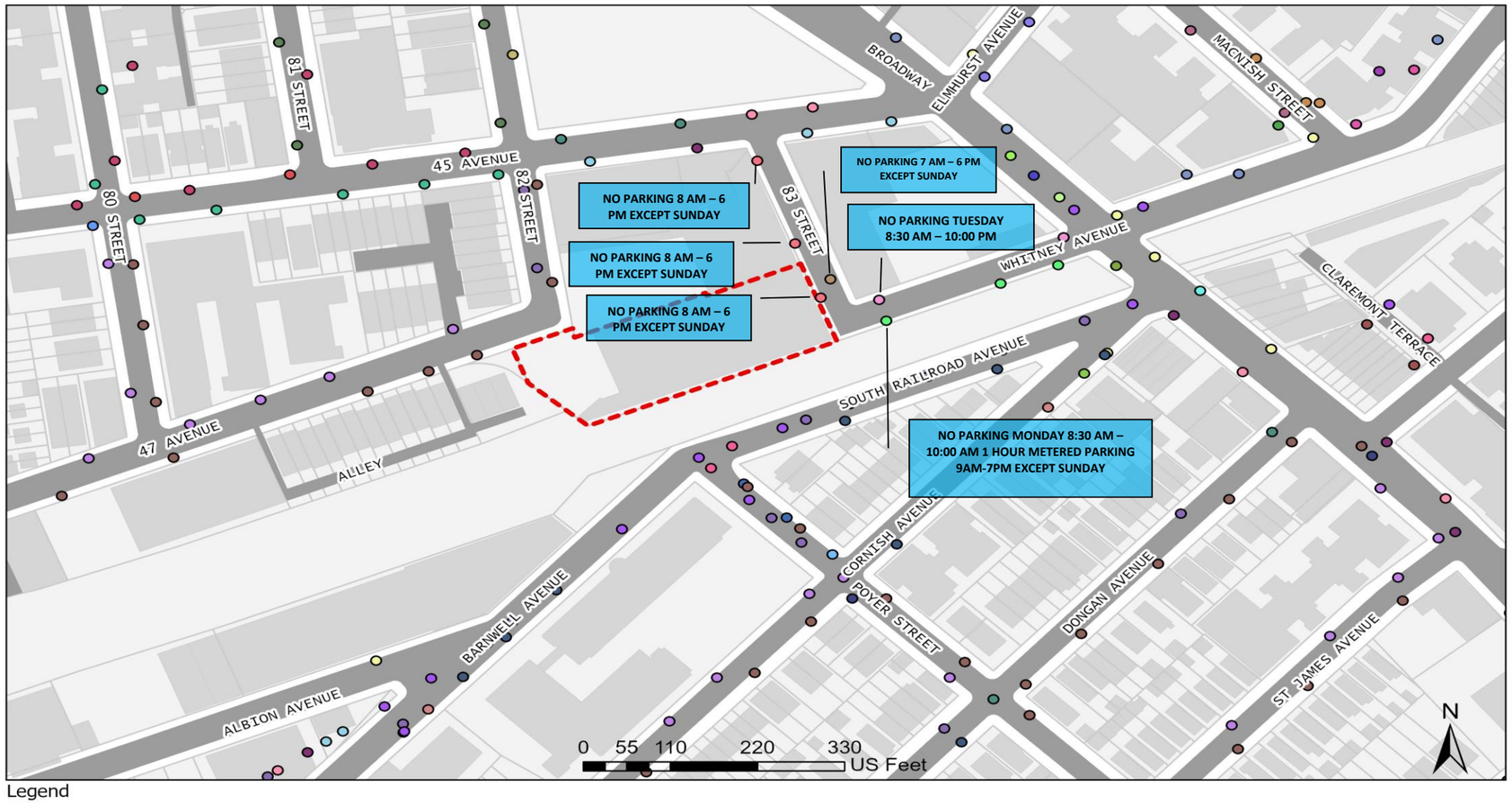


Figure 16.4-4: Parking Regulations Map



Legend

- Project Site
- 1 HOUR METERED PARKING 8AM-7PM EXCEPT SUNDAY -->
- 1 HOUR METERED PARKING 8AM-7PM EXCEPT SUNDAY <->
- 1 HOUR METERED PARKING 9AM-4PM EXCEPT SUNDAY -->
- 1 HOUR METERED PARKING 9AM-7PM EXCEPT SUNDAY <->
- 14 STREET & UNION SQ (BOTTOM LOCATION PANEL)
- 2 HOUR METERED PARKING 8AM-7PM EXCEPT SUNDAY -->
- 2 HOUR METERED PARKING 8AM-7PM EXCEPT SUNDAY <->
- 2 HOUR METERED PARKING 9AM-7PM EXCEPT SUNDAY -->
- 2 HOUR METERED PARKING 9AM-7PM EXCEPT SUNDAY <->
- BUS STOP SIGN (BUS & HANDICAP SYMBOLS) NO STANDING W/ SINGLE ARROW
- METERS ARE NOT IN EFFECT ABOVE TIMES
- METERS ARE NOT IN EFFECT ABOVE TIMES (RIDER)
- NO PARKING (SANITATION BROOM SYMBOL) 11:30AM TO 1PM MON <--->
- NO PARKING (SANITATION BROOM SYMBOL) 11:30AM TO 1PM MON W/SINGLE ARROW
- NO PARKING (SANITATION BROOM SYMBOL) 11:30AM TO 1PM THURS <-->
- NO PARKING (SANITATION BROOM SYMBOL) 11:30AM TO 1PM TUES <---->
- NO PARKING (SANITATION BROOM SYMBOL) 11:30AM TO 1PM TUES W/SINGLE ARROW
- NO PARKING (SANITATION BROOM SYMBOL) 7:30AM-8AM EXCEPT SUNDAY -->
- NO PARKING (SANITATION BROOM SYMBOL) 7:30AM-8AM EXCEPT SUNDAY <->
- NO PARKING (SANITATION BROOM SYMBOL) 8:30AM-9AM EXCEPT SUNDAY -->
- NO PARKING (SANITATION BROOM SYMBOL) 8:30AM-9AM EXCEPT SUNDAY <->
- NO PARKING (SANITATION BROOM SYMBOL) 9:30-11AM MON <--->
- NO PARKING (SANITATION BROOM SYMBOL) 9:30-11AM MON W/SINGLE ARROW
- NO PARKING (SANITATION BROOM SYMBOL) 9:30-11AM TUES <-->
- NO PARKING (SANITATION BROOM SYMBOL) 9:30-11AM TUES W/SINGLE ARROW
- NO PARKING (SANITATION BROOM SYMBOL) FRIDAY 11:30AM-1PM -->
- NO PARKING (SANITATION BROOM SYMBOL) FRIDAY 11:30AM-1PM <->
- NO PARKING (SANITATION BROOM SYMBOL) MONDAY 11:30AM-1PM <->
- NO PARKING (SANITATION BROOM SYMBOL) MONDAY 8:30AM-10AM <->
- NO PARKING (SANITATION BROOM SYMBOL) MONDAY 9:30AM-11AM <->
- NO PARKING (SANITATION BROOM SYMBOL) THURSDAY 11:30AM-1PM <->
- NO PARKING (SANITATION BROOM SYMBOL) TUESDAY 11:30AM-1PM -->
- NO PARKING (SANITATION BROOM SYMBOL) TUESDAY 11:30AM-1PM <->
- NO PARKING (SANITATION BROOM SYMBOL) TUESDAY 8:30AM-10AM <->
- NO PARKING (SANITATION BROOM SYMBOL) TUESDAY 9:30AM-11AM-->
- NO PARKING (SANITATION BROOM SYMBOL) TUESDAY 9:30AM-11AM<->
- NO PARKING (SANITATION SYMBOL)11AM-2PM MONDAY (SINGLE ARROW)
- NO PARKING (SANITATION SYMBOL)11AM-2PM MONDAY <----->
- NO PARKING (SANITATION SYMBOL)11AM-2PM TUESDAY (SINGLE ARROW)
- NO PARKING (SANITATION SYMBOL)11AM-2PM TUESDAY <----->
- NO PARKING 7AM-6PM EXCEPT SUNDAY <->
- NO PARKING 8AM-6PM EXCEPT SUNDAY <----->
- NO PARKING 8AM-6PM MON THRU FRI (SINGLE ARROW)
- NO PARKING ANYTIME
- NO PARKING ANYTIME (ARROW)
- NO PARKING ANYTIME -->
- NO PARKING ANYTIME <---->
- NO PARKING ANYTIME <->
- NO PARKING MONDAY-FRIDAY 8AM-6PM <->
- NO STANDING 7AM-4PM SCHOOL DAYS EXCEPT SCHOOL BUSES (S
- NO STANDING 7AM-4PM SCHOOL DAYS EXCEPT SCHOOL BUSES <
- NO STANDING ANYTIME -->
- NO STANDING ANYTIME <->
- NO STANDING ANYTIME W/ SINGLE ARROW
- NO STANDING MONDAY-FRIDAY 4PM-7PM -->
- PAY-BY-CELL LOCATOR NUMBER
- SELECT BUS SERVICE DESTINATION PANEL
- SELECT BUS SERVICE ROUTE PANEL

Figure 16.4-5: AM Peak Hour Incremental Vehicular Trips

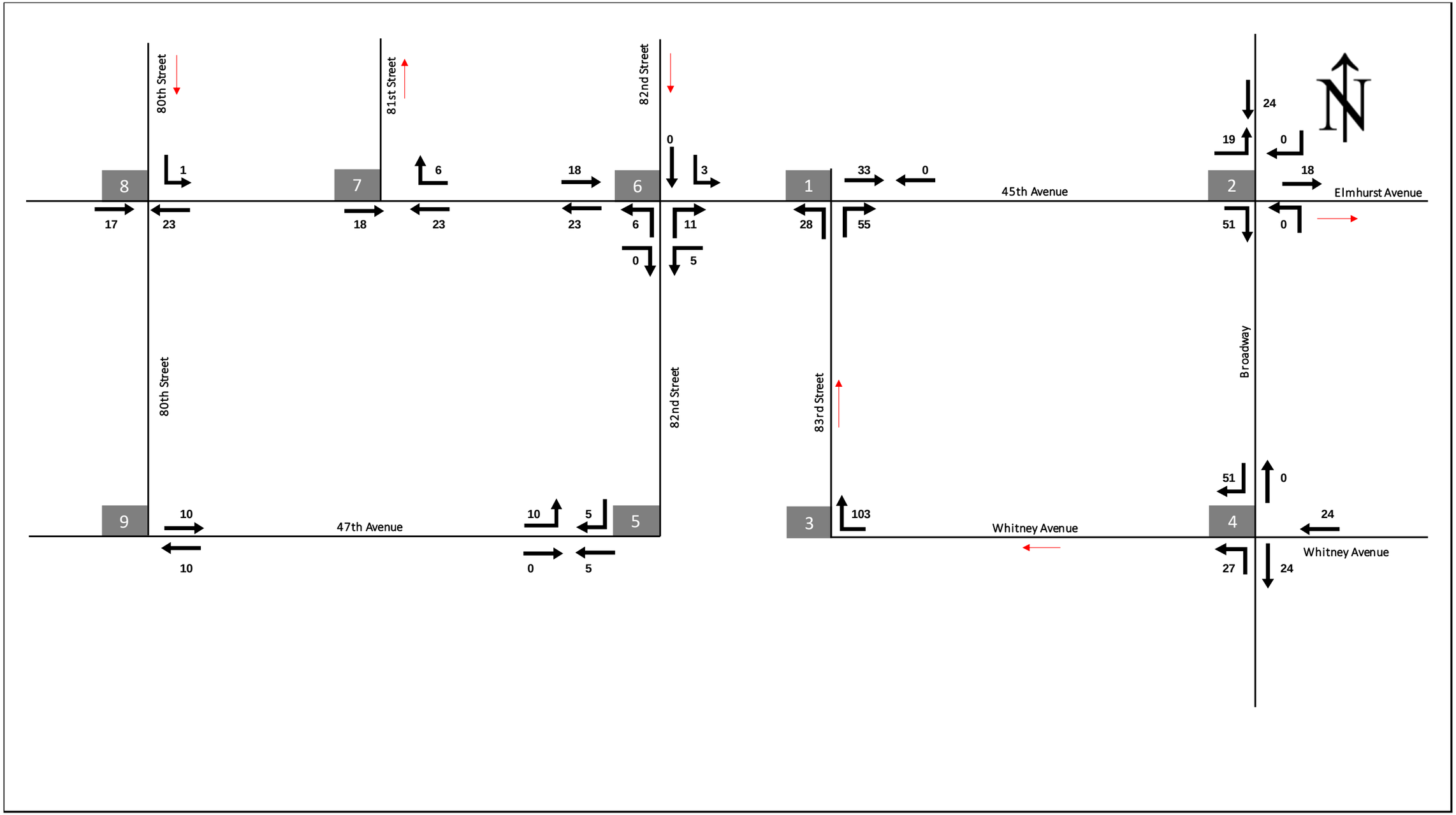


Figure 16.4-6: AM Peak Hour Vehicular Increment Thresholds

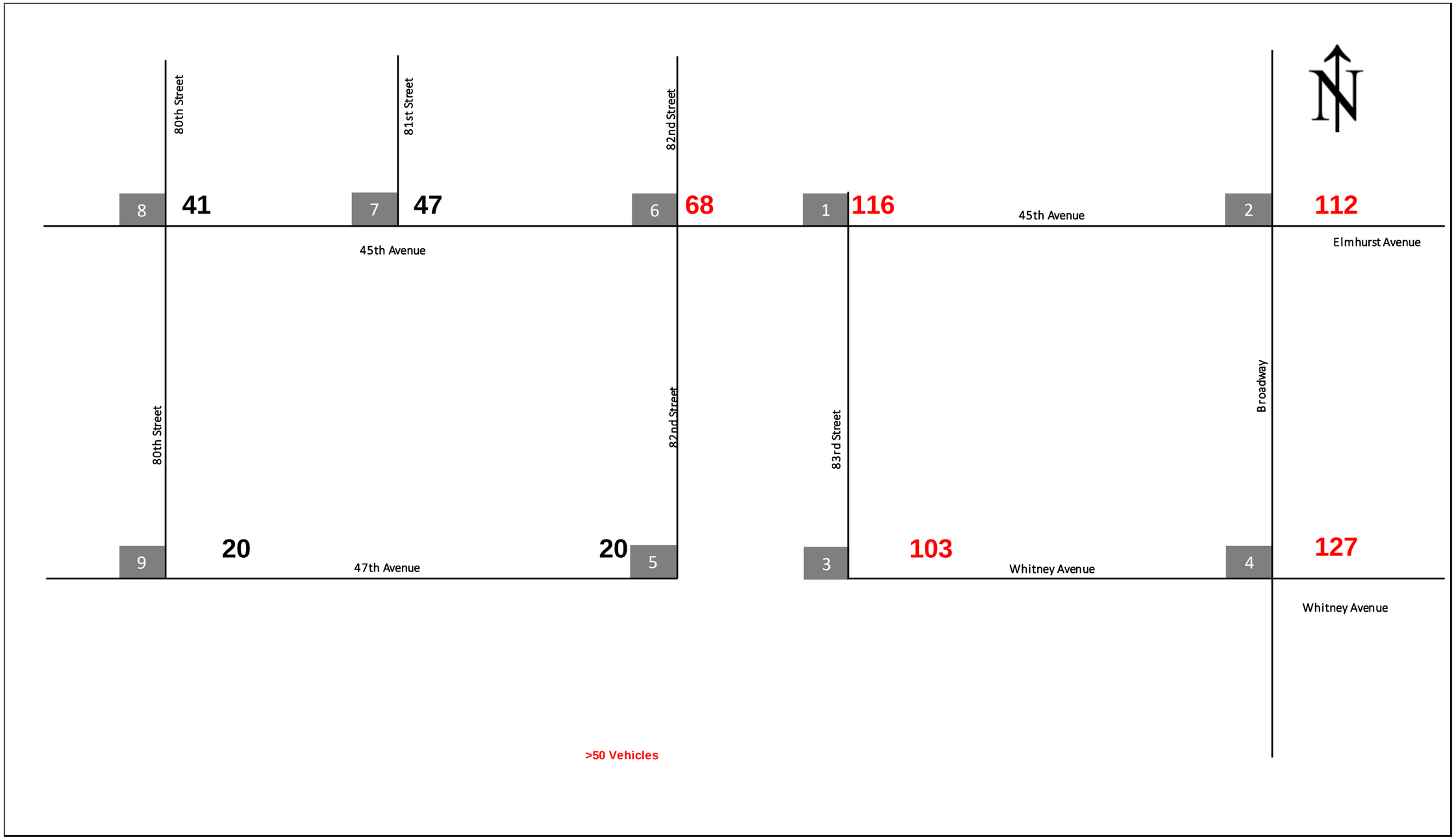


Figure 16.4-7: School Dismissal Peak Hour Incremental Vehicular Trips

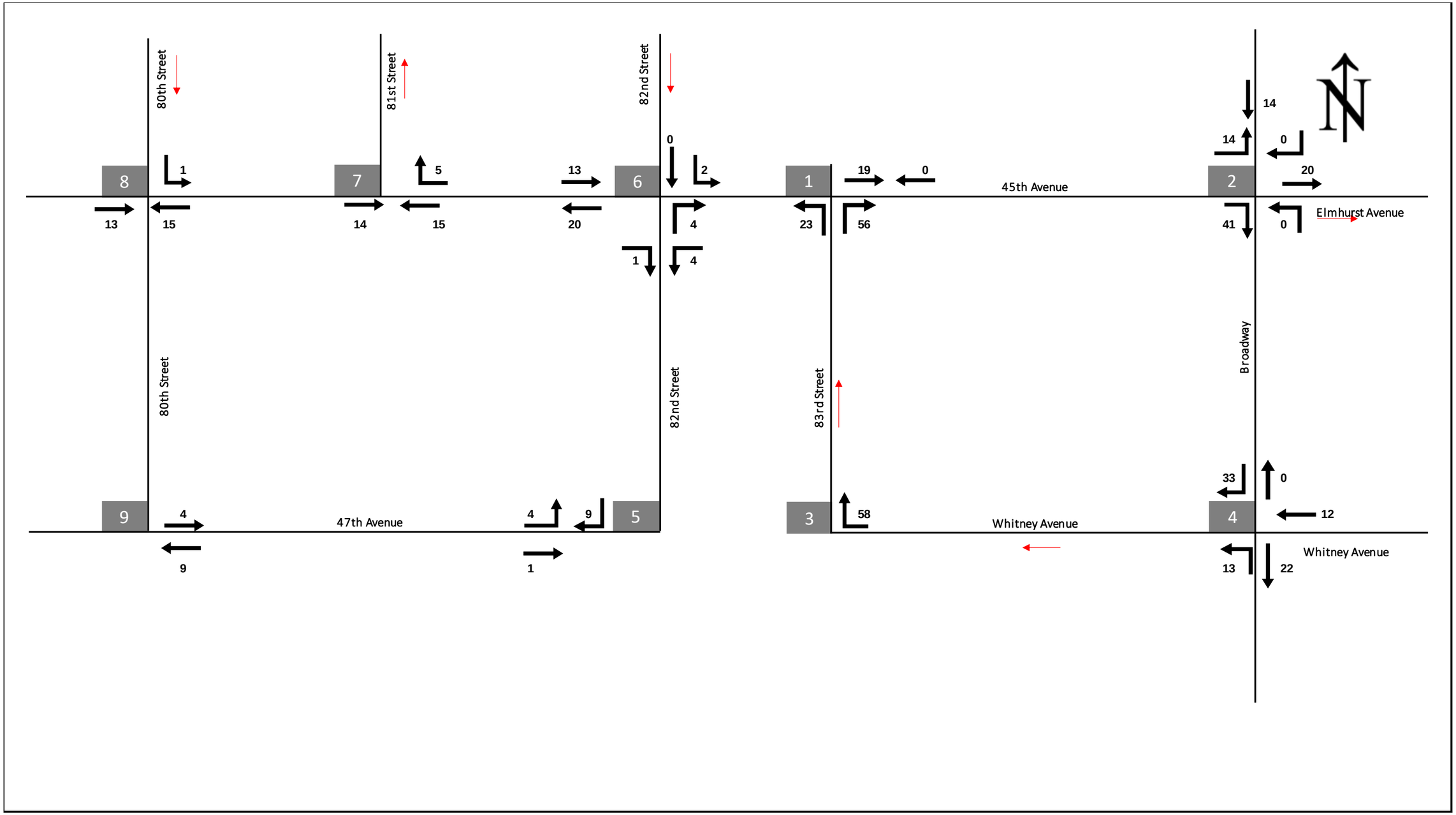


Figure 16.4-8: School Dismissal Peak Hour Vehicular Increment Thresholds

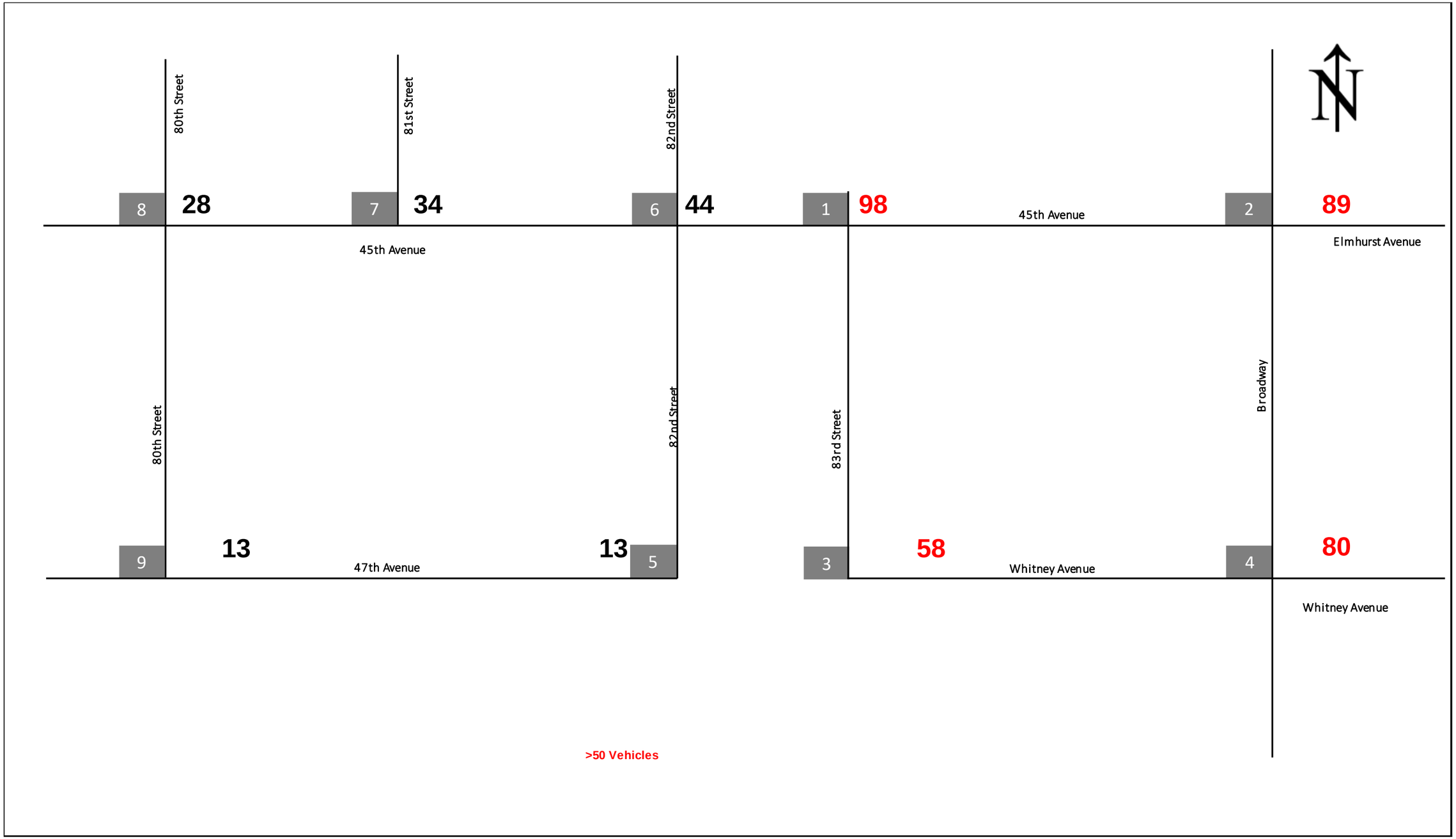


Figure 16.4-9: PM Peak Hour Incremental Vehicular Trips

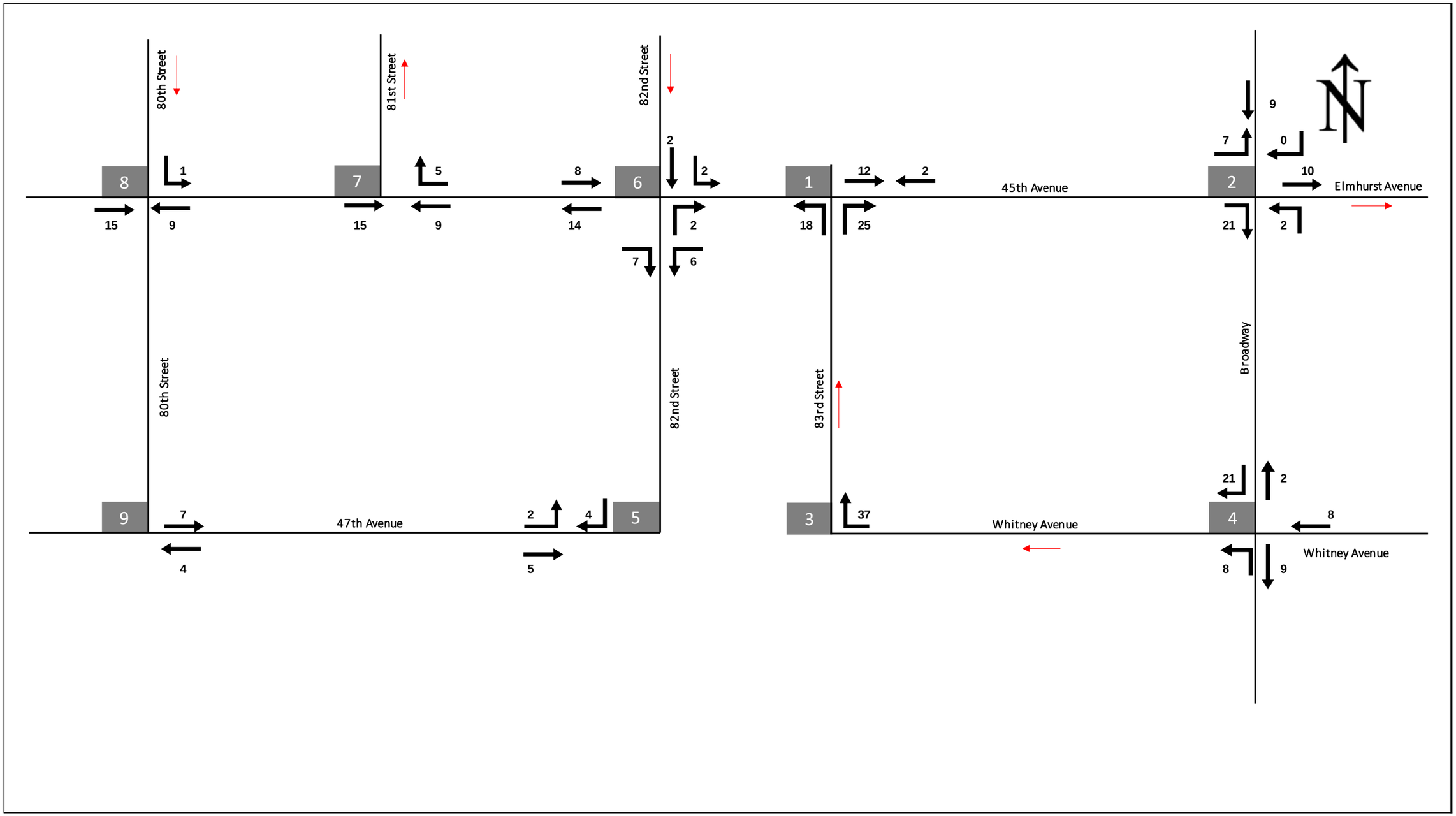


Figure 16.4-10: PM Peak Hour Peak Hour Vehicular Increment Thresholds

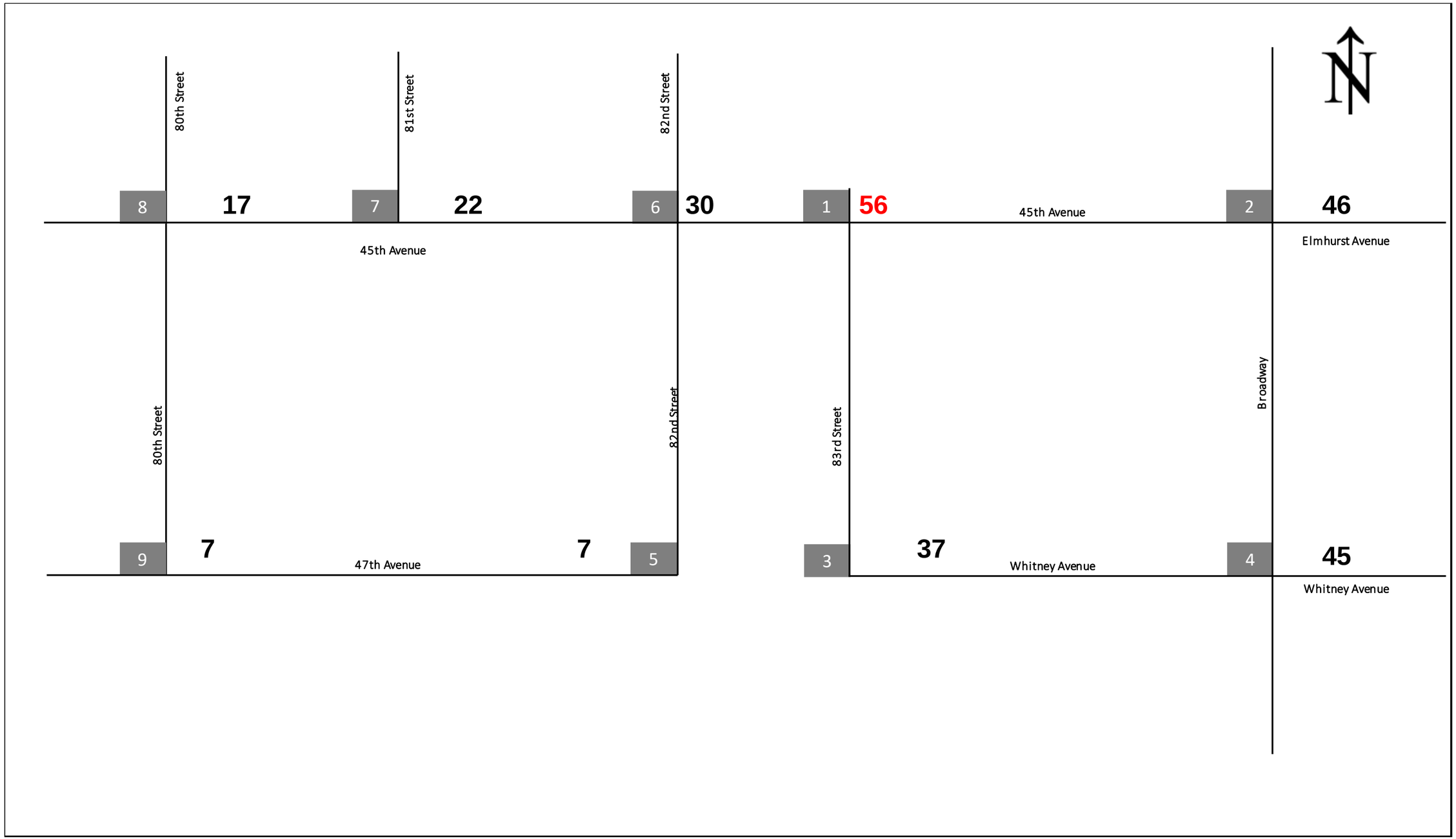


Figure 16.4-11: AM Peak Hour Incremental Pedestrian Trip-Ends

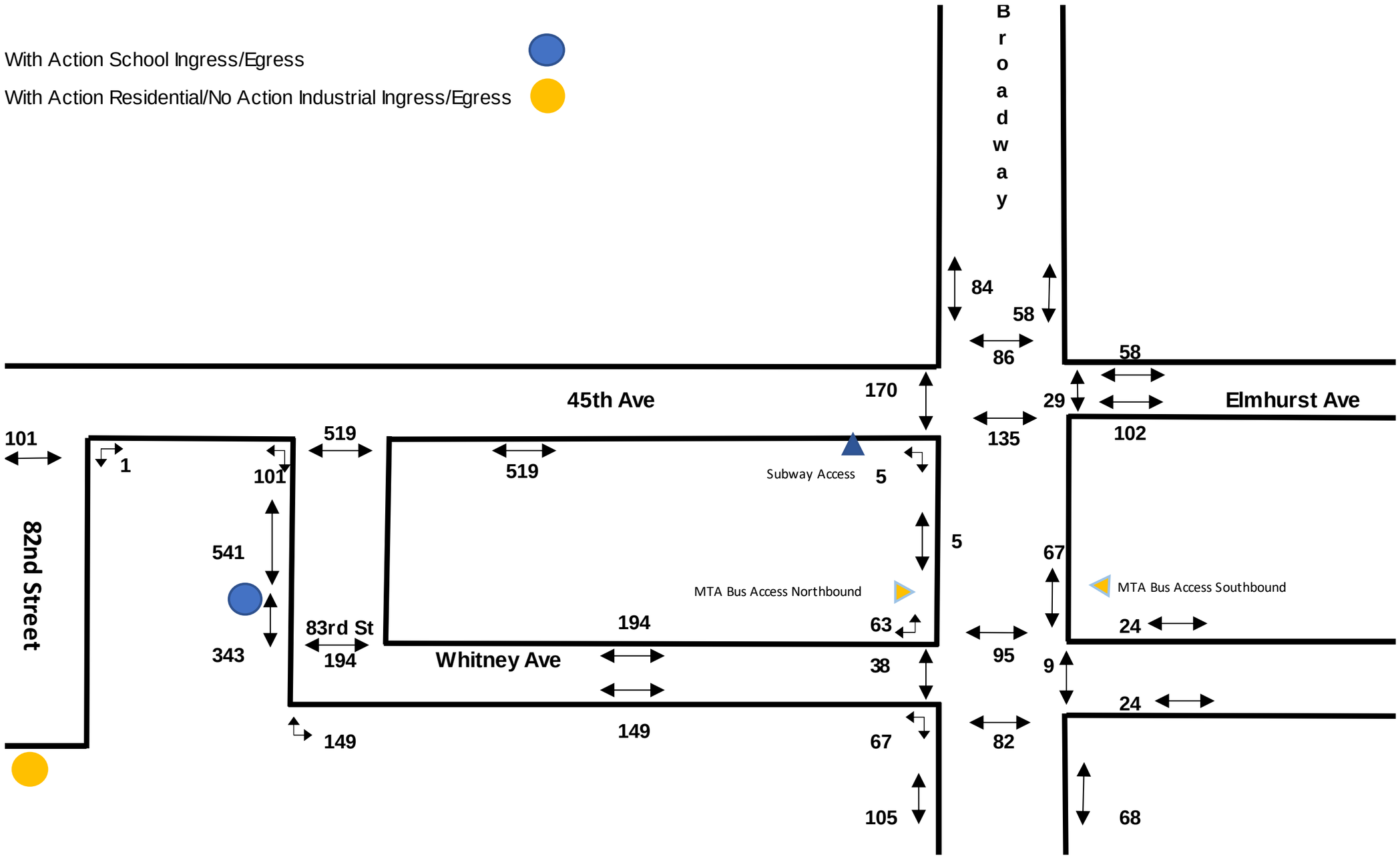


Figure 16.4-12: AM Peak Hour Pedestrian Increment Thresholds

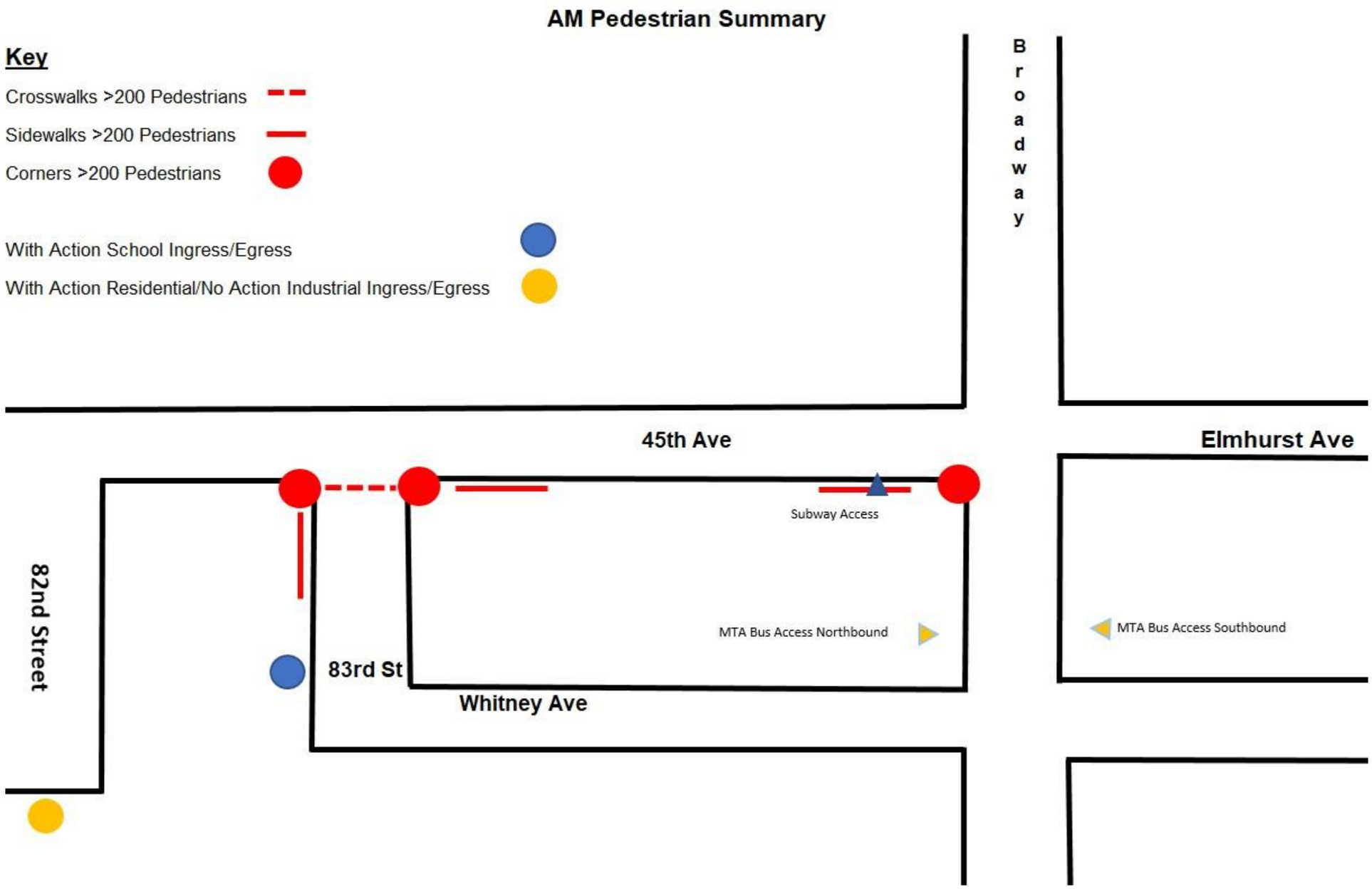


Figure 16.4-13: School Dismissal Peak Hour Incremental Pedestrian Trip-Ends

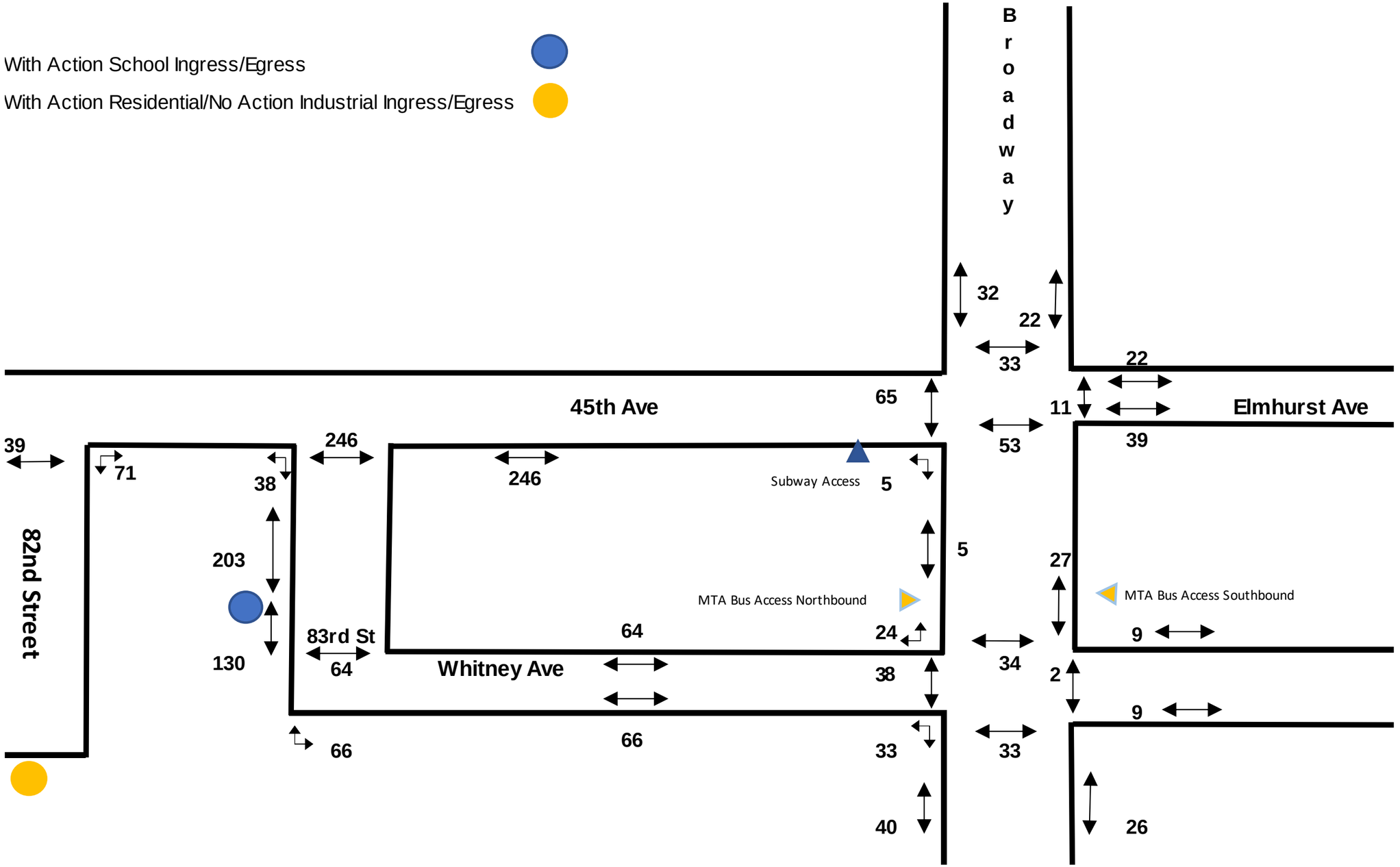


Figure 16.4-14: School Dismissal Peak Hour Pedestrian Increment Thresholds

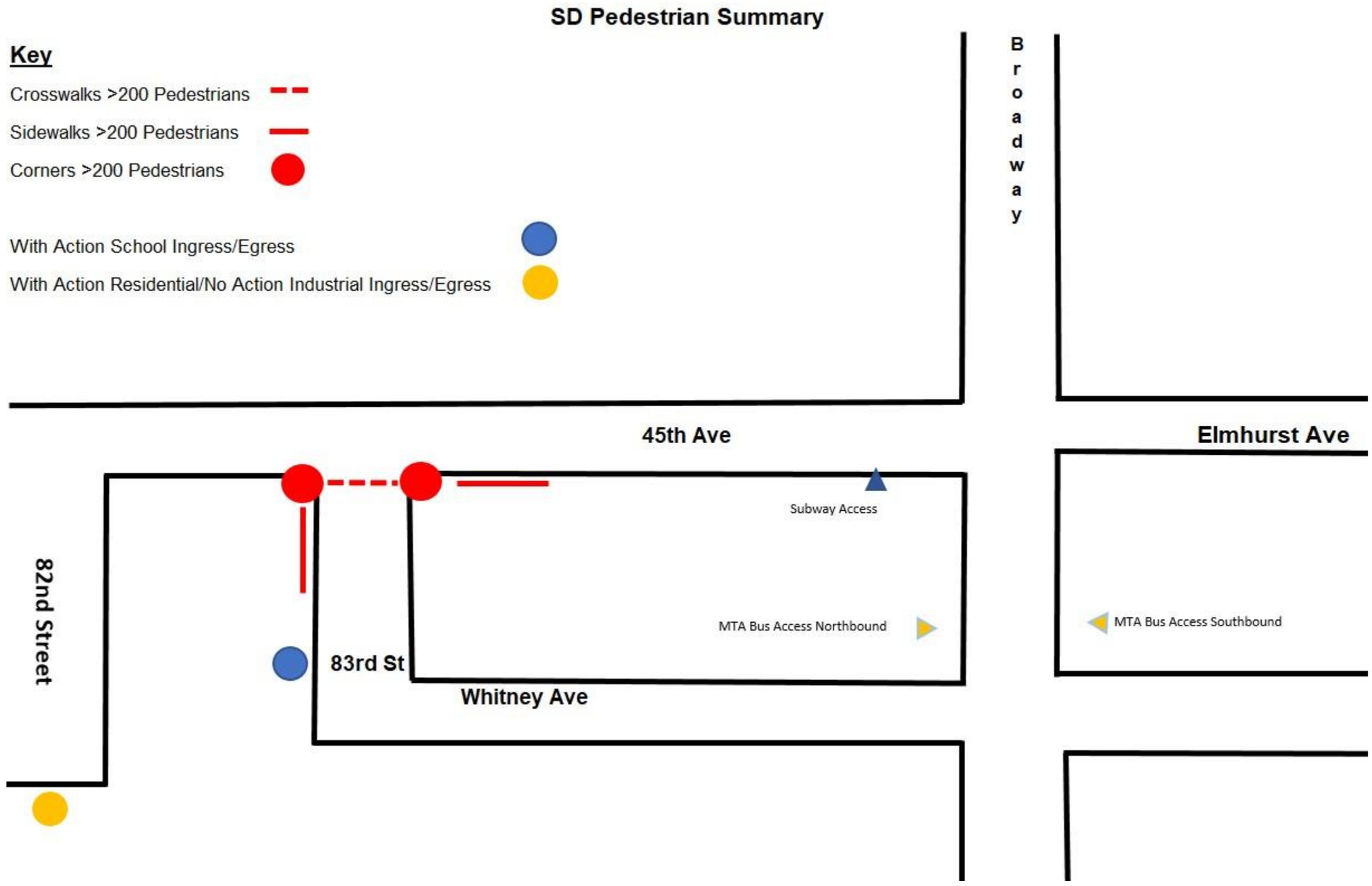


Figure 16.4-15: PM Peak Hour Incremental Pedestrian Trip-Ends

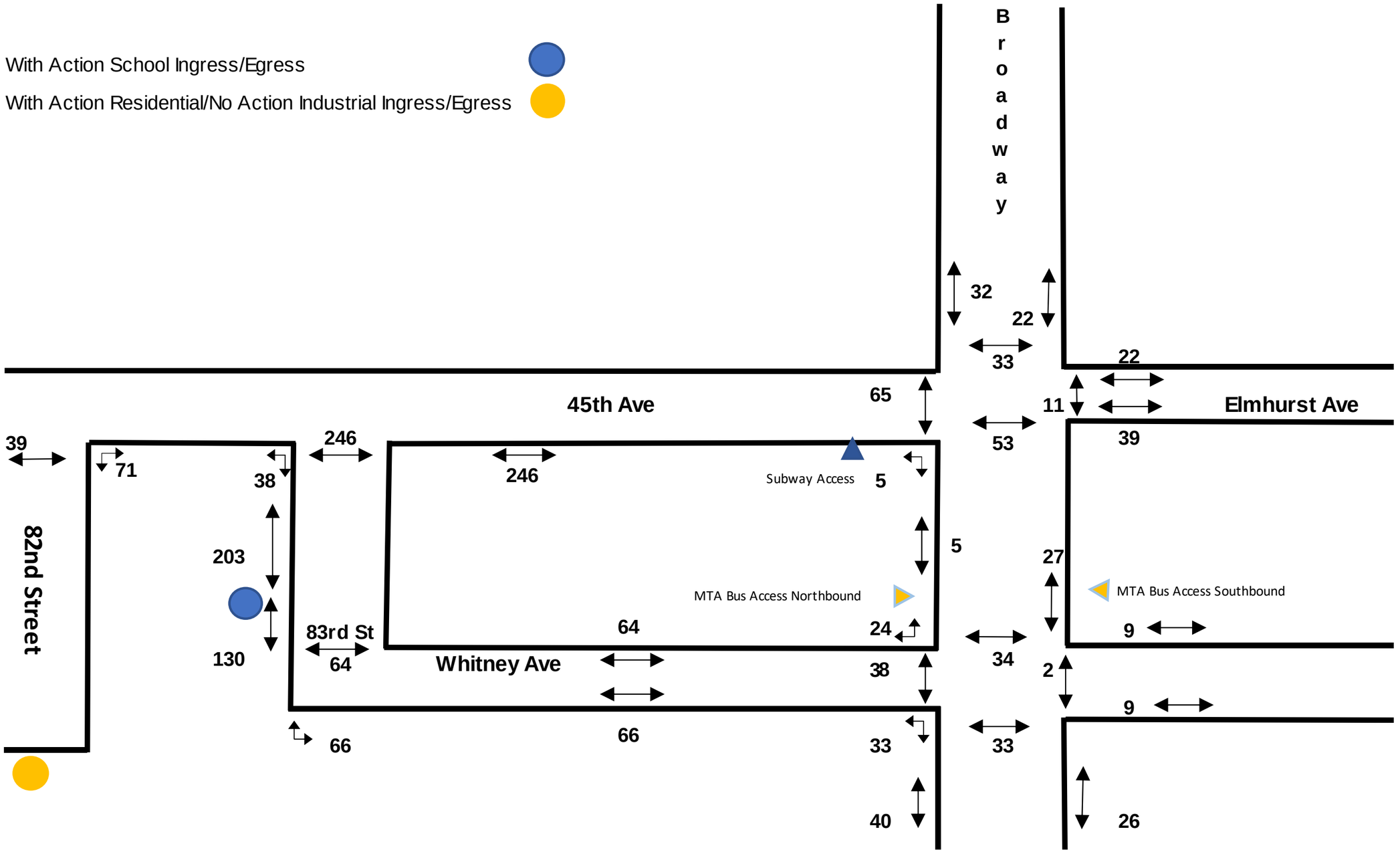
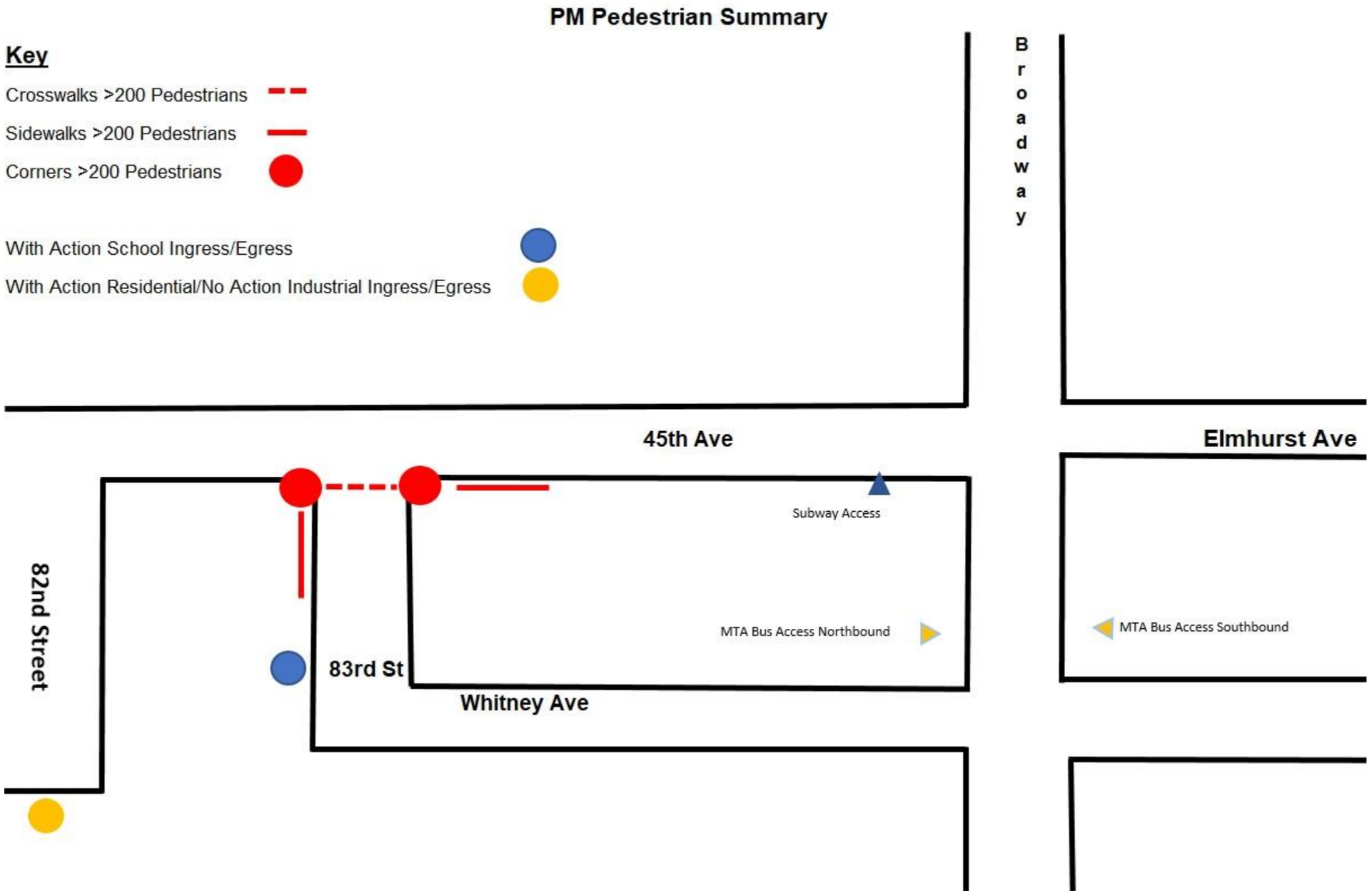


Figure 16.4-16: PM Peak Hour Pedestrian Increment Thresholds



Level 2: Project Generated Trip Assignment Conclusion

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

Level 2: Vehicular Trip Assignment Findings

The preliminary screening thresholds in the 2020 CEQR Technical Manual suggest that any project which generates 50 or more peak hour incremental vehicle trip-ends through a single intersection in any given peak hour is likely to warrant a detailed traffic operations analysis. Conversely, projects that are anticipated to generate fewer than 50 peak hour incremental vehicle trip-ends through a single intersection generally do not warrant detailed traffic assessments, and potential traffic impacts are not expected.

Table 16.4-2 below summarizes the results of the Level 2 Vehicular Assignment and identifies the study intersections (SI) where Vehicular Level of Service Analysis is warranted.

Table 16.4-2: Study Intersections with >50 Vehicular Trips

Study Intersection	Vehicular Trips			Major Street	Minor Street
	AM Peak Hour	School Dismissal Peak Hour	Afterschool Dismissal Peak Hour		
SI 1	>50	>50	>50	45th Avenue	83rd Street
SI 2	>50	>50	<50	Broadway	45th Ave
SI 3	>50	>50	<50	Whitney Avenue	83rd Street
SI 4	>50	>50	<50	Broadway	Whitney Avenue
SI 6[12]	>50	<50	<50	45th Avenue	82nd Street

Detailed intersection analyses were conducted for all three peak hours at the following study intersections within the study area that exceeded the 50 new vehicle trip criteria specified in the *CEQR Technical Manual*:

45th Avenue and 83rd Street (Intersection 1)
45th Avenue/Elmhurst Avenue and Broadway (Intersection 2)
Whitney Avenue and 83rd Street (Intersection 3)
Whitney Avenue and Broadway (Intersection 4)

[12] SI 6 is an unsignalized intersection. For the minor street to trigger a significant impact, 90 PCEs must be identified in the future with-action conditions during any peak hour. As this intersection would not exceed the 90 PCE threshold, and is subject to a Post-Opening Monitoring Study (discussed further below), this intersection is not anticipated to result in a significant impact. Further assessment would be performed as part of the Post-Opening Monitoring Study, to be ensured through a Restrictive Declaration imposed as part of the Proposed Actions.

The LOS Assessment, Transit Analysis, and parking utilization study is provided in **Appendix 1** and evaluates the incremental increase in vehicular, pedestrian and transit trips associated with the Condition UG 3 School and UG 2 Residential development assessed under the RWCDS.

Level 2: Pedestrian Trip Assignment Findings

The 2020 CEQR Technical Manual indicates that a detailed pedestrian analysis be performed for projects that are likely to generate 200 or more incremental pedestrian trips during any peak hour on any singular pedestrian element (i.e., a crosswalk, street corner, or sidewalk).

A Pedestrian Level of Service (LOS) has been conducted at a total of six locations within the study area, including two sidewalks, one crosswalk, and three corner reservoirs; this includes the following pedestrian study locations, including the following elements:

- Study Intersection 1 (45th Avenue and 83rd Street): south crosswalk, south leg west sidewalk, southwest corner, southeast corner, and east leg south sidewalk.
- Study Intersection 2 (45th Avenue and Broadway): southwest corner

Level 2: Transit Trip Assignment Findings

As discussed above, If the proposed project is projected to result in greater than 50 bus riders assigned to a single bus line (in one direction), further transit analyses is typically required.

MTA Bus

Based on the Level 2 Pedestrian Assignment, it was determined that the number of new bus trips generated by the Proposed Project would exceed the *CEQR Technical Manual* thresholds for the Q53-SBS bus route in the northbound and southbound directions during the Weekday AM peak hour; therefore, analysis of the Q53-SBS bus route was conducted during the Weekday AM, Weekday MD, and Weekday PM peak hours. This analysis is provided in the detailed level of service analysis for Transportation in **Appendix 1** and is summarized below.

Subway

It was determined that the number of new subway trips generated by the Proposed Project exceeds the *2020 CEQR Technical Manual* thresholds for further transit analysis at the Elmhurst Avenue subway station; therefore, analyses of subway station elements has been conducted. This analysis is provided in the detailed level of service analysis for transportation in **Appendix 1** and is summarized below.

16.5 Levels of Service, Transit, and Parking Findings

This assessment is contained in **Appendix 1**, evaluates the potential transportation impacts associated with the Proposed Project, the study area was defined based on principal access routes to and from the Project Site, traffic conditions in the surrounding area, and key intersections, transit elements, and pedestrian elements likely to be affected by trips generated by the Proposed Project.

In total, four intersections were identified for detailed vehicular analyses, six pedestrian elements were identified for detailed pedestrian analysis, and two street-level stairs and four platform stairs at the Elmhurst Avenue station, as well as one bus route were identified for detailed transit analysis. The geographic locations of the four study intersections and six pedestrian elements are depicted in **Appendix 1:** Error! Reference source not found.. A summary of the findings of this analysis is provided below.

Traffic Conditions

Appendix 1: Figure 9:2025 With-Action Condition Traffic Volumes shows the 2025 With-Action condition traffic volumes for the three peak hours. **Table 28: 2025 No-Action and With Action Condition Levels of Service Analysis – Signalized Intersections** and **Table 29: 2025 No-Action and With Action Condition Level of Service Analysis – Unsignalized Intersections** provided in **Appendix 1** present a comparison of No-Action and With-Action conditions for the signalized and unsignalized study intersections, respectively. As shown, the Proposed Project would not result in any significant adverse traffic impacts.

Transit Conditions

Subway Stairs

As shown in Error! Reference source not found., the street-level and platform stairs would operate at LOS C or better during both peak hours. According to the significance criteria defined for subway stairs in the *CEQR Technical Manual*, no significant adverse impacts are expected at any of the subway stairs.

Bus Line-Haul

The 2025 With-Action condition results for the Q53-SBS bus line-haul were compared with the No-Action condition results for all three peak hours. As shown in **Table 32: 2025 With-Action Condition Level of Service Analysis – Bus Line Haul** provided in **Appendix 1**, the Q53-SBS would operate within capacity during the three peak hours. Therefore, based on the significant adverse impact criteria defined for bus line-hauls in the *CEQR Technical Manual*, the Proposed Project would not result in any significant adverse bus impacts.

Pedestrian Operations

Trips generated by the Proposed Project were added to the No-Action pedestrian network to generate With-Action peak hour volumes for the three analysis peak hours. The With-Action condition analyses were performed at all pedestrian elements considered in the No-Action condition analyses in addition to one proposed sidewalk on the south side of Whitney Avenue between 83rd Street and Broadway.

Sidewalks

The 2025 With-Action condition results for the two existing sidewalk locations were compared with the No-Action condition results for all three peak hours. In addition, one proposed sidewalk that would be created as part of the Proposed Project was also analyzed. As shown in **Table 33: 2025 With-Action Condition Levels of Service Analysis – Sidewalks** provided in **Appendix 1**, the sidewalks are expected to operate at LOS C or better during three analysis peak hours for the non-platoon conditions and at mid-LOS D or better during the three analysis peak hours for the platoon conditions. Therefore, based on the significant adverse impact

criteria in the *CEQR Technical Manual*, the Proposed Project would not result in any significant adverse impacts on any sidewalk element.

Corners

The 2025 With-Action condition results for the three corner reservoir locations were compared with the No-Action condition results for all three peak hours. As shown in **Table 35: With-Action Condition Level of Service Analysis – Corners** provided in **Appendix 1**, the corners are projected to operate at LOS B or better during the three analysis peak hours. Therefore, based on the significant adverse impact criteria in the *CEQR Technical Manual*, the Proposed Project would not result in any significant adverse impacts on any corner element.

Parking Occupancy and Utilization

The With-Action condition parking utilization analysis is summarized in **Table 36: 2025 With-Action Condition Parking Utilization Summary** provided in **Appendix 1.** The parking utilization is expected to increase to 94% and 91% during the Weekday AM and Weekday PM peak periods, respectively, in the With-Action condition.

As shown in **Table 37: 2025 With-Action Utilization of Available Parking Spaces**, the parking demand generated by the Proposed Project would represent less than half of the available on-street parking spaces during all peak periods; therefore, there would be no significant adverse parking-related shortfall associated with the Proposed Project.

Project Improvements

The following roadway and pedestrian improvements were recommended as part of the previously approved BSA Special Permit for the school use on Lot 223 under CEQR No. 20BSA002Q:

- Construct a new sidewalk on the south side of Whitney Avenue between 83rd Street and Broadway.
- To facilitate school crossings, install an enhanced crosswalk across 83rd Street just north of Whitney Avenue with ADA compliant pedestrian ramps.
- To facilitate vehicle maneuvers on 83rd Street and Whitney Avenue, modify curbside regulations to create a total of 181' of "No Standing Anytime" zones on the north and south curbs of Whitney Avenue and 38' of "No Standing Anytime" zone on the east curb of 83rd Street (approximately 9 parking spaces), as shown on Figure C-006 of Appendix A.
- To facilitate school pick-up and drop-off activities, modify curbside regulations to create "No Standing School Days 7 AM – 4 PM" parking zones along the north side of Whitney Avenue for approximately 80' (approximately four parking spaces), replacing existing metered parking, and along the west side of 83rd Street for approximately 110' (approximately six parking spaces), replacing existing "No Standing 7am-6pm" parking regulations. The parking regulation changes would result in the loss of approximately four parking spaces between 7 AM and 4 PM on school days.
- Install ADA compliant pedestrian ramps at the southwest and southeast corners at 83rd Street and 45th Avenue, and all four corners at Broadway and Whitney Avenue.
- Install appropriate traffic control at the intersection of Whitney Avenue and 83rd Street.

The following roadway and signal timing improvements were recommended as part of the previously approved BSA Special Permit for the school use on Lot 223 under CEQR No. 20BSA002Q. NYCDOT will determine if the implementation of these improvements will occur before the school opens or delayed until after a post-opening monitoring study is conducted to determine their appropriateness:

- The eastbound approach at 45th Avenue and Broadway would be restriped to include one 10' left/through lane and one 10' right-turn only lane between 83rd Street and Broadway. The centerline would be shifted north by 2'. Parking would be removed on the north and south curb lanes along 45th Avenue between 83rd Street and Broadway. A total of 16 metered spaces would be removed as a result.
- At the intersection of 45th Avenue and Broadway, modify signal timing as follows:
    - During the AM peak hour, shift 2 seconds of green time from the northbound/southbound phase to the eastbound phase.
    - During the MD peak hour, shift 1 second of green time from the northbound/southbound phase to the eastbound phase.
- The westbound approach at Whitney Avenue and Broadway would be restriped to include one 10' left-turn only lane and one 10' through/right lane between 83rd Street and Broadway. Parking would be removed on the north curb lane along Whitney Avenue between Macnish Street and Broadway. A total of 12 metered parking spaces would be removed as a result.

The following additional roadway and signal timing improvements were recommended as part of transportation analysis conducted for the proposed rezoning action:

- At the intersection of Whitney Avenue and Broadway, modify signal timing as follows:
    - During the AM peak hour, shift 1 second of green time from the westbound phase to the northbound/southbound phase.
- The northbound approach at 45th Avenue and Broadway would be restriped to extend shared bus/bike lane to the stop bar with right turn permitted from the bus lane. Parking would be removed on the east curb lane along Broadway between the end of the bus lane and the stop bar. A total of four metered spaces would be removed as a result.

The following additional consideration was requested by NYCDOT in a comment letter dated July 19th, 2021

- NYC DOT reviewed the residential conceptual plans submitted with the Land Use Application as an illustration of a Future With-Action Condition. In this letter, NYC DOT indicated it has operational and safety concerns about this proposed location of the 22' curb cut to be located approximately 41-feet of the 82nd St and 47th Ave intersection, which provides minimal spacing from the existing curb cut to the west and consolidates turning movement conflicts from both driveways. DOT has also indicted that the illustrated curb location would reduce sight-lines for drivers turning in/out towards traffic approaching southbound on 82nd Street. In response to these concerns, the Applicant/Developer, will at the time of Builders Pavement Plan (BPP) development and prior to submittal of building plans to DOB, the Applicant/Developer will evaluate, and if feasible, retain the existing driveway and associated curb cut location to align as a third leg to the 82nd Street and 47th Avenue intersection.

In addition to the above, as part of the previously approved BSA Special Permit, the following conditions were imposed:

A Crossing guard would be requested from the NYPD at the following intersections:

- Whitney Avenue and 83rd Street
- 45th Avenue and 83rd Street

The Applicant committed to employing a school safety officer at school commencement at both the intersection of Whitney Avenue and 83rd Street, and 45th Avenue and 83rd Street, until such time that crossing guards can be provided.

Post-Opening Monitoring

The Applicant would conduct post-opening monitoring studies within the first six months after opening and again once the Proposed Project is at full occupancy in 2025. The purpose of the monitoring studies is to observe traffic operations at key intersections to determine if the recommended project improvements as described above should be implemented or refined. Before commencing the monitoring plan, the applicant would submit a detailed scope of work for NYCDOT review and approval. The monitoring plan would include the following intersections:

- 45th Avenue and Broadway
- 45th Avenue and 82nd Street
- 45th Avenue and 83rd Street
- Broadway and Whitney Avenue
- Whitney Avenue and 83rd Street

The monitoring plans would consist of the following activities on one typical day for the three weekday peak hours for the intersections listed above:

- Intersection turning movement counts, including vehicle classification counts, pedestrian counts, and bicycle counts
- Field observations of intersection operations and queue lengths
- Traffic analyses using Synchro
- Recommendations to improve intersection operations and provide additional safety measures, if necessary

The monitoring plans would also include a travel demand survey to determine actual travel patterns for students, parents, and staff, a re-evaluation of the control warrants at the intersection of 83rd Street and Whitney Avenue, and a parking assessment study for the MD peak period. The applicant would be responsible for the cost of the post-opening studies.

If the proposed rezoning is approved, the BSA Special Permit (CEQR No. 20BSA002Q) will be relinquished by The Applicant as the proposed school would be permitted as-of-right in the new zoning district. Accordingly, the BSA Special Permit requirements related to the previously conducted transportation analysis, as well as any additional transportation project improvements identified as part of the rezoning action, will be ensured through a restrictive declaration imposed as part of the Proposed Actions. Those requirements related to transportation as noted above, will be guaranteed by restrictive declaration.

Conclusion

With the above-referenced Restrictive Declaration in place, this analysis concludes that the Proposed Project would not result in any significant adverse traffic impacts.

17.0 CEQR Technical Manual Chapter 17: Air Quality Analysis Supplemental Studies to the EAS Short Form Part II

Ambient air quality describes pollutant levels in the surrounding environment to which the public has access. To assess potential health hazards due to ambient air quality, the impact of air pollutants emitted by motor vehicles (mobile source) and by fixed facilities (stationary source) are analyzed, where the effects of both the proposed project on ambient air quality and the ambient air quality effect on the proposed project are considered. The analysis framework, as mandated by the State Environmental Review Act, follows the *New York City Environmental Quality Review 2020 Technical Manual (CEQR TM)*. The potential air quality impacts of the following emissions are estimated following the procedures and methodologies prescribed in the *CEQR TM*:

- The potential for changes in vehicular travel associated with proposed development activities to result in significant mobile source (vehicular related) air quality impacts.
- The potential for an atypical (*e.g.*, not at-grade) source of vehicular pollutants to significantly impact the proposed development.
- The potential for emissions from the heating, ventilation and air conditioning (HVAC) systems of the proposed development to significantly impact nearby planned and/or existing land uses.
- The potential for air toxic emissions released from existing industrial facilities to significantly impact the proposed development.
- The potential for significant air quality impacts from the emissions of facilities that require Prevention of Significant Deterioration permits (Title V), and facilities which require a state facility permit to significantly impact the proposed development.
- The potential for facilities' malodorous emissions to unreasonably interfere with the proposed project's occupant's comfortable enjoyment of life or their property.

Future No Action Conditions

The eastern portion of the vacant light industrial building on Lot 223 would be renovated and expanded with a 4-story UG 3 Charter School under future conditions absent the Proposed Actions per the Special Permit Application from the NYC Board of Standards and Appeals (BSA) pursuant to Section 73-19 of the Zoning Resolution of the City of New York. The school building would be accessed from 83rd Street and would contain a total of 67,286 GSF (63,264 ZSF) of floor area and a FAR of 1.42. The proposed 4-story plus mezzanine school building would rise to a height of 53'-11" at the mezzanine roof, where a rooftop recreation space is proposed. The second-floor roof would contain a terrace along the northern and eastern portions of the building, respectively. The remaining 9,850 square foot western portion of the existing building, which is accessed from 47th Avenue, would be partitioned off and would remain designated as light industrial space.

However, to assess the cumulative impacts of the UG 3 charter school and proposed residential development, the No-Action Scenario conservatively assumes that no development is anticipated within the rezoning area. Former Lot 80 is a 5,037 sf lot that is vacant and unimproved. Former Lot 223 is a 39,400 sf lot currently improved with a vacant 1-story, 41,320 GSF light industrial structure. Together the lots comprise 44,437 sf. The future No Action Conditions assessed for the purposes of the Environmental Assessment assumes that the 41,320 sf (0.93 FAR) one-story vacant light industrial building on Lot 223 would be re-tenanted with a conforming industrial use within the M1-1 zoning district.

No other development would be expected to occur as residential development is not permitted within the

existing M1-1 zoning district. Other lots within the Affected Area would be expected to remain the same as the existing conditions.

Future With Action Conditions

The Proposed Actions would facilitate the development of the Projected Development Site (Reapportioned Lot 80) with a 9-story residential building accessed from 47th Avenue. The proposed residential building would contain 161,696 GSF (141,133 ZSF; 3.18 FAR) and would rise to a height of 95 feet tall. The building would contain 163 total dwelling units, at least 20 percent of which would be permanently set aside at or below 80 percent AMI. As described under Future No-Action Conditions, the With-Action Condition assumes that the remaining portion of the Projected Development Site (Reapportioned Lot 223) would be developed with a 1.42 FAR 4-story UG 3 school totaling 67,286 GSF (63,264 ZSF).

17.1 Mobile Source Assessment

Mobile Source Methodology

Projects may result in significant mobile source impacts when they create mobile sources of pollutants, change traffic patterns, or add new uses near mobile sources of pollutants. Per CEQR guidelines, a detailed analysis is conducted to predict whether the Proposed Action(s) could potentially have a significant adverse air quality impact if certain threshold criteria are met or exceeded, while proposed projects that do not meet or exceed the threshold criteria (screen out) are not expected to have a mobile source impact. Projects that require a detailed analysis model the ambient air CO and PM_{10}/$PM_{2.5}$ concentrations—the mobile source pollutants of concern—and compare the modeled concentrations with the applicable air quality standard.

Pursuant to *Chapter 17, Section 210 of the 2020 CEQR Technical Manual*, projects requiring further assessment include:

- Projects that would result in placement of operable windows (i.e., windows that may be opened and closed by the tenant), balconies, air intakes, or intake vents generally within 200 feet of an atypical (e.g., not at-grade) source of vehicular pollutants, such as a highway or bridge with a total of more than two lanes.
- Projects that would result in the creation of a fully or partially covered roadway, would exacerbate traffic conditions on such a roadway, or would add new uses near such a roadway.
- Projects that would generate peak hour auto traffic or divert existing peak hour traffic, resulting in the following: over 160 or more auto trips in areas of concern in downtown Brooklyn or Long Island City, Queens or 140 or more auto trips in Manhattan between 30th and 61st Streets; or over 170 or more auto trips in all other areas of the city.
- Projects that would generate peak hour heavy-duty diesel vehicle traffic or its equivalent in vehicular emissions resulting in the following: 12 or more heavy-duty diesel vehicles (HDDV) for paved roads with average daily traffic fewer than 5,000 vehicles; over 19 or more HDDV for collector roads; over 23 or more HDDV for principal and minor arterials; or over 23 or more HDDV for expressways and limited access roads.
- Projects that would result in new sensitive uses (particularly schools, hospitals, parks, and residences) adjacent to large existing parking facilities or parking garage exhaust vents.
- Projects that would result in parking facilities or applications to the City Planning Commission requesting the grant of a special permit or authorization for parking facilities.

- Projects that would result in a sizable number of other mobile sources of pollution, such as a heliport, new railroad terminal, or trucking. In addition, projects that would substantially increase the vehicle miles traveled in a large area (a borough, the city, or larger) may require mesoscale analyses.

Existing Mobile Source of Pollutant Screen

According to the *CEQR Technical Manual*, projects that would result in new sensitive uses within 200 feet of an atypical roadway or near an existing parking facility may result in significant mobile source air quality impacts. These impacts are estimated at sensitive receptors located at air intakes, operable windows, and terraces of the receptor building. There is no atypical roadway within 200 feet of the proposed project, and there are no large parking facilities located near the proposed project. The Proposed Development would not be located adjacent to existing parking facilities or parking exhaust vents. Therefore, no analysis is required, and no mobile source significant adverse air quality impacts are anticipated as a result of vehicular emission generated at an existing nearby mobile source of pollutant.

Mobile Source Project-Generated Traffic Screen

The Proposed Action would add an increment of 72 parking spaces. However, it does not trigger a detailed mobile source analysis for parking garage and would therefore not result in the production of project-generated mobile source emissions related to parking. Per the CEQR Technical Manual, localized increases in CO and $PM_{2.5}$ levels may result from increased vehicular traffic volumes and changed traffic patterns in the study area as a consequence of the proposed project. Screening analyses for CO and PM2.5 were therefore carried out to determine whether project-generated traffic has the potential to cause a significant impact. For purposes of the screening assessment, "project-generated traffic" refers to the number of additional vehicular trips in any given hour under future with-action conditions, compared with the number under future no-action conditions.

CO Screening
The threshold for detailed CO impact analysis in this area of the city is 170 vehicles per hour per intersection. As detailed in the Vehicular Assignments provided in Section 16.4 above, vehicular traffic effectuated by the Proposed Actions is not anticipated to result in greater than 170 vehicles per hour per intersection.

$PM_{2.5}$ Screening
A $PM_{2.5}$ screening analysis was conducted for the AM Peak Period, the worst-case project-generated vehicular travel period in the 2025 build year, to determine if peak hour project-generated heavy-duty diesel vehicle traffic or equivalent vehicular emissions would require further analysis. Whitney Avenue and 83rd Street are classified by the New York State Department of Transportation as a local street (Functional Class 19). Accordingly, the HDDV equivalent for both roadways is 12 or more heavy-duty diesel vehicles (HDDV) or its equivalent.

This screening analysis was performed based on the worst-case (AM or "Morning Arrival") peak hour incremental vehicular trips projected in the Transportation Analysis. The HDDVs screen assumed that all autos (passenger cars and passenger trucks combined) are LDGT1 class vehicles, based on guidance from the New York City Department of City Planning (DCP). As shown in the AM Vehicular Assignments to the Local Network (*See* Transportation Section 16.4, **Figure 16.4-5**), and described further below:

- Broadway and Whitney Ave: during the worst-case AM Peak Hour, project-generated traffic would result in 122 private cars and 4[13] school bus trip ends on Broadway and Whitney.
  Whitney Ave and 83rd Street: during the worst-case AM Peak Hour, project-generated traffic would result in 98 private cars and 3 school bus trip ends on 83rd Street and Whitney.
- 83rd Street and 45th Ave: during the worst-case AM Peak Hour, project-generated traffic would result in 110 private cars and 4 school bus trip ends on 83rd Street and 45th Avenue.

The screening considers the worst-case project-generated HDDVs, which are projected at the intersection of Broadway and Whitney Avenue.

PM2.5 Screening Results

The worst-case HDDVs or their equivalent in vehicular emissions would result in a maximum of 63 equivalent HDDVS traveling on Whitney Avenue and Broadway. Based on CEQR Technical Manual PM2.5 equivalent truck calculation, the total HDDV and equivalent trips are above the threshold of 12 HDDV or its equivalent for a paved roadway with <5,000 veh/day. Based on CEQR Technical Manual PM2.5 equivalent truck calculation the total HDDV and equivalent trips for Broadway are not above the threshold of 23 HDDV or its equivalent for a Principal and minor arterial roadway. Therefore, PM2.5 HDDV modeling is warranted to evaluate the potential for adverse impact related to project-generated HDDV emissions for both 83rd St/Whitney and 45th Ave.

Mobile Source Intersection Analysis

Introduction

The Proposed Actions project-generated traffic failed the $PM_{2.5}$ screen; therefore, a detailed analysis is required. The intersection of Broadway and Whitney Avenue was identified as the worst impacted intersection, based on guidance from the New York City Department of City Planning and the trip-assignment. The EPA's Mobile Vehicle Emission Simulator 2014 (MOVES2014b version) was utilized to predict vehicular emissions. Dust generated by vehicles traveling on paved roadways were added to MOVES emissions to estimate total $PM_{2.5}$ emissions. The $PM_{2.5}$ concentrations (both averaging times) at sensitive receptors were modeled with the EPA's CAL3QHCR Gaussian dispersion model. The impact concentrations were evaluated with the NYC Guidelines, *de minimis*, threshold standards.

The peak-hour project-generated trip assignment was provided by the transportation analysis for this project, which included total vehicle increment and school busses trip assignment. The analysis also included the project total truck increment by peak hour period. The maximum incremental traffic would occur during the AM peak hour period.

Background concentrations of $PM_{2.5}$ were obtained from the New York State Department of Environmental Conservation (NYSDEC) 2019 annual report at the Queens College monitoring station, which is part of the federally-mandated monitoring stations network. Significant $PM_{2.5}$ impact concentrations for mobile source

[13] 3 yellow school buses are projected, multiplied by a Traffic Passenger Car Equivalent (PCE) Factor of 1.5 to reflect the number of axels pursuant to Table 16-3 of the 2014 CEQR Technical Manual in order to determine if the 50 peak hour vehicle trip-end transportation threshold is exceeded as yellow buses are considered to be "equivalent" to more than one car. The PM2.5 screening considers the unfactored yellow bus trip-ends.

analysis were evaluated as follows:

- 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.

- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.1 µg/m^3 at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or for mobile sources, at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations).

Table 17.1-1 shows the background concentrations and *de minimis* thresholds:

Table 17.1-1: The NAAQS, 2019 Background Concentrations, and *de minimis*.

Pollutant	Averaging Period	National and State Standards	Background Concentration	*de minimis*
$PM_{2.5}$	24-Hour	35 µg/m^3	18.1 µg/m^3	8.45 µg/m^3
	Annual	12 µg/m^3	7.0 µg/m^3	0.1 µg/m^3

Detailed Analysis

Methodology

Mobile source impacts are a function of vehicular-related emissions and pollutants' dispersion. Emissions of vehicular mechanical components (exhaust, crank case, break ware, and tire wear) were generated with the EPA's MOVES2014b. Fugitive road dust emissions were added to estimate total particulate matter emissions. Pollutants' concentrations at sensitive receptors were modeled with Lakes Environmental CALRoad, the commercial version of EPA's CAL3QHCR dated 13196 Gaussian dispersion model.

The AM peak hour period traffic was analyzed for both the annual and 24-hour averaging times (tier 1 approach). Queens County vehicle population in 2025 database, part of MOVES database, was used to further classify vehicle types and engines technologies. The project-generated traffic (autos and school buses) by link were added to the no-action trip-assignment to project the with-action traffic. No-Action traffic was assumed to travel at 15-mile per hour and With-Action at 10-mile per hour.

The MOVES model was run for the time scale of January AM (8 AM to 9 AM) weekday. MOVES inputs of inspection/maintenance, fuel data, age distribution, and meteorology were obtained from the NYSDEC for the borough of Queens.

In addition to vehicular mechanical and combustible related $PM_{2.5}$ emissions, vehicle-related $PM_{2.5}$ emissions of dust generated by vehicles traveling on roadways were added to estimate total particulate matter emission factors for the short-term analysis (per the New York City Department of Environmental Protection (DEP), annual fugitive dust emission is negligible). Broadway is a principal arterial roadway and Whitney Avenue is

a paved roadway [14]. Slit loading factors of 0.4 and 0.1 g/m^2 for paved and principal arterial roadways, respectively, were obtained from the *CEQR Technical Manual,* and the equation from Section 13.2.1-3 of EPA's AP-42 manual was used to calculate each link fugitive dust emission factor. In addition, based on DEP guidance, the conservative assumptions of "dry" road condition was used for the short-term calculation (precipitation reduced silt loading).

Dispersion analysis was conducted using the EPA's CAL3QHCR dispersion model version 13196 (Lakes Environmental CALRoad commercial version). $PM_{2.5}$ concentrations were predicted with model-ready meteorology data, obtained from New York City Department of City Planning (DCP). Models specified settling and deposition velocities of 0-meter per second, 60-minute averaging time, and urban surface roughness of 370-centimeter (applicable to apartment buildings lad use). Roadways were modeled as free flowing, at grade, links.

Short-term receptors were placed in the middle of sidewalks at 1.8-meter height around the intersection in spaced intervals. Annual receptors were placed 15-meter from the curb side at 1.8 meter height in spaced intervals. Satellite imagery was used to locate links and receptors. The satellite imagery is a map application built into Lakes Environmental, Inc. CALRoad.

Dispersion Analysis Results

The With-Action 24-hour $PM_{2.5}$ concentration and the annual $PM_{2.5}$ increment between the With-Action and No-Action concentration were evaluated with the NYC Guideline, *de minimis*. **Table 17.1-2** shows the dispersion analysis results.

Table 17.1-2: Dispersion Analysis Results

Pollutant and Averaging Time	Modeled Concentration	Increment	Threshold Concentration	Threshold Standard
$PM_{2.5}$ 24-hour	6.53 µg/m^3	6.53 µg/m^3	8.45 µg/m3	de minimis
$PM_{2.5}$ Annual No-Action	0.157 µg/m^3	0.07 µg/m^3	0.1 µg/m3	de minimis
$PM_{2.5}$ Annual With-Action	0.224 µg/m^3			

As seen in **Table 17.1-2**, the Proposed Actions $PM_{2.5}$ increment concentrations do not exceed the *de minimis* (24-hour or annual averaging times). Therefore, no significant adverse air quality impacts are expected at intersections effected by the project-generated traffic.

17.2 Stationary HVAC Source Assessment

According to Chapter 17, Section 112 of the *2020 CEQR TM*, an action can result in stationary source air quality impacts when it creates new stationary sources of pollutants such as emission stacks for industrial plants, hospitals, or other large institutional uses, or when new sources of exhaust from boiler stack(s) used for the heating, hot water, ventilation, and air conditioning systems of a building are introduced that affect surrounding uses. Additionally, a Proposed Action can result in stationary source air quality impacts when introducing a sensitive use near existing (or planned future) emissions stacks, and the new uses might be

[14] https://gis.dot.ny.gov/html5viewer/?viewer=FC

affected by the emissions from the stack.

Project HVAC Systems Screening

The HVAC analysis considers the potential for emissions from the HVAC systems of the proposed development to significantly impact existing land uses (*project-on-existing*) within 400 feet, and**,** if multiple buildings are proposed, the potential of each or all of the proposed developments to significantly impact each other (*project-on-project*).

As outlined in the *CEQR TM*, the analysis of buildings' HVAC systems follows stationary sources methodology; a preliminary screening analysis is to be conducted as a first step to predict whether the potential impacts of the heat and hot water system boiler emissions can be significant. 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.

As indicated in the Architectural Plan Air Quality Notes, the charter school building at the Projected Development Site, to be developed under future conditions absent the Proposed Actions, would be heated and cooled by an electrically powered VRF (Variable Refrigerant Flow) HVAC System for classroom space, and by an electrically powered ERV (Energy Recovery Ventilation) HVAC system for the larger programmatic space. Electrically powered VRF and ERV systems do not emit stationary source air pollution/emissions. Therefore, no further analysis of HVAC source air quality impact is warranted for the charter school building. The mechanical plans detailing the ERV/VRF HVAC systems have been filed at the DOB, and approved.

Impacts from boiler emissions at the Projected Development Site are limited to the emissions from the Residential Building. The impact of the boiler emissions is a function of fuel oil type, stack height, the minimum distance from the source to the nearest building, and square footage of the development's Residential Building. The proposed 161,696 GSF residential development would be heated by a natural gas-fired HVAC system, venting on the roof at a height of approximately 102'. 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 in the HVAC systems, where No. 2 fuel oil is the highest-emitting fuel. The Projected Site development size was plotted on the nomograph for residential development utilizing No. 2 fuel oil as depicted in Figure 17-5 of the *CEQR Technical Manual Appendix* **(Figure 17.2-1** below**)** and natural gas as depicted in Figure 17-7 of the *CEQR Technical Manual Appendix (***Figure 17.2-2** below*)*. This nomograph indicates the minimum distance between the projected development and buildings of a similar or greater height to avoid a potential air quality impact. Per the *CEQR Technical Manual*, the CEQR nomographs for a 100-foot stack height was applied as the 100-foot curve height is closest to, but not higher than, the proposed stack height of the proposed building.

The screening analysis **Figure 17.2-2** nomograph shows that under the worst-case condition, a detailed analysis would be required for any existing land uses that are 100 feet or taller and at a distance of less than 85 feet from the Development Site. A review of existing land uses within 400 feet of the Development Site shows that the nearest building of similar or greater height is a 120-foot tall building, located at 83-23 Vietor Avenue (Block 1517, Lot 69), which is approximately 580 feet north of the Projected Development Site. As indicated below in **Table 17.2-1**, the development falls below the applicable curve on the nomograph screening as the minimum distance of impact from the building stack is 85 feet and the nearest receptor of equal or greater height to the HVAC stack location is 580 feet in distance. Therefore, a significant impact due to boiler stack emissions is unlikely, and no further HVAC Stationary assessment is warranted.

Table 17.2-1: Screening Analysis Results

Source Building Site ID	Heated Area (sq. ft.)	Screen Distance (ft.)	Receiving Building (Site ID or Block/Lot)	Receiving Building Distance (ft.)	Pass/ Fail
80-52 47th Avenue	161,696	85	Block 1517 / Lot 69	580	Pass

Figure 17.2-1: The Development Sites Minimum Distance – HVAC Screen Nomograph No_2 Fuel Oil

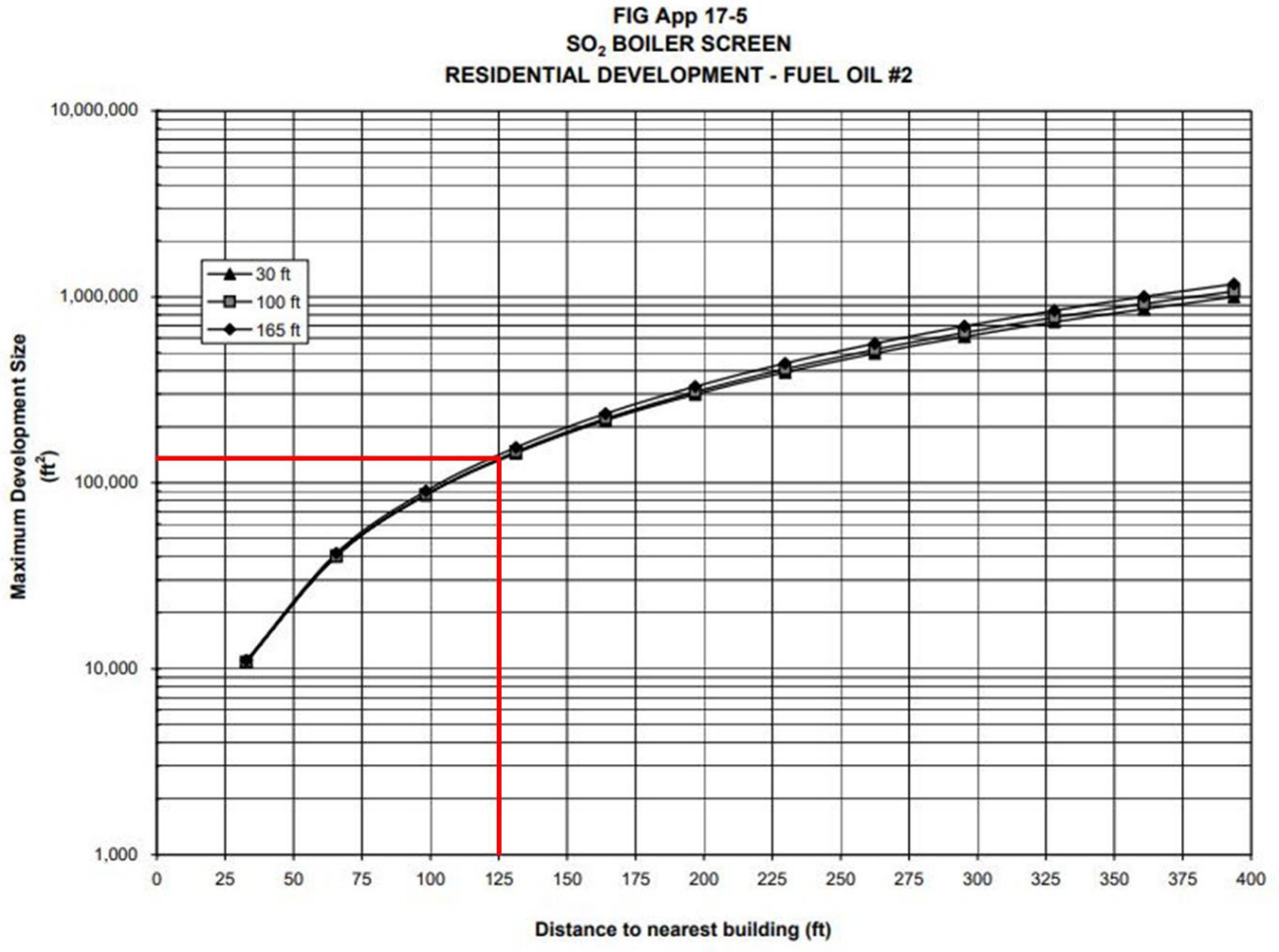
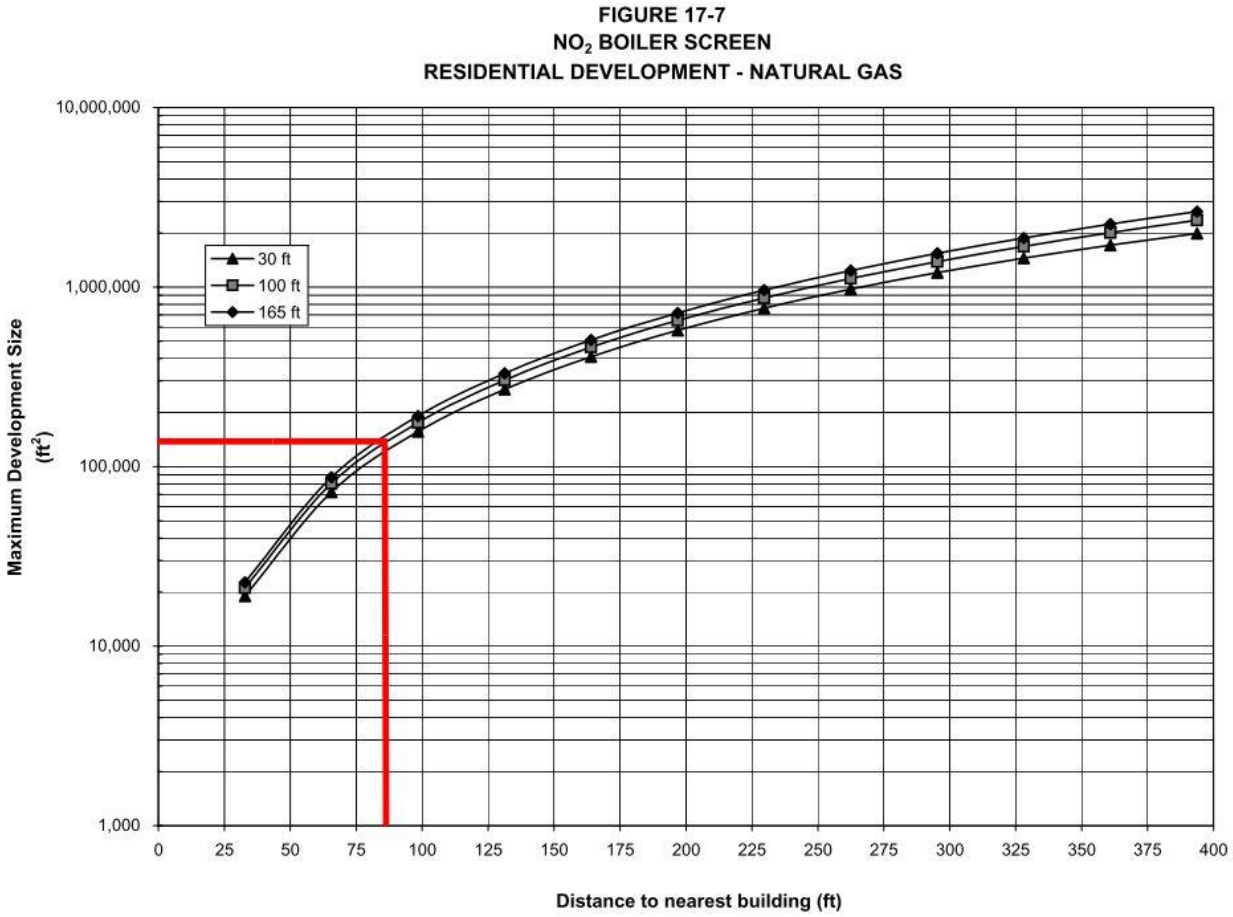


Figure 17.2-2: The Development Sites Minimum Distance – HVAC Screen Nomograph Natural Gas



Proposed (E) Designation

To ensure that there are no significant adverse impacts related to emissions from the HVAC systems associated with the With-Action development onto existing or other projected buildings of similar or greater height, certain restrictions would be required regarding fuel type and/or exhaust stack location for some of the development sites. The text of the (E) designation (E-630) would be as follows:

E-Designation (E-630)

Block 1536, Lots 80 and 223

- **Lot 80 – Any new residential development on Block 1536, Lot 80 must ensure HVAC stack(s) is located at the highest tier and at least 102 feet above grade, to avoid any significant adverse air quality impacts.**

- **Lot 223 – The charter school development on Block 223 must be heated and cooled by**

electrically powered Variable Refrigerant Flow (VRF) and Energy Recovery Ventilation (ERV) HVAC systems to avoid any significant adverse air quality impacts.

17.3 Industrial Source Assessment

Introduction

The Projected Development Site is located within an M1-1 zoning district, which permits light industrial and manufacturing uses. Despite the residential and commercial nature of the surrounding area, the Proposed Actions would introduce a sensitive land use not permitted as-of-right. Accordingly, a preliminary screening was conducted to determine if there are any potential sources of industrial process emissions that could result in adverse impacts on building occupants.

Methodology

As outlined in the *CEQR TM*, projects that would introduce new uses near industrial sources, major sources, large sources, and odor-producing facilities may result in potentially significant adverse air quality impacts. The study area considers industrial sources within 400 feet of the Project Site, and major sources, large sources, and odor-producing facilities within 1,000 feet of the Project Site. These sources are categorized as follows:

- Industrial sources are identified as commercial, industrial, or processing facilities that are likely to have NYCDEP operational permits.
- 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, such as solid waste or medical waste incinerators, asphalt and concrete plants, or large printing facilities.
- 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.

Land Survey and Field Observation

Land Survey Methodology

Information regarding potential emissions of toxic air pollutants from existing industrial sources within 400 feet of the Projected Development Site, and emissions of air pollutants from existing major and large sources within 1,000 feet of the Project Site were developed using the following procedure:

- A study area was developed that includes all industrial facilities with potential air toxic emissions located within 400 feet of the Project Site and all potential large sources of industrial emissions or odor producing facilities within 1,000 feet of the Project Site (*See* **Figure 17.3-1**).
- A search was performed to identify permits listed in the EPA Envirofacts ICIS-AIR database and The Toxics Release Inventory (TRI) for all sites within the 400 and 1,000-foot study area.
- New York City's Zoning and Land Use Map (ZoLa), Google Street View, and online searches were used

to identify and categorize facilities;
- A fieldwork investigation/observation was conducted to affirm the online study findings and to identify any other likely industrial source in the study area;
- The New York City Department of Environmental Protection (DEP) online Clean Air Tracking System (CATS)[15] was consulted to determine whether air emissions permits had been issued for any of the nonresidential zoned lots; and
- A formal request was sent to the NYCDEP to review the current and expired status processing type permits identified in the NYCDEP online CATS database (*See* **Appendix C**).

Study Result – Major and Large Sources and Odor Producing Facilities

A search of the EPA Envirofacts ICIS-AIR database and the Toxics Release Inventory (TRI) was conducted for all parcels within the 400 and 1000-foot Study Area. The Envirofacts ICIS Air Database contains compliance and permit data for stationary sources of air pollution (such as electric power plants, steel mills, factories, and universities) regulated by EPA, state and local air pollution agencies. The Toxics Release Inventory (TRI) is a publicly available database containing information on toxic chemical releases and other waste management activities in the United States.

The search did not identify any large sources of industrial emissions or odor producing facilities within 1,000 feet of the Project Site. As such, no further analysis of large emissions sources is warranted.

Study Result – Industrial Sources of Toxic Air Emissions

As outlined in the CEQR Technical Manual, projects that would introduce new uses near industrial sources may result in potentially significant adverse air quality impacts. The study area considers industrial sources within 400 feet of the proposed project. Here, industrial sources are potential toxic air emitter based on the facility type of manufacturing process. The analysis first determines if there are any existing industrial sources located in the study area. An air dispersion analysis is then performed for any existing industrial source that is in the study area, else no analysis is required.

Figure 17.3-1 shows the Project Site and the 400 feet study area. **Table 17.3-1** shows the land uses in the 400 feet study area and the processing type permits identified in the New York City Department of Environmental Protection (DEP) online Clean Air Tracking System (CATS). A field reconnaissance was conducted to confirm the actual uses operating at the below-listed properties as well as to identify any potential non-permitted activities in the study area that could result in industrial process emissions. No facilities were identified that could result in potential non-permitted industrial emissions. As indicated in **Table 17.3-1** below, two sites were identified within the study area: one with an active industrial permit registered to the Projected Development Site, which is now vacant, and one with an expired industrial permit.

Site ID 1: 45-01 82nd Street (PA075687)
Based on the DEP CATS database search. The Projected Development Site has an active industrial processing permit registered to FEDERAL SAMPLE CARD CO. for paper and printing processing. The site was formerly occupied by this facility. However, the site is currently vacant and unoccupied, and pursuant to the Proposed Action, would be occupied by a Use Group 3 Charter School and Use Group 2 Residential

[15] NYC DEP CATS

Building. Therefore, no further analysis of this facility is warranted.

Site ID 8: 82-55 Broadway (PA001997)
This site had a previously active permit registered to Eric Cleaners/Kyung Ja Moon for a dry-cleaning facility operation. However, as shown below in **Photo 17.3-1**, documented during a field reconnaissance conducted on Wednesday, January 13th, 2019, this site is now occupied by an HSBC Bank. Therefore, no further analysis is warranted.

Table 17.3-1: Land Survey Study of Potential Industrial Sources Within 400 Feet of the Project Site

Site ID	Block	Lot	Facility Address	CATS info.	Land Use Category
1	1536	220	45-01 82 STREET	No Records Found	Commercial / Office
2	1536	223	45-20 83 STREET	PA075687	Manufacturing / Industrial
3	1533	45	82-20 45 AVENUE	No Records Found	Commercial / Office
4	1561	34	80-20 45 AVENUE	No Records Found	Commercial / Office
5	1535	107	82-79 BROADWAY	No Records Found	Commercial / Office
6	1535	95	82-62 BROADWAY	No Records Found	Commercial / Office
7	1518	88	82-66 BROADWAY	CA042576 – Cancelled	Commercial / Office
8	1561	1	82-55 BROADWAY	PA001997, CA048587, PA016687-Cancelled	Commercial / Office
9	1544	29	82-67 BROADWAY	No Records Found	Commercial / Office
10	1536	130	83-04 BROADWAY	No Records Found	Commercial / Office
11	1536	223	79-55 ALBION AVENUE	No Records Found	Commercial / Office

*Note Site ID corresponds with Figure 17.3-1
*Note Permits beginning with 'C' are for boilers

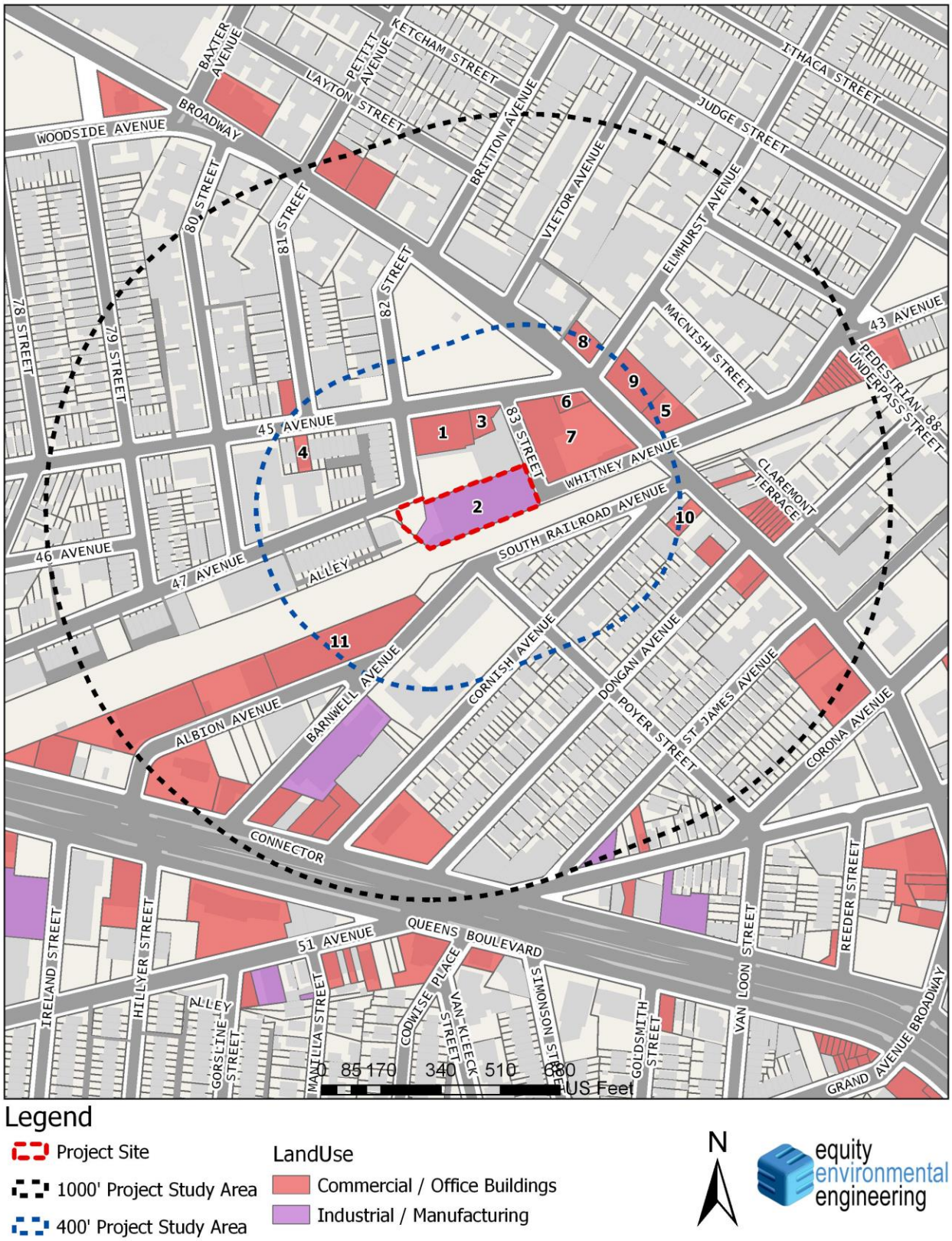
Industrial Source Air Toxics Conclusion

Based on the field investigation of the area, and research of each potential industrial or manufacturing use in the Study Area, one active industrial emissions permit was identified within the 400-foot study area registered to the Projected Development Site address and previous tenant, and no large sources of industrial emissions were identified within the 1,000-foot study area. Therefore, there does not appear to be any potentially significant impact in terms of air toxics to the proposed building occupants, and no further analysis is warranted.

Photo 17.3-1: Site ID 8 Current Use



Figure 17.3-1: Air Toxics Study Area



19.0 CEQR Technical Manual Chapter 19: Noise Analysis Supplemental Studies to the EAS Short Form Part II

Noise Monitoring was conducted by Equity Environmental Engineering, LLC (Equity) personnel to assess the potential for adverse noise impacts related to the proposal for a Zoning Map Amendment affecting re Block 1536, Lots 80, 223, 79, p/o 75, p/o 85, and p/o condo lots 1101-1242.

Vehicular traffic and rail movements are the predominant sources of noise in this area. 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 analysis is limited to an assessment of ambient noise that could adversely affect building occupants of the proposed development, as well as an assessment of the potential impact from project-generated stationary (playground) noise on adjacent receptors related to the With-Action charter school use discussed below.

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 19.0-1: 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: 2020 CEQR Technical Manual	

The following are typical human perceptions of dB(A) relative to changes in noise level:

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

The 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.

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

- L_{eq} is the continuous equivalent sound level. The sound energy from the fluctuating SPLs is averaged over time to create a single number to describe the mean energy, or intensity level. High noise levels during a measurement period will have a greater effect on the L_{eq} than low noise levels. L_{eq} has an advantage over other descriptors because L_{eq} values from various noise sources can be added and subtracted to determine cumulative noise levels.
- $L_{eq(24)}$ is the continuous equivalent sound level over a 24-hour time period.
- 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.

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.

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 19.0-2: 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]		$L_{10} \le 55$ dBA	$L_{dn} \le 60$ dBA		$60 < L_{dn} \le 65$ dBA		(I) $65 < L_{dn} \le 70$ dBA, (II) $70 \le L_{dn}$		$L_{dn} \le 75$ dBA
2. Hospital, nursing home		$L_{10} \le 55$ dBA		$55 < L_{10} \le 65$ dBA		$65 < L_{10} \le 80$ dBA		$L_{10} > 80$ dBA	
3. Residence, residential hotel, or motel	(7 AM to 10 PM)	$L_{10} \le 65$ dBA		$65 < L_{10} \le 70$ dBA		$70 < L_{10} \le 80$ dBA		$L_{10} > 80$ dBA	
	(10 PM to 7 AM)	$L_{10} \le 55$ dBA		$55 < L_{10} \le 70$ dBA		$70 < L_{10} \le 80$ 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	

Notes:

(i) In addition, any new activity shall not increase the ambient noise level by 3 dB(A) 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 as 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).

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

Table 19.0-3 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 office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
[2] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA

19.1 Initial Impact Screening

Analysis Framework

Future No-Action Conditions

Currently, the Projected Development Site (Block 1536, Lots 80, 223) consists of an asphalt paved parking lot and a vacant 1-story, 41,320 gsf light industrial building. Under a future condition with no-action, the eastern portion of the vacant light industrial building on Lot 223 would be renovated and expanded with a 4-story UG 3 charter school. The school building would be accessed from 83rd Street and would contain a total of 67,286 GSF of floor area (63,264 ZSF) and a FAR of 1.42. The 4-story plus mezzanine school building would rise to a height of 53'-11" at the mezzanine roof, where a rooftop recreation space is planned. The second-floor roof would contain a terrace along the northern, and eastern portions of the building, respectively. The remaining 9,850 square foot western portion of the existing building, which is accessed from 47th Avenue, would be partitioned off and would remain designated as light industrial space. Other lots within the Affected Area would be expected to remain the same as the existing conditions. Accordingly, a new source of stationary (playground) noise would be introduced to the Projected Development Site. No changes to noise are anticipated under future conditions absent the Proposed Actions.

Future With Action Conditions

The Applicant seeks a rezoning to modify the zoning districts of the Project Site from M1-1 to R7A to facilitate the development of a 9-story residential building on reapportioned Lot 80 of the Projected Development Site adjacent to the school building to be developed on reapportioned Lot 223. The rezoning would also bring the school use at the Projected Development Site into conformance as-of-right. Pursuant to the Proposed Action, reapportioned Lot 80 will be developed with a 161,696 GSF (141,133 ZSF; 3.18 FAR) residential building that rises to a height of 95 feet at 9 stories. 72 parking spaces would be provided at the cellar level in an enclosed garage accessed from 47th Avenue. Reapportioned Lot 223 will be developed (as described under Future No Action Conditions) with a 67,286 GSF (63,264 ZSF; 1.42 FAR) community facility building that rises to a height of 53' -11" at 4 stories, including a mezzanine. The building will be used as a charter school.

The *CEQR Technical Manual* recommends an analysis of two principal types of noise sources: mobile sources; and stationary sources. Both types of noise sources are examined in the following sections. The initial impact screening considers whether the project would:

(1) generate any mobile or stationary sources of noise; and/or
(2) be located in an area with existing high ambient noise levels.

Mobile Noise Screening

Vehicular Traffic Sources

The study area for potential noise impacts from vehicular sources includes the locations of receptors along traffic routes to and from the site along which project vehicular trips are assigned, and the proposed site itself, if a receptor would be located there. Mobile noise sources are those which move in relation to receptors. Per the *CEQR Technical Manual*, if existing Noise Passenger Car Equivalent (PCE) values are increased by 100 percent or more due to a Proposed Action, a detailed analysis is generally performed.

Aircraft Sources

Three types of projects require study areas for aircraft-related noise sources: (i) a proposed project that would include a new or expanded aircraft facility, (ii) renewal of a lease for an existing facility, or (iii) a receptor that would be affected by a proposed project that is near a flight path of an existing aircraft facility and that is typically within the annual 65 dB(A) Ldn contour of the existing aircraft facility.

Rail Sources

Two types of projects generally require study areas for rail-related noise sources: (i) a proposed project that introduces a receptor within approximately 1,500 feet of an existing rail facility and generally having a direct line of sight to the rail facility; or (ii) a proposed project that would include a new rail facility or that would add trains to an existing facility.

A Noise Passenger Car Equivalent Screening was conducted (See Section 19.3 below) and, with the relatively moderate to high numbers of vehicles in the immediate area, determined that project-generated vehicles effectuated by the Proposed Action are not anticipated to increase existing Noise PCE values by more than 100 percent. The LIRR runs in an east and west direction along the southern border of the Project Site. Pursuant to CEQR methodology, if the Project Site is located in areas with high ambient noise levels, including those near highly-trafficked thoroughfares or within 1,500 feet of a rail line, further noise analysis may be warranted to determine the attenuation measures, if any, that are appropriate for the proposed project.

Stationary Noise Screening

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

No unenclosed specific stationary noise sources of concern were observed during field reconnaissance. As the project site is not subject to high ambient noise levels from any nearby stationary source, no stationary source noise impacts from surrounding uses are anticipated. It is assumed that the building mechanical

systems (i.e., HVAC systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code, the New York City Department of Buildings Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the proposed actions would not result in any significant adverse noise impacts related to building mechanical equipment. However, a new stationary (playground) noise source would be introduced to the Projected Development Site at the school building adjacent to the 9-story residential building effectuated by the Proposed Actions. The school building would contain an outdoor play area on the mezzanine roof, at an elevation of 53'-11". Additionally, a terrace would be provided along the northern and eastern portion of the second-floor roof at an elevation of 21'-1". Accordingly, an analysis of stationary noise is provided in Section 19.4 below.

As discussed above, the noise analysis presented in this chapter focuses on the operational noise effects of the Proposed Action and consists of three parts:

- A preliminary Noise Passenger Car Equivalent (PCE) Screening to determine whether project-generated traffic will increase Noise PCEs on the adjacent roadways by greater than 100% (*See* Section 19.3);
- An analysis to examine whether the newly created third-floor terrace and fourth-floor rooftop recreation space would result in adverse impacts to adjacent residential receptors, and to determine if any, the level of additional mitigation required to attenuate project-generated stationary noise (*See* Section 19.4); and
- An analysis to determine the level of building attenuation necessary to ensure that interior noise levels satisfy City Environmental Quality Review (CEQR) requirements (*See* Section 19.5).

19.2 Noise Analysis

Measurement Location and Equipment

Because the predominant noise sources in the area of the proposed project are vehicular movements and train movements, noise monitoring was conducted during peak vehicular and train travel periods, 07:30 am-09:00 am, 12:00 pm-1:30 pm, and 4:30 pm-6:00 pm. Pursuant to CEQR Technical Manual methodology, readings were conducted for periods of 1-hour during the three peak periods of vehicular travel at both street frontages of the Projected Development Site: 47th Avenue frontage (*Location 1*) and 83rd Street frontage (*Location 2*). Additionally, one (1) elevated continuous 24-hour noise reading was conducted at the rooftop level of the southern portion of the existing light industrial building (*Location 3*) within the approximate direct line-of-sight to the LIRR. Measurements at Location 3 ran continuously for a period of 24-hours and were logged once on the hour, every hour.

The monitors were placed on a tripod at the height of approximately four feet above the ground/rooftop, away from any other noise-reflective surfaces, and within a direct line of sight to the noise source. The monitors were calibrated prior to and following each monitoring session. Periods of peak vehicular and rail activity around the Projected Development Site constitute a worst-case condition for noise. Traffic volumes and vehicle classifications were collected over the course of each 1-hour noise monitoring period.

The Calibration Certificates for the Casella CEL-633C sound meters and backup noise data is located in Appendix D.

Photo 19.2-1: Noise Monitoring Location 1



The center of the Projected Development Site's 47th Ave Street Frontage

Photo 19.2-2: Noise Monitoring Location 2



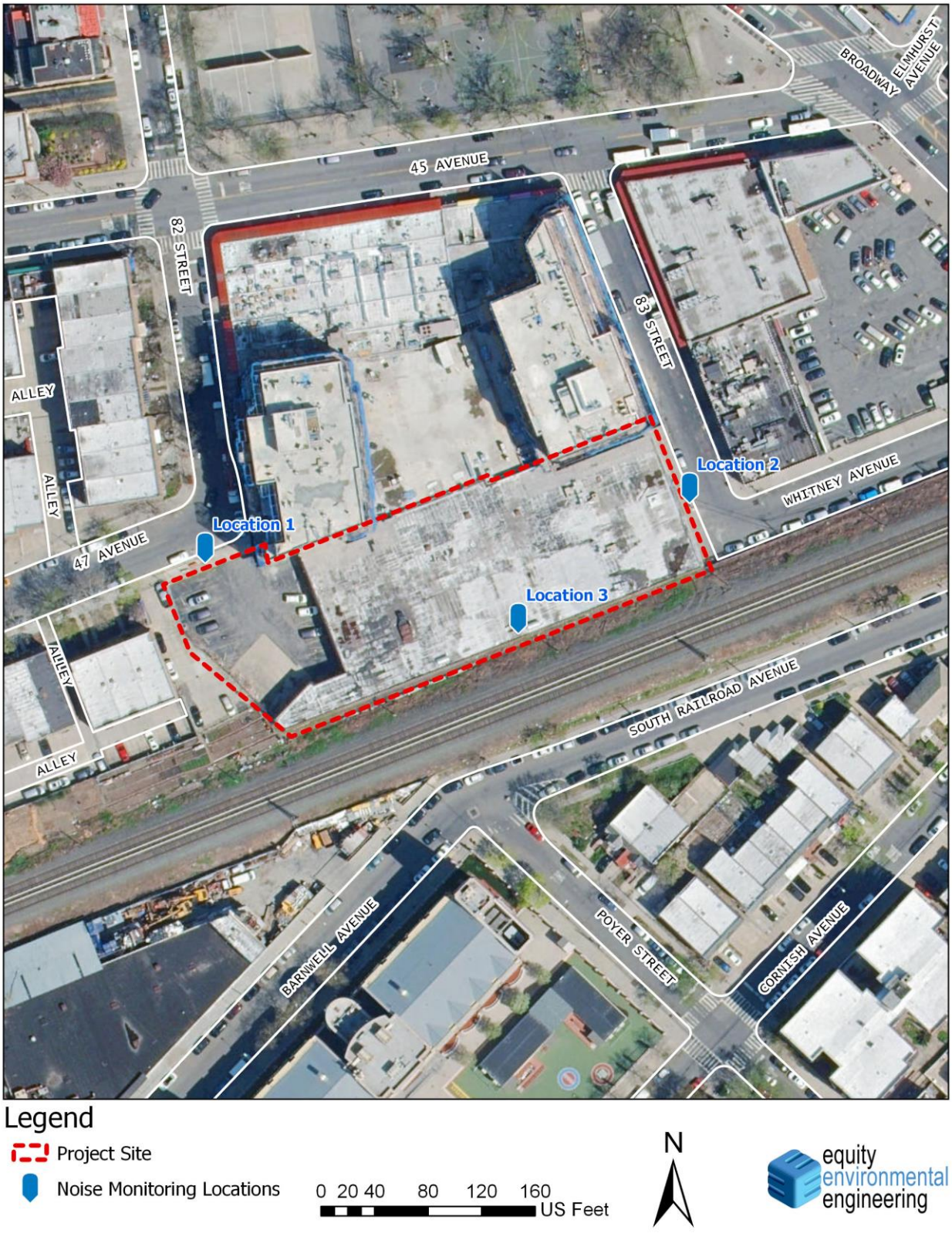
The center of the Projected Development Site's 83rd Street Frontage

Photo 19.2-3: Noise Monitoring Location 3



Rooftop 25-Hour Monitoring Location from rooftop of existing light industrial building

Figure 19.2-1: Noise Monitoring Locations



Existing Conditions

Noise monitoring was conducted on Wednesday, January 13th, 2019, and Thursday, January 14th, 2019. The weather conditions during the monitoring sessions were dry with moderate to high winds. Per the DEP Comment letter dated February 12th, 2020, based on the meteorological data report at LaGuardia International Airport, the wind speed and gusts during monitoring periods were much greater than 12 mph, exceeding the wind speed recommended for noise measurement as detailed within Section 331.2 of the CEQR Technical Manual.

Because it was noted that wind speeds were high, noise measurements at Location 1 and 2 are invalid, and noise monitoring was conducted again for Locations 1 and 2 on Wednesday, October 2nd, 2019. The assessment for Locations 1 and 2 is based on the supplemental measurements taken on October 2nd, 2019. No supplemental measurements were taken for Location 3 (24-hour rooftop measurement) on 10/2/2019, and using the measurements from Feb 2019 study may lead to excessive noise attenuation requirements for the proposed project. Weather conditions on the October 2nd, 2019 monitoring day were dry with mild winds.

Based on the noise measurements taken at the Project Site, the predominant source of noise at the site is vehicular and rail traffic. The volume of traffic and its corresponding level of noise is mild-moderate.

Table 19.2-1 *below contains the results for the measurements taken at Location 1 of the Projected Development Site,* ***Table 19.2-2*** *below contains the results for the measurements taken at Location 2 of the Projected Development Site, and* ***Table 19.2-3*** *below contains the results for the measurements taken at Location 3 of the Projected Development Site*

Table 19.2-1: Noise Levels (dB) at Location 1 – 47th Ave Street Street-Level Frontage			
Wednesday, October 2nd, 2019[16]			
Time	07:37 am – 08:37 am	12:00 pm– 1:00 pm	4:34 pm – 5:34 pm
L_{max}	85.6	81.3	78.4
L_{10}	66.0	61.0	60.0
L_{eq}	63.3	59.9	59.2
L_{50}	57.0	56.0	53.5
L_{90}	54.5	54.0	51.5
L_{min}	52.9	52.6	49.8

Table 19.2-2: Noise Levels (dB) at Location 2 – 83rd Street Street-Level Frontage			
Wednesday, October 2nd, 2019[17]			
Time	7:35 am – 8:35 am	12:00 pm – 1:00 pm	4:30 pm – 5:30 pm
L_{max}	87.3	85.3	80.6
L_{10}	66.5	71.0	68.0
L_{eq}	65.8	70.1	65.6
L_{50}	61.0	69.5	64.0
L_{90}	58.5	69.0	58.0
L_{min}	57.3	67.8	65.6

[16] Equipment: Casella CEL-633C SN 1274486
[17] Equipment: Casella CEL-633C SN 1488256

Table 19.2-3: Noise Levels (dB) at Location 3[18]: 24-Hour Rooftop Monitoring Location[19] Wednesday, January 13th 2019 – Thursday, January 14th 2019						
Start Date & Time	LAeq	LAFmin	LAF 50%	LAFmax	LAF 10%	LAF 90%
2/13/2019 10:41	64.0 dB	53.3 dB	57.0 dB	88.3 dB	60.0 dB	55.5 dB
2/13/2019 11:41	64.2 dB	53.3 dB	57.0 dB	87.5 dB	60.0 dB	55.5 dB
2/13/2019 12:41	63.2 dB	52.4 dB	56.5 dB	88.4 dB	58.5 dB	55.0 dB
2/13/2019 13:41	63.6 dB	53.3 dB	57.0 dB	85.6 dB	60.0 dB	55.5 dB
2/13/2019 14:41	61.6 dB	52.0 dB	56.0 dB	84.1 dB	59.0 dB	54.5 dB
2/13/2019 15:41	66.9 dB	52.4 dB	56.5 dB	89.8 dB	61.0 dB	54.5 dB
2/13/2019 16:41	66.0 dB	52.9 dB	57.0 dB	87.0 dB	60.0 dB	55.5 dB
2/13/2019 17:41	66.9 dB	52.8 dB	56.5 dB	85.8 dB	60.0 dB	55.0 dB
2/13/2019 18:41	66.9 dB	51.8 dB	55.5 dB	90.2 dB	59.5 dB	54.0 dB
2/13/2019 19:41	64.8 dB	51.6 dB	55.5 dB	89.2 dB	59.0 dB	54.0 dB
2/13/2019 20:41	64.1 dB	51.6 dB	55.0 dB	87.3 dB	57.5 dB	53.5 dB
2/13/2019 21:41	63.4 dB	50.5 dB	54.5 dB	88.7 dB	57.0 dB	53.0 dB
2/13/2019 22:41	64.5 dB	48.5 dB	52.5 dB	89.3 dB	57.0 dB	51.0 dB
2/13/2019 23:41	61.5 dB	46.9 dB	51.5 dB	84.3 dB	54.5 dB	49.5 dB
2/14/2019 0:41	61.4 dB	46.7 dB	50.5 dB	86.8 dB	53.5 dB	49.0 dB
2/14/2019 1:41	57.3 dB	45.6 dB	49.5 dB	83.6 dB	51.5 dB	48.0 dB
2/14/2019 2:41	58.8 dB	45.7 dB	49.5 dB	86.5 dB	52.5 dB	48.0 dB
2/14/2019 3:41	60.8 dB	46.8 dB	50.0 dB	83.5 dB	52.0 dB	49.0 dB
2/14/2019 4:41	58.6 dB	47.6 dB	51.0 dB	87.9 dB	54.0 dB	50.0 dB
2/14/2019 5:41	65.1 dB	49.5 dB	53.5 dB	89.2 dB	56.0 dB	51.5 dB
2/14/2019 6:41	66.1 dB	51.0 dB	55.0 dB	87.7 dB	59.0 dB	53.5 dB
2/14/2019 7:41	67.6 dB	51.2 dB	55.5 dB	87.0 dB	60.5 dB	54.0 dB
2/14/2019 8:41	66.8 dB	51.8 dB	55.5 dB	88.1 dB	58.5 dB	54.0 dB
2/14/2019 9:41	64.7 dB	52.2 dB	56.0 dB	88.1 dB	59.0 dB	55.0 dB

The traffic volumes (vehicle counts) and vehicle classifications taken at the Projected Development Site during peak vehicular travel periods [morning (AM), noon (MD), and evening (PM)] concurrent with noise monitoring at Location 1 and Location 2, respectively, are shown below in Table **19.2-4** (Location 1) and **Table 19.2-5** (Location 2):

[18] No supplemental measurements were taken for Location 3 (24-hour rooftop measurement) on 10/2/2019, and using the measurements from Feb 2019 study may lead to excessive noise attenuation requirements for the proposed project.
[19] Equipment: Casella CEL-633C SN 12744867

Table 19.2-4: October 2nd, 2019 Traffic Volumes and Vehicle Classifications Location 1: 47th Ave Street Frontage			
	7:35 am – 8:35 am	12:00 pm – 1:00 pm	4:30 pm – 5:30 pm
Car/ Taxi	21	15	33
Van/Light Truck/SUV	27	20	41
Motorcycle	0	0	0
Medium Truck	1	2	1
Heavy Truck	2	2	0
Bus	3	1	0
Train	12	4	9

Table 19.2-5: October 2nd, 2019 Traffic Volumes and Vehicle Classifications Location 2: 83rd Street Frontage			
	7:35 am – 8:35 am	12:00 pm – 1:00 pm	4:30 pm – 5:30 pm
Car/ Taxi	21	19	19
Van/Light Truck/SUV	32	32	28
Motorcycle	0	0	0
Medium Truck	5	7	1
Heavy Truck	3	2	0
Bus	3	0	0
Train	12	4	9

19.3 Noise Passenger Car Equivalent Screening

Pursuant to Section 111 of the *2020 CEQR Technical Manual*, mobile sources are those noise sources that move in relation to a noise-sensitive receptor—principally automobiles, buses, trucks, aircraft, and trains. Each has its own distinctive noise character, and, consequently, an associated set of noise assessment descriptors.

For Mobile Sources, an initial noise assessment may be appropriate if a proposed action would generate additional project-generated vehicular traffic in an area where roadways currently carry no or very low traffic volumes, or where a nearby receptor would potentially be impacted by high ambient noise levels. Receptors are generally the subject of most noise impact analyses. A noise-sensitive location (known as a "receptor") is usually defined as an area where human activity may be adversely affected when noise levels exceed predefined thresholds of acceptability or when noise levels increase by an amount exceeding predefined thresholds of change.

Automobile noise is a function of vehicle speed and engine noise. With changing gears, the noise levels tend to increase in a sawtooth kind of pattern as vehicular speed increases. The interaction of the road surface with the tires generates noise that increases with vehicle speed. At vehicular speeds below 30 miles per hour, the typical automobile noise spectrum is dominated by engine noise. At speeds higher than 30 miles per hour, the automobile noise signature is composed of a combination of lower frequency engine noise and higher frequency tire noise. The engine and tire noise for vehicular speeds above 30 miles per hour are comparable in noise level. Noise generated by buses and heavy trucks is also composed of engine and tire noise, but tire noise tends to dominate the noise signature at vehicular speeds above 30 miles per hour in trucks and buses. Cargo load normally does not significantly affect noise levels because increased load usually results in decreased vehicular speed, and the effects cancel each other out. Because individual trucks and buses are noisier than individual automobiles, the concept of noise passenger car equivalents (PCEs) is used.

Pursuant to Section 332.1 of the *2020 CEQR Technical Manual*, the below values can be used to calculate vehicular noise using projections:

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

To determine if the Proposed Action would result in an increase in existing Noise PCE values by 100 percent or more, a preliminary screening was conducted. This screening assesses the Noise PCE values of the vehicles projected to arrive on-site during peak hours, compared to the Noise PCE values of existing background traffic recorded during noise monitoring.

This screening analysis was performed based on the Level 2 Vehicular Assignment to the Local Network (*See* Figure 16.4-5, 16.4-7, and 16.4-9 in Section 16: Transportation above).

Noise PCE Screening

Location 1 Noise PCE Screening

The Noise PCE Screening at Location 1 considers the incremental vehicular trips projected to traverse past 47th Avenue proximate to Noise Location 1 and the With-Action Residential frontage and No-Action Light Industrial Frontage. The AM peak hour incremental project-generated vehicles along this frontage were conservatively applied to the existing AM, MD, and PM noise PCE levels based on the traffic volumes and classifications collected concurrently to noise monitoring provided in **Table 19.2-4** above. The Noise PCE screening for Location 1 is provided in **Table 19.3-1** below.

Based on the results provided in **Table 19.3-2** below, the Proposed Action(s) would not result in an increase to existing Noise PCE values at Noise Monitoring Location 1 by greater than 100%, and no further analysis is warranted.

Location 2 Noise PCE Screening

The Noise PCE Screening at Location 2 considers the incremental vehicular trips projected to traverse past 83rd Street proximate to Noise Location 2. These consist strictly of vehicles associated with the With-Action UG 3 School. The AM peak hour project-generated vehicles were applied to the existing AM peak hour Noise PCEs based on the traffic volumes and classifications provided in **Table 19.2-5** above. Similarly, the School Dismissal project-generated vehicles were applied to the existing MD noise PCEs, and the Afterschool Dismissal/PM peak hour project-generated vehicles were applied to the existing PM noise PCEs. The Noise PCE screening for Location 2 is provided in **Table 19.3-3** below.

Based on the results provided in **Table 19.3-4** below, the Proposed Action(s) would not result in an increase to existing Noise PCE values at Noise Monitoring Location 2 by greater than 100%, and no further analysis is warranted.

Table 19.3-1: Location 1 Noise PCE Screening						
Traffic volumes, vehicle classifications, and PCE Noise Value at Location 1 - 47th Avenue						
Existing/No-Action Noise PCE Value						
	AM Existing Vehicle Counts	**AM Noise PCE Value**	**MD Existing Vehicle Counts**	**MD Noise PCE Value**	**PM Existing Vehicle Counts**	**PM Noise PCE Value**
Car/ Taxi	21	21	15	15	33	33
Van/Light Truck/SUV	27	27	20	20	41	41
Motorcycle	0	0	0	0	0	0
Medium Truck	1	13	2	26	1	13
Heavy Truck	2	94	2	94	0	0
Bus	3	54	1	18	0	0
Total Noise PCE	-	**209**	-	**173**	**-**	**87**
With Action Noise PCE Value						
	AM Project Generated Vehicles	**AM Noise PCE Value**	**MD Project Generated Vehicles**	**MD Noise PCE Value**	**PM Project Generated Vehicles**	**PM Noise PCE Value**
Car/ Taxi	19	40	19	34	19	52
Van/Light Truck/SUV	0	27	0	20	0	41
Motorcycle	0	0	0	0	0	0
Medium Truck	0	13	0	26	0	13
Heavy Truck	0	94	0	94	0	0
Bus	1	64	1	28	1	10
Total Noise PCE	-	**239**	-	**203**	-	**117**

Note: PCE screening conservatively considers the AM Peak Hour incremental vehicles projected to traverse past Noise Location 1 (47th Avenue) applied to the existing AM, MD, and PM existing Noise PCEs. The incremental vehicles associated with the Proposed Action include only yellow school buses and automobiles.

Table 19.3-2: Location 1 Noise PCE Results			
Increment:	**No-Acting/Existing**	**Increment**	**% Increase**
AM Noise PCE	**209**	**30**	**14%**
MD Noise PCE	**173**	**30**	**17%**
PM Noise PCE	**87**	**30**	**34%**

Table 19.3-3: Location 2 Noise PCE Screening						
Traffic volumes, vehicle classifications, and PCE Noise Value at Location 2 – 83rd Street						
Existing/No-Action Noise PCE Value						
	AM Existing Vehicle Counts	**AM Noise PCE Value**	**MD Existing Vehicle Counts**	**MD Noise PCE Value**	**PM Existing Vehicle Counts**	**PM Noise PCE Value**
Car/ Taxi	21	21	19	19	19	19
Van/Light Truck/SUV	32	32	32	32	28	28
Motorcycle	0	0	0	0	0	0
Medium Truck	5	65	7	91	1	13
Heavy Truck	3	141	2	94	0	0
Bus	3	54	0	0	0	0
Total Noise PCE	**-**	**313**	**-**	**236**	**-**	**60**
With Action Noise PCE Value						
	AM Project Generated Vehicles	**AM Noise PCE Value**	**MD Project Generated Vehicles**	**MD Noise PCE Value**	**PM Project Generated Vehicles**	**PM Noise PCE Value**
Car/ Taxi	98	119	53	72	37	56
Van/Light Truck/SUV	0	32	0	32	0	28
Motorcycle	0	0	0	0	0	0
Medium Truck	0	65	0	91	0	13
Heavy Truck	0	141	0	94	0	0
Bus	5	137	5	83	0	0
Total Noise PCE	-	**495**	-	**373**	-	**97**

Note: PCE screening considers the AM, School Dismissal and Afterschool Dismissal Peak Hour incremental vehicles projected to traverse past Noise Location 2 (83rd Street) applied to the existing AM, MD, and PM existing Noise PCEs. The incremental vehicles associated with the Proposed Action include only yellow school buses and automobiles.

Table 19.3-4: Location 2 Noise PCE Results			
Increment:	**No-Acting/Existing**	**Increment**	**% Increase**
AM Noise PCE	**313**	**182**	**58%**
MD Noise PCE	**236**	**137**	**58%**
PM Noise PCE	**60**	**37**	**61%**

19.4 Stationary Source (Playground) Analysis

A detailed analysis of stationary noise may be appropriate if the proposed project would introduce a stationary noise source, such as a playground, to be operating within 1,500 feet of a receptor, or within direct line of sight to that receptor.

The Charter School Building, to be developed on reapportioned Lot 223 of the Projected Development Site under Future Conditions Absent the Proposed Action pursuant to an approved Special Permit with the NYC BSA, would introduce two outdoor recreation spaces:

- Third-Floor Terrace: An approximately 3,000 sf terrace (for use by students) along the northern and eastern portion of the second-floor roof or third-floor level at an elevation of 21'-1" (*See* **Appendix A:** Charter School Plans BSA-10); and

- Fourth-Floor Rooftop Recreation Area: A rooftop recreation space with approximately 5,110 sf of area, located at an elevation of 53'-11" above the mezzanine level (*See* **Appendix A:** Charter School Plans BSA-13).

  The nearest receptors that were considered as either part of the preliminary screening, or were subject to further playground noise analysis are as follows (see Figure 19-2):

Receptor 1 (The Proposed Residential Building):

Third-Floor Terrace on Receptor 1
As shown in **Figure 19.4-1** below, the third-floor terrace would be located greater than 50' east of the nearest edge of the proposed residential development (Receptor 1) associated with the Projected Development Site.

Fourth-Floor Rooftop Recreation Area on Receptor 1
As shown in **Figure 19.4-2** below, the fourth-floor rooftop recreation area would be located greater than 50' east of the nearest edge of the proposed residential development (Receptor 1) associated with the Projected Development Site.

Further assessment of the impact of the proposed school's outdoor recreation/terrace areas on Receptor 1 is provided below.

Playground Noise Methodology

To determine the potential noise impacts of the proposed play areas on sensitive receptors, the measurements and procedures outlined in a study conducted by AKRF entitled, "*Development of Noise Assessment Method for School Playground Noise*."[20] were referenced. The study, conducted for the New York School Construction Authority (SCA), included noise monitoring at nine schools (one early childhood center, four elementary schools, three intermediate schools, and one high school) and provides the results

[20] Wu, Weixiong, AKRF Inc. "Development of Noise Assessment Method for School Playground Noise," Inter-Noise 2006, Volume 6.

for hourly equivalent (L_{eq}) noise levels by grade composition, as shown below in **Table 19.4-1**. This study has been widely used and recognized for assessing school playground noise impacts for previously approved projects subject to environmental review by the New York City Department of City Planning (DCP), the New York City Department of Environmental Protection (DEP), and the SCA.

Table 19.4-1: Maximum Playground Boundary Noise Level in Leq	
School Type	**Leq Noise Level (In dBA)**
Early Childhood Center	71.5
Elementary School	71.4
Intermediate School	71.0
High School	68.2

Source: Wu, Weixiong, AKRF, Inc. "Development of Noise Assessment Method for School Playground Noise," Inter-Noise 2006, Volume 6.

The proposed school includes kindergarten through sixth-grade students. As the proposed school includes a combination of elementary and intermediate school seats, this noise assessment utilizes the more conservative maximum L_{eq} noise level from the proposed grade compositions. As shown in **Table 19.4-1** above, the Elementary School (71.4 dBA) noise level was selected as the referenced noise levels from the boundary of the third-floor terrace and rooftop recreation areas.

Geometric spreading and the consequent dissipation of sound energy with increased distance from the playground decreases noise levels at varying distances from the playground boundary. To determine the potential noise impacts at a given distance from a play area boundary, the study suggests a 4.5 dBA reduction in L_{eq} noise levels per doubling of distance at a distance between 40 and 300 feet, with initial reductions of 4.8 dBA applied at a distance of 20 feet, 6.8 dBA applied at a distance of 30 feet, and 9.1 dBA applied at a distance of 40 feet.

Noise levels were estimated with the following equation at each sensitive receptor with a direct line-of-sight to each play area between 40 to 300 feet:

$$Lp1 = Lp2 - 15*\log(d/10)$$

Where:
Lp1 = the predicted noise level at a specific distance.
Lp2 = the maximum Leq at the boundary of the school play area.
d = the distance from the play area boundary to the sensitive receptor in feet.

To add the monitored and projected noise levels, the following equation was used:

$$L = 10\,\mathrm{Log}_{10}\left(\sum_{i=1}^{n} 10^{(L_i/10)}\right)$$

During daytime hours (between 7 AM and 10 PM), nuisance levels for noise are generally considered to be more than 45 dB(A) indoors and 70 to 75 dB(A) outdoors. Typical construction techniques used in the past (including typical single-glazed windows) provide a minimum of approximately 20 dB(A) of noise attenuation from outdoor to indoor areas. In view of these factors and for the purposes of determining a significant impact

during daytime hours, it is reasonable to consider 65 dB(A) L_{eq} (1) as an absolute noise level that should not be significantly exceeded.

For example, if the No-Action noise level is 60 dB(A) Leq (1) or less, a 5 dB(A) Leq (1) or greater increase would be considered significant. If the No-Action noise level is 61 dB(A) Leq (1), the maximum incremental increase would be 4 dB(A), since an increase higher than this would result in a noise level higher than the 65 dB(A) Leq (1) threshold and is considered significant. Similarly, if the No-Action noise level is 62 dB(A) Leq (1) or more, a 3 dB(A) Leq(1) or greater change is considered significant. Where potential impacts were predicted, the results of this analysis were used to develop mitigation measures.

Playground Noise Assessment

Existing Conditions
As indicated above in **Table 19.2-3**, in the absence of the Proposed Actions under existing conditions, the lowest and highest recorded Leq noise levels (during school hours) measured at *Location 3* (nearest the third-floor terrace and fourth-floor rooftop recreation area boundaries, and Receptor 1) was as follows:

- 61.6 dB(A) during the 2:41 p.m. monitoring hour
- 67.7 dB(A) during the 7:31 a.m. monitoring hour

Future With-Action Conditions
In order to determine with-action noise levels associated with stationary source noise impact at Receptor 1 (*See* **Table 19.4-2**), the existing L_{eq} noise level (lowest and highest recorded) measured at Location 3 was logarithmically added to the noise generated by the playground at the receiver location. The calculated future with-action noise levels were then compared to existing noise levels, to identify potential noise level increases above the applicable CEQR impact criteria, determine the significance of the predicted noise level, and identify where mitigation is required.

Figure 19.4-1: Proposed Residential Building (Receptor 1) and School Third-Floor Terrace



Figure 19.4-2: Proposed Residential Building (Receptor 1) and School 4th Floor Rooftop Recreation Area

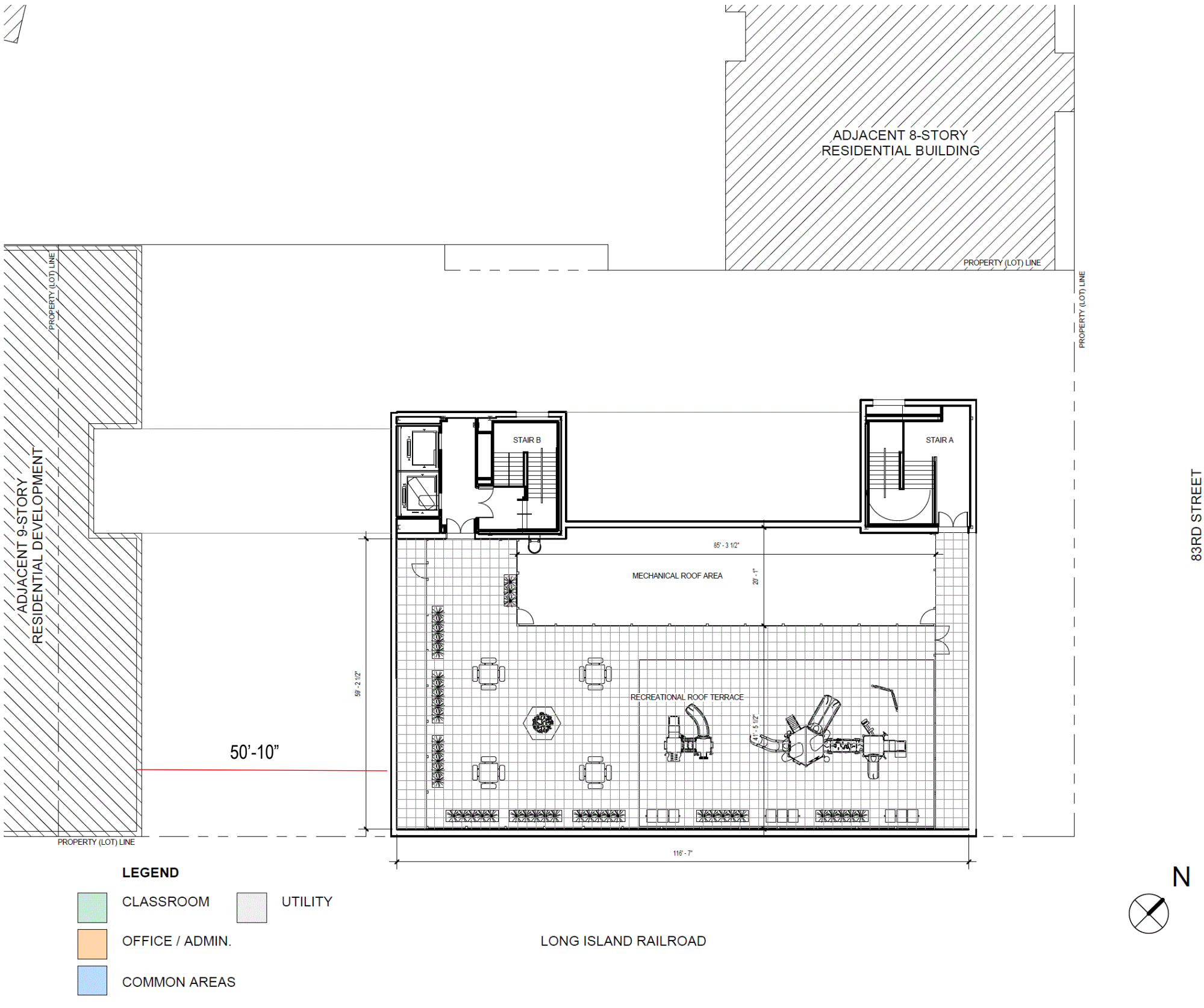


Table 19.4-2: Third-Floor Terrace and Fourth-Floor Rooftop Recreation Area Determination of Impact on Receptor 1 (Proposed Residential Building)						
Period	Measured Existing Leq (dBA)	50 feet from Third-Floor Terrace and Rooftop Recreation Boundary to Receptor 1		Change in Leq from Existing Conditions	CEQR Exceedance Threshold	Determination of Impact
		Predicted Leq due to Terrace and Rooftop Areas (dBA)	Predicted Combined Leq (dBA)			
Lowest Recorded: 2:41 P.M. Monitoring Hour	61.6	60.9	64.3	2.68	4	Pass
Highest Recorded: 7:41 A.M. Monitoring Hour	67.6	60.9	68.4	0.84	3	Pass

Stationary Noise Determination of Impact and Mitigation

As shown in **Table 19.4-2** above:

- During the monitoring period with the lowest recorded existing L_{eq} at Location 3, the exceedance threshold for noise impact associated with the school's third-floor terrace and fourth-floor rooftop recreation area is a 4 dB(A) increase in ambient noise at Receptor 1, whereas the Proposed Action would increase existing noise levels at Receptor 1 by 2.68 dB(A) Leq compared to existing conditions.
- During the monitoring period with the highest recorded existing Leq at Location 3, the exceedance threshold for noise impact associated with the school's third-floor terrace and fourth-floor rooftop recreation area is a 3 dB(A) increase in ambient noise at Receptor 1, whereas the Proposed Action would increase existing noise levels at Receptor 1 by 0.84 dB(A) Leq compared to existing conditions.

Therefore, no further analysis of stationary noise impact on Receptor 1 is warranted.

19.5 Building Attenuation Findings

The *2020 CEQR Technical Manual* Table 19-2 sets external noise exposure standards, which are classified into four categories: 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 dB(A) or lower for residential or institutional uses.

For a residential/institutional use such as what would occur under the Proposed Actions, an L_{10} of between 65 and 70 dB(A) is identified as marginally acceptable general external exposure. An L_{10} of between 70 and 80 dB(A) is identified as marginally unacceptable general external exposure.

- The highest recorded L_{10} at Location 1 (nearest the proposed residential building's street frontage) was 66.0 dB(A) during the morning monitoring period on the Wednesday October 2nd, 2019 noise monitoring day.
  The highest recorded L_{10} at Location 2 (nearest the 83rd Street Façade of the Charter School Building) was 71.0 dB(A) during the midday monitoring period on the Wednesday October 2nd, 2019 noise monitoring day.
- The highest recorded L_{eq}[21] at Location 3 (rooftop of the existing building nearest direct line-of-sight to the LIRR rail and school recreation areas) was 67.6 dB during the 7:41 AM monitoring hour. Inclusive of the noise generated by the outdoor school areas, the projected L_{eq} noise level would be 68.4.

As noise levels measured at Location 1 (nearest the proposed residential building street frontage) fall below unacceptable levels pursuant to the CEQR Technical Manual, and as noise levels measured at Location 3 (nearest direct line-of-sight to the LIRR rail and school recreation areas) inclusive of projected noise generated by the adjacent school use fall within marginally acceptable ambient noise levels, no window-wall attenuation would be required for the residential development effectuated by the Proposed Action.

As discussed below and identified in the BSA Resolution for the approved charter school development (*See* Appendix E), noise conditions were placed on the development of the school building. If the proposed rezoning is approved, the BSA Special Permit will be relinquished by The Applicant as the proposed school would be permitted as-of-right in the new zoning district. Accordingly, the BSA Special Permit requirements for noise specified above will be ensured through an E-Designation imposed as part of the Proposed Actions.

Proposed (E) Designation

To ensure that there are no significant adverse impacts related to noise occur as a result of the Proposed Actions, the following E-Designation would be placed on Block 1536, Lot 223 of the Projected Development Site:

E-Designation (E-630)

Block 1536, Lot 223: To ensure an acceptable interior noise environment, future community facility uses must provide a closed-window condition with a minimum of 28 dBA window/wall attenuation on all facades to maintain an interior noise level not greater than 45 dBA for community facility uses. To maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, air conditioning. A ten-foot high acoustical sound barrier/absorption panel fence with a noise reduction coefficient rating (NRC) of 1.0 will be installed along the western portion of the School building's third-floor terrace.

With the above E-Designation in place, there is no potential for significant adverse impacts on building occupants as a result of ambient noise exposure.

[21] As the L_{eq} exceeded the L_{10} noise levels at Location 3, the L_{eq} was used as the representative noise level to determine building attenuation.

21.0 CEQR Technical Manual Chapter 21: Neighborhood Character Analysis Supplemental Studies to the EAS Short Form Part II

According to the *2020 CEQR Technical Manual*, a neighborhood character assessment considers how elements of the environment combine to create the context and feeling of a neighborhood and how a project may affect that context and feeling. Thus, to determine a project's effects on the neighborhood character, the elements that contribute to a neighborhood's context and feeling are considered together. These elements may include land use, zoning, public policy, socioeconomic conditions, open space, historic and cultural resources, urban design, visual resources, shadows, transportation and noise. The study area for a preliminary analysis of neighborhood character is typically consistent with the study areas of the relevant technical areas under CEQR that contribute to the defining elements of the neighborhood. The study area should generally extend to a 400-foot radius around the Affected Area.

Preliminary Analysis

Existing Conditions

The study area (see **Figures 1 and 6** located after the EAS Form) is defined by large multi-family residential buildings to the north and northeast, such as the 276-unit residential tower at 45-15 82nd Street, the 163-unit 10-story tower at 81-11 45th Avenue, and the 88-unit condominium building at 83-06 Vietor Avenue. The study area is bounded to the south by the LIRR tracks that run parallel to South Railroad Avenue, which effectively serve to cut off the study area from the low- and medium-density residential neighborhoods to the south.

P.S. 255/7, an elementary school for students on the Autism Spectrum, is located to the southeast beyond the LIRR and South Railroad Avenue. Commercial development is concentrated east of the Development Site within the commercial overlay districts mapped along Broadway and 83rd Street, as well as to the north of the Project Site along the south side of 45th Avenue. An 8-story mixed-use residential and commercial building is located directly north of the Development Site, effectuated by the 45th Avenue/Elmhurst Rezoning effective 11/15/2006 (CEQR No. 02DCP044Q). Further north of this area is Moore Homestead Playground, an approximately 2-acre neighborhood park accessed by Broadway, 82nd Street, and 45th Avenue. A large institutional building (Adult Care Center) is developed along the westernmost portion of the block bounded by 45th and 47th Avenues, and 80th and 82nd Streets (Block 1533, Lot 36) to the west of the site.

Future No Action Conditions

Under a future condition with no-action, the eastern portion of the Projected Development Site (reapportioned Lot 223) would be developed with a 4-story plus mezzanine UG 3 charter school building accessed from 83rd Street. The remaining 9,850 square foot western portion of the existing building, which is accessed from 47th Avenue, would be partitioned off and would remain designated as light industrial space. It is expected that other existing uses within the Affected Area would remain in the future without the Proposed Actions. Therefore, for the purposes of this analysis, it is assumed that the constituent elements of neighborhood character in the No-Action Condition would be consistent with the existing conditions.

Future With Action Conditions

The Proposed Actions would facilitate the development of the Projected Development Site with a 9-story residential building. Pursuant to the Proposed Actions, reapportioned Lot 80 would be developed with a 161,696 GSF (141,133 ZSF; 3.18 FAR) building that rises to a height of 95 feet tall. The building would

contain 163 total dwelling units, at least 20 percent of which would be permanently set aside at or below 80 percent AMI. Consistent with conditions absent the Proposed Action, reapportioned Lot 223 would be developed with a 67,286 GSF (63,264 ZSF; 1.42 FAR) 4-story community facility (school) building.

In order to determine the Proposed Action's potential effects on neighborhood character, the elements that contribute to a neighborhood's context and feeling are considered both separately and cumulatively. The examination focuses on whether a defining feature of the neighborhood's character may be significantly affected, as further described below:

- **Land Use, Zoning, and Public Policy:** The Proposed Actions would not adversely impact the neighborhood in terms of land use, zoning or public policy – as the land uses and zoning proposed are similar to adjacent land uses and would not alter the overall land use patterns in the area.

- **Open Space:** The Proposed Actions would not adversely impact either access to or significantly reduce the open space ratio available to residents in the neighborhood.

- **Shadows:** The Proposed Actions would not result in significant adverse impacts from shadows cast from the Projected Development building.

- **Historic and Cultural Resources:** The LPC review did not identify any known Architectural or Archeological resources. Therefore, the Proposed Actions would not introduce any impacts to Historic or Cultural Resources.

- **Urban Design and Visual Resources:** The Proposed Actions would not adversely impact the constituent elements of Urban Design or Visual Resources as the buildings would be similar in form and bulk to surrounding uses.

- **Traffic:** The Proposed Actions would not result in a development that would have a significant adverse impact on transportation within the study area pursuant to the findings of the detailed transportation analysis.

- **Noise:** The Proposed Actions with the incorporation of the proposed E designation would not result in a development that would produce a significant source of noise or experience unacceptable noise levels at the development's sensitive receptors.

Combination of Moderate Effects: Based on the above findings, there would be no combination of moderate effects to two or more of the above elements that cumulatively may affect neighborhood character.

Conclusion

As discussed above, the Proposed Actions would not result in a significant impact to the neighborhood character due to an adverse impact in a single contributing element, nor would cumulative effects of two or more of the contributing elements be sufficient to adversely impact the neighborhood character.

22.0 CEQR Technical Manual Chapter 22: Construction Analysis Supplemental Studies to the EAS Short Form Part II

According to the *2020 CEQR Technical Manual*, construction activities, although temporary in nature, can sometimes result in significant adverse impacts. A project's construction activities may affect a number of technical areas analyzed for the operational period, such as air quality, noise, and traffic; therefore, a construction assessment relies to a significant extent on the methodologies and resulting information gathered in the analyses of these technical areas.

The following considerations are used to determine whether further analysis of a project's construction activities is needed for any technical area.

Transportation

A transportation analysis of construction activities is predicated upon the duration, intensity, complexity, and/or location of construction activity. Analysis of the effects of construction activities on transportation is often not required, as many projects do not generate enough construction traffic to warrant such analysis. An analysis should consider a number of factors before determining whether a preliminary assessment of the effect of construction on transportation is needed. These factors include whether the construction would be located in a Central Business District or along an arterial or major thoroughfare, whether any closures or narrowing of moving or parking lanes or pedestrian facilities would be located in an area with high pedestrian activity or near sensitive land uses such as schools, hospitals, or parks, and whether the project would involve 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.

The proposed development would not affect major traffic routes. There would be no construction activity within a Central Business District or on an arterial or major thoroughfare. Construction activities may require closing, narrowing or otherwise impeding moving lanes, roadways, and/or parking lanes; however, any closing or narrowing of such would be temporary and conform with any conditions imposed by DOT Office of Construction Mitigation and Coordination. Development on the Projected Development Site is not expected to overlap and last for more than two years overall.

Air Quality and Noise

According to the CEQR Technical Manual, an assessment of air quality and noise for construction activities is likely not warranted if the project's construction activities:

- Are considered short‐term (less than two years);
- Are not located near sensitive receptors; and
- Do not involve construction of multiple buildings where there is a potential for on‐site receptors on buildings to be completed before the final build-out.

The Proposed Actions would not result in construction activities lasting longer than two years and would not result in construction near sensitive receptors. Build out and occupancy of Development Sites is expected to occur in such a way that occupancy of on-site receptors would not occur prior to final build-out of a site.

Historic and Cultural Resources

The area does not possess architectural or archaeological resources. Therefore, construction activity does not have the potential for adverse impacts.

Hazardous Materials

As discussed in detail above in Section 12.0 (Hazardous Materials Analysis Supplemental Studies), an E-Designation will be placed on the Projected Development Sites to ensure that the construction and occupancy of the site do not result in the potential for impacts related to hazardous materials. With these provisions in place, there will be no potential for significant adverse impacts related to Hazardous Materials as a result of construction activities associated with the Proposed Actions.

Open Space, Socioeconomic Conditions, Community Facilities, Land Use and Public Policy, Neighborhood Character, And Infrastructure

According to the CEQR Technical Manual, a preliminary construction assessment is generally not needed for these technical areas unless the following are true:

- The construction activities are considered "long-term" (more than 2 years); or
- Short-term construction activities would directly affect a technical area, such as impeding the operation of a community facility (e.g., result in the closing of a community health clinic for a period of a month(s).

None of the above situations would occur, and no short- or long-term impacts to open space, socioeconomic conditions, community facilities, land use and public policy, neighborhood character, or infrastructure would occur.

Conclusion

None of the areas of concern noted above would be impacted by construction activities. Therefore, the Proposed Actions do not have the potential for significant adverse impacts related to construction activity.

Appendix 1: Transportation Detailed Levels of Service, Transit, and Parking

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Appendix 1 : Transportation

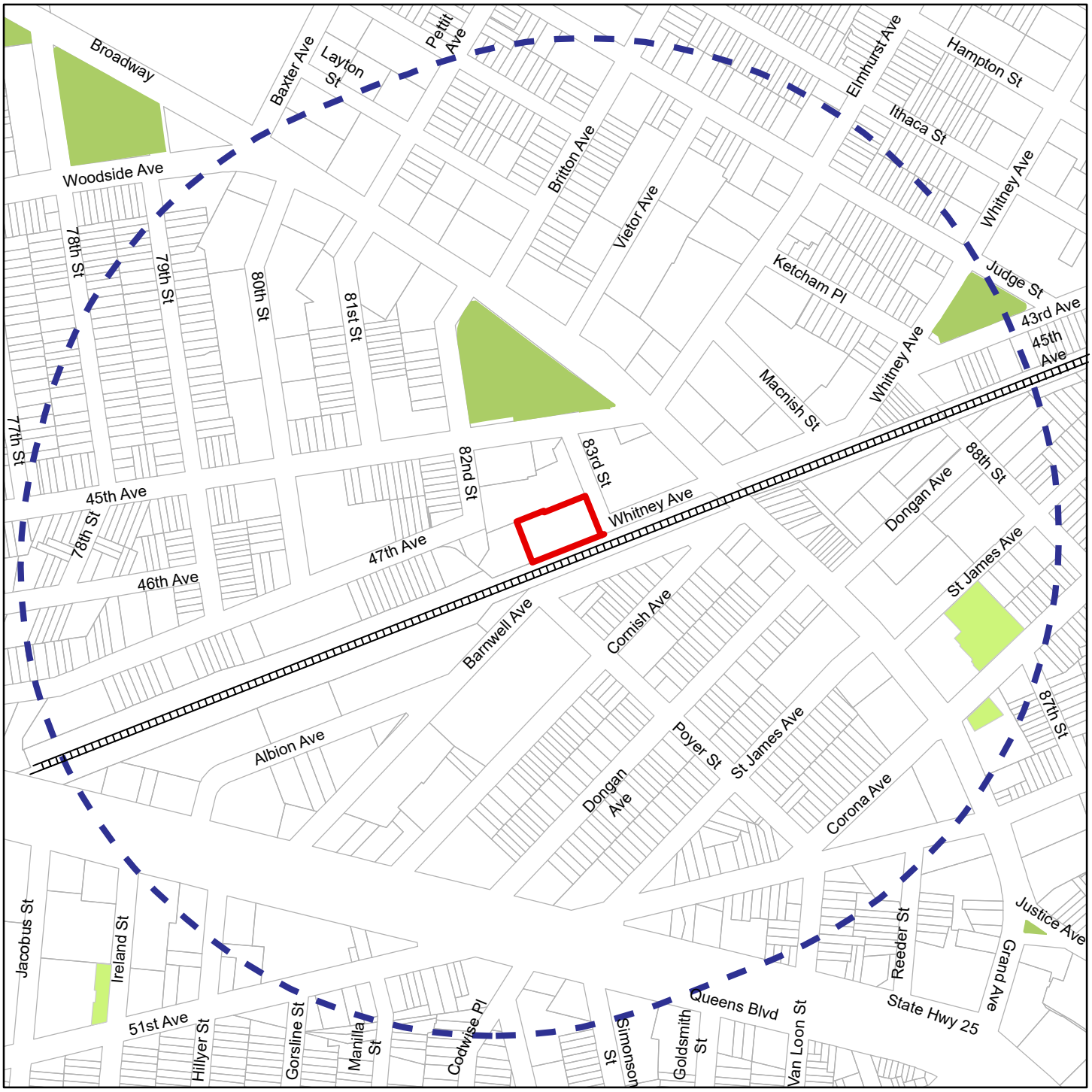
I. INTRODUCTION

This appendix examines the potential traffic, transit, pedestrian, and parking impacts associated with the proposed redevelopment of a site located at 45-20 83rd Street (Block 1536, Lots 223 and 80) in Queens Community District (CD) 4 (the "Project Site"), based on guidelines provided in the *2020 City Environmental Quality Review (CEQR) Technical Manual*.

The proposed actions would be comprised of a conversion and enlargement of an existing 41,320 square foot one-story plus partial mezzanine light industrial building for occupancy by a Use Group (UG) 3 kindergarten through 6th grade charter school on Lot 223 of the Project Site, comprised of approximately 67,286 gsf of charter school and 163 dwelling units on Lot 80 of the Project Site (the "Proposed Project"). The proposed school building on Lot 223 would be accessed from the west side of 83rd Street and would accommodate approximately 567 students and 88 faculty members at full grade capacity. The proposed residential building on Lot 80 would include 72 parking spaces and be accessed from the south side of 47th Avenue. It is anticipated that the Proposed Project would be completed by 2022, with full enrollment in the charter school reached in the 2025/2026 school year. The 2025-2026 school year is considered as the year of analysis as it relates to traffic conditions.

The Project Site is bounded by 83rd Street to the east, 45th Avenue to the north, and Whitney Avenue to the south, as shown on **Figure 1: Project Area**. The study area includes four intersections (two signalized and two unsignalized), six pedestrian elements, eight subway station elements, and one bus line.

Based on anticipated school operations, three peak hours were considered for the transportation analysis: Weekday Morning Arrival ("Weekday AM") (7:30 AM to 8:30 AM), Weekday School Dismissal ("Weekday MD") (3:15 PM to 4:15 PM), and Weekday Afterschool Dismissal ("Weekday PM") (5:15 PM to 6:15 PM).



PROJECT AREA

Figure 1

45-20 83rd Street Special Street Permit

II. SCREENING METHODOLOGY

Transportation impact analysis methodologies for proposed projects in New York City (NYC) are defined in the *CEQR Technical Manual*, which outlines a two-tiered screening process. The Level 1 screening assessment includes a trip generation analysis to determine whether the Proposed Project would result in more than 50 vehicle trips, 200 subway/rail or bus riders, or 200 pedestrian trips in a peak hour. The Level 2 screening is a trip assignment review that identifies intersections with 50 or more vehicle trips, pedestrian elements with 200 or more pedestrian trips, 50 bus trips in a single direction on a single route, or 200 passengers at a subway station or line during any analysis peak hour which would require detailed analyses. The results of the screening analysis are described below.

Traffic

According to the criteria specified in the *CEQR Technical Manual*, traffic analyses are generally required at intersections where more than 50 new vehicle trips would be generated by a proposed project during an individual peak hour based on the results of the vehicle trip assignment. It was determined that individual intersections exceed this threshold during the following three critical peak hours for the Proposed Project:

- Weekday AM peak hour: 7:30 AM to 8:30 AM
- Weekday MD peak hour: 3:15 PM to 4:15 PM
- Weekday PM peak hour: 5:15 PM to 6:15 PM

Detailed intersection analyses were conducted for all three peak hours at the following study intersections within the study area that exceeded the 50 new vehicle trip criteria specified in the *CEQR Technical Manual*:

- 45th Avenue and 83rd Street (Intersection 1)
- 45th Avenue/Elmhurst Avenue and Broadway (Intersection 2)
- Whitney Avenue and 83rd Street (Intersection 3)
- Whitney Avenue and Broadway (Intersection 4)

Transit

The transit criteria specified in the *CEQR Technical Manual* and thresholds established by NYC Transit/Metropolitan Transportation Authority (NYCT/MTA) were used to determine which subway/rail and bus routes in the study area would be analyzed. According to the criteria, if a proposed project is projected to result in fewer than 200 peak hour subway/rail passengers assigned to a single subway station or on a single subway line or 50 bus passengers assigned to a single bus line (in one direction), further transit analyses are not typically required as a proposed project is considered unlikely to create a significant transit impact.

Subway Transit

It was determined that the number of new subway trips generated by the Proposed Project would exceed the *CEQR Technical Manual* thresholds at the Elmhurst Avenue subway station during the Weekday AM and Weekday PM peak hours; therefore, analyses of subway station elements were conducted. Based on information provided by NYCT for the station element passenger assignment, a detailed subway analysis was performed for eight subway station elements at the Elmhurst Avenue station during the Weekday AM and Weekday PM peak hours.

Bus Transit

It was determined that the number of new bus trips generated by the Proposed Project would exceed the *CEQR Technical Manual* thresholds for the Q53-SBS bus route in the northbound and southbound directions during the Weekday AM peak hour; therefore, analysis of the Q53-SBS bus route was conducted during the Weekday AM, Weekday MD, and Weekday PM peak hours.

Pedestrians

Based on criteria specified in the *CEQR Technical Manual*, projected pedestrian volume increases of more than 200 pedestrians per hour at any sidewalk, crosswalk, or intersection corner would be considered a location with potential for significant impacts, and would require a detailed analysis. As the Proposed Project would generate more than 200 pedestrians per hour at six locations within the study area during any of the peak hours based on a combination of walk, subway, and bus trips, a detailed pedestrian analysis was conducted for those locations during the Weekday AM, Weekday MD, and Weekday PM peak hours.

Parking Conditions

According to the *CEQR Technical Manual*, if the threshold for a detailed traffic analysis is met, it is likely that a parking assessment is warranted. As the Proposed Project is expected to generate more than 50 new vehicle trips at an individual intersection during any of the peak hours, a detailed traffic analysis was conducted, and, as such, a parking assessment was conducted. A parking analysis identifies the extent to which on-street and off-street parking is available and utilized under Existing, No-Action, and With-Action conditions. Typically, this analysis encompasses a study area within 0.25-mile of the Proposed Project. If the analysis identifies a shortfall in parking in the 0.25-mile study area, the study area could be extended to 0.5-mile to identify additional parking supply. The analysis, which takes into consideration anticipated changes in area parking supply, provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from additional demand generated by the Proposed Project. Parking demand for the Proposed Project would be accommodated on-street or in off-street parking garages. An on-street and off-street parking utilization survey was conducted in the 0.25-mile study area to estimate available on-street and off-street parking spaces and considered as part of the detailed parking assessment.

III. STUDY AREA

To assess the potential transportation impacts associated with the Proposed Project, the study area was defined based on principal access routes to and from the Project Site, traffic conditions in the surrounding area, and key intersections, transit elements, and pedestrian elements likely to be affected by trips generated by the Proposed Project. In total, four intersections were identified for detailed vehicular analyses, six pedestrian elements were identified for detailed pedestrian analysis, and one bus route was identified for detailed transit analysis. The geographic locations of the four study intersections and six pedestrian elements are depicted on **Figure 2: Vehicular and Pedestrian Study Locations**.

Study Area Intersection and Roadway Characteristics

As shown in **Figure 2,** the study area consists of the following four intersections:

1. 45th Avenue and 83rd Street (side-street stop-controlled)
2. 45th Avenue/Elmhurst Avenue and Broadway (signalized)
3. Whitney Avenue and 83rd Street (uncontrolled)
4. Whitney Avenue and Broadway (signalized)

The physical and operational characteristics of the major roadways in the study area are as follows:

- Broadway is a two-way northbound/southbound roadway that runs through the center of Queens. In the vicinity of the study area, Broadway consists of one travel lane in each direction, one bus lane with a shared bicycle lane in the southbound direction, and one bus lane with a shared bicycle lane in the northbound direction until half-way between Whitney Avenue and 45th Avenue. North of that point, on-street parking and a one-way bicycle lane are provided in the northbound direction. The bus lanes were installed on Broadway in late 2019.
- 45th Avenue is a two-way eastbound/westbound roadway that runs between Broadway and Queens Boulevard. In the vicinity of the study area, 45th Avenue consists of one travel lane and one on-street parking lane in each direction.
- 83rd Street is a one-way northbound roadway from Whitney Avenue to 45th Avenue. It consists of one travel lane with on-street parking on the east and west curbs.
- Whitney Avenue is a one-way westbound roadway from Broadway to 83rd Street. It consists of one travel lane with on-street parking on the north and south curbs. East of Broadway, Whitney Avenue operates as a two-way street with one travel lane in each direction and on-street parking on the north and south curbs.

Transit Service

Transit service in the 0.25-mile study area include two subway lines and one bus route, as shown on **Figure 3: Transit Map.**

Subway Lines

The study area is served by the Elmhurst Avenue Station (M and R lines) located two blocks (less than 0.1 miles) from the Proposed Project, as shown on **Figure 3**. The entrances to the station are located on the northeast, northwest, and southwest corners of the intersection of Broadway and 45th Avenue and the southwest and northeast corners of the intersection of Broadway and 82nd Street.

Bus Routes

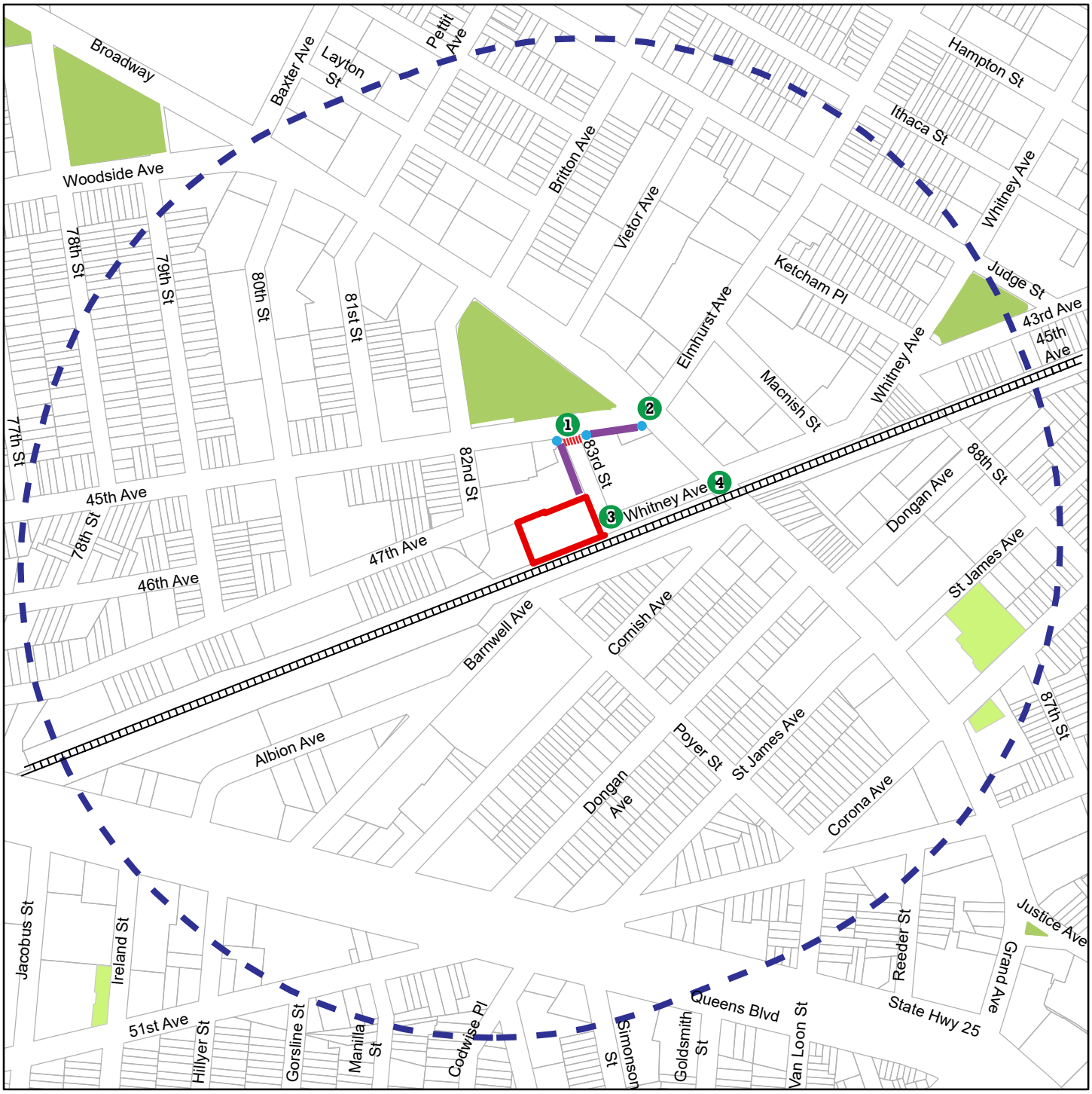
The NYCT/MTA Q53-SBS local bus route provides regular bus service to the study area, as shown on **Figure 3**. The closest bus stop is located 0.25-miles away from the Proposed Project at the intersection of Whitney Avenue and Broadway. The Q53-SBS bus route operates between Rockaway Park Beach 116th Street subway station and Woodside 61 Street/Roosevelt Avenue subway station. The Q53-SBS route operates 24/7 with headways between six and ten minutes during peak periods.

Pedestrian Elements

Pedestrian elements, including two sidewalks, one crosswalk, and three corner reservoirs, were assessed at key intersections in the vicinity of the Proposed Project. The pedestrian elements are located along key pedestrian routes to the Project Site entrances and represent locations where most of the project-generated pedestrian trips generated are anticipated. These locations are shown on **Figure 2.**

Parking Supply and Inventory

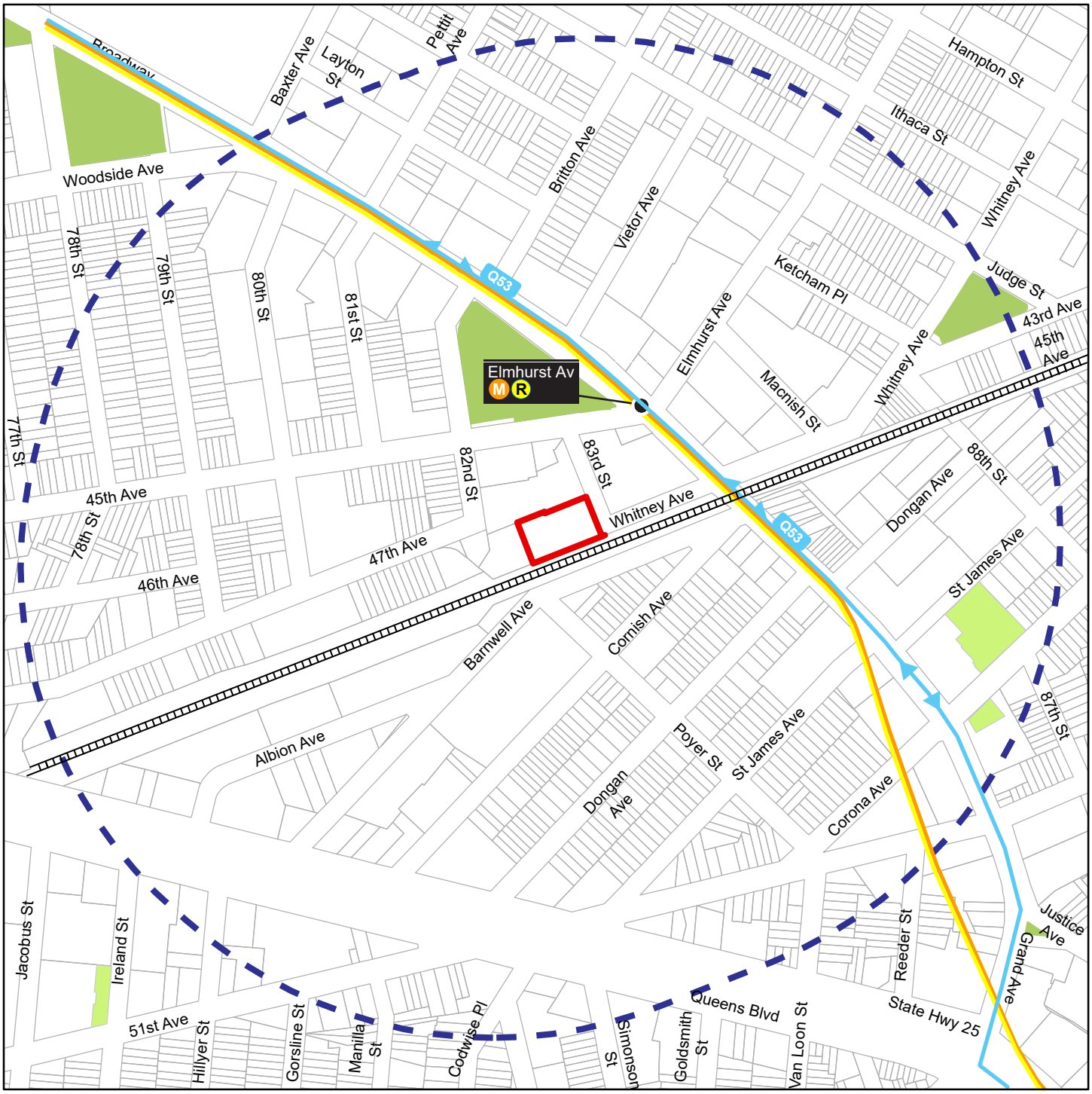
Existing study area on-street parking conditions were evaluated through site visits. On-street parking regulations are shown on **Figure 4: On-Street Parking Regulation Map** and summarized in **Table 1: On-Street Parking Regulation Legend.** Parking utilization surveys for off-street parking facilities were not conducted since there are no off-street parking facilities located within a 0.25-mile radius of the Project Site.



VEHICULAR AND PEDESTRIAN STUDY LOCATIONS

Figure 2

45-20 83rd Street Special Street Permit



N

0 0.05 0.1 0.2 Miles

Project Site

0.25-mile Study Area

LIRR Tracks

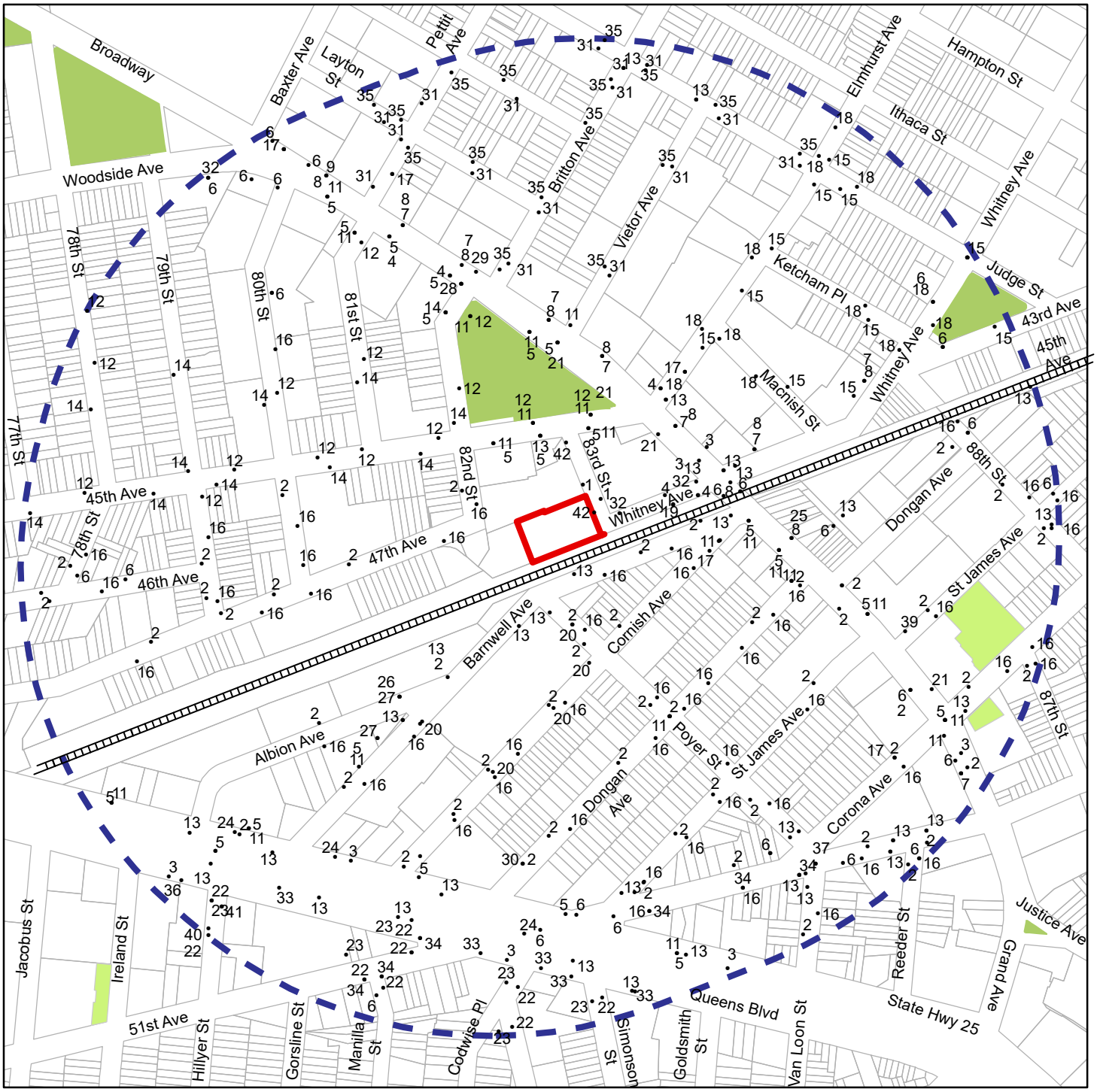
Subway Line (with Station)

Q53 Bus Route

TRANSIT MAP

Figure 3

45-20 83rd Street Special Street Permit



ON-STREET PARKING REGULATIONS

Figure 4

45-20 83rd Street Special Street Permit

Table 1: On-Street Parking Regulation Legend

Map ID #	Parking Regulation
1	NO PARKING 7AM-6PM EXCEPT SUNDAY
2	NO PARKING (SANITATION BROOM SYMBOL) MONDAY 11:30AM-1PM
3	BUS STOP SIGN (BUS & HANDICAP SYMBOLS) NO STANDING
4	1 HOUR METERED PARKING 9AM-7PM EXCEPT SUNDAY
5	NO PARKING (SANITATION BROOM SYMBOL) 8:30AM-9AM EXCEPT SUNDAY
6	NO PARKING ANYTIME
7	1 HOUR METERED PARKING 8AM-7PM EXCEPT SUNDAY
8	NO PARKING (SANITATION BROOM SYMBOL) 7:30AM-8AM EXCEPT SUNDAY
9	1 HOUR METERED PARKING 8AM-10PM EXCEPT SUNDAY
10	STAR (SYMBOL) AVO US MAIL MONDAY-FRIDAY 8AM-6PM
11	2 HOUR METERED PARKING 9AM-7PM EXCEPT SUNDAY
12	NO PARKING (SANITATION BROOM SYMBOL) TUESDAY 9:30AM-11AM
13	NO STANDING ANYTIME
14	NO PARKING (SANITATION BROOM SYMBOL) MONDAY 9:30AM-11AM
15	NO PARKING (SANITATION BROOM SYMBOL) FRIDAY 11:30AM-1PM
16	NO PARKING (SANITATION BROOM SYMBOL) TUESDAY 11:30AM-1PM
17	NO PARKING MONDAY-FRIDAY 8AM-6PM
18	NO PARKING (SANITATION BROOM SYMBOL) THURSDAY 11:30AM-1PM
19	NO PARKING (SANITATION BROOM SYMBOL) MONDAY 8:30AM-10AM
20	NO STANDING SCHOOL DAYS 7AM-4PM
21	NO STANDING 7AM-7PM ALL DAYS
22	NO PARKING (SANITATION BROOM SYMBOL) WEDNESDAY 8:30AM-10AM
23	NO PARKING (SANITATION BROOM SYMBOL) 8:30-10AM THURS
24	NO PARKING (SANITATION BROOM SYMBOL) 8:30-9AM EXCEPT SUN
25	2 HOUR METERED PARKING 8AM-7PM EXCEPT SUNDAY
26	TRUCK (SYMBOL) TRUCK LOADING ONLY MONDAY-FRIDAY 9AM-4PM
27	2 HOUR METERED PARKING MONDAY-FRIDAY 4PM-7PM SATURDAY 9AM-7PM
28	TRUCK (SYMBOL) TRUCK LOADING ONLY MONDAY-FRIDAY 8AM-5PM
29	1 HMP MONDAY-FRIDAY 5PM-7PM SATURDAY 8AM-7PM
30	2 HOUR PARKING 9AM-7PM EXCEPT SUNDAY
31	NO PARKING (SANITATION BROOM SYMBOL) FRIDAY 9:30AM-11AM
32	NO PARKING (SANITATION BROOM SYMBOL) TUESDAY 8:30AM-10AM
33	NO PARKING (SANITATION BROOM SYMBOL) MONDAY TUESDAY THURSDAY FRIDAY 7:30AM-8AM
34	NO STANDING MONDAY-FRIDAY 4PM-7PM
35	NO PARKING (SANITATION BROOM SYMBOL) THURSDAY 9:30AM-11AM
36	NO PARKING (SANITATION BROOM SYMBOL) MOON & STARS (SYMBOLS) MON TUES THURS FRI MIDNIGHT-3AM
37	NO PARKING (SANITATION SYMBOL)11AM-2PM FRIDAY
38	NO PARKING 8AM-6PM EXCEPT SUNDAY
39	NO PARKING 7AM-4PM MON THRU FRI
40	NO STANDING 2PM-7PM MON THRU FRI
41	NO STANDING 7AM-10AM MON THRU FRI

IV. OPERATIONAL ANALYSIS METHODOLOGY

The following sections summarize the operational analysis methodologies and significant impact criteria in accordance with the *CEQR Technical Manual* guidelines for traffic, pedestrians, and parking.

Traffic Operations

The operations of the study area intersections were analyzed in accordance with the *CEQR Technical Manual* guidelines by applying the methodologies presented in the *2000 Highway Capacity Manual* (HCM 2000) using Synchro analysis software (version 10). A description of these methodologies is provided below.

Signalized Intersections

The Level of Service (LOS) of a signalized intersection is defined in terms of control delay per vehicle (seconds per vehicle). Control delay is the portion of total delay experienced by a motorist that is attributed to the traffic signal. Several factors contribute to the delay at a signalized intersection including cycle length, pedestrian crossing times, progression/signal coordination, and volume to capacity (v/c) ratios. For signalized intersections, LOS A describes operations with minimal delays, up to 10 seconds per vehicle, while LOS F describes operations with delays in excess of 80 seconds per vehicle. Delays experienced at LOS A, B, C or mid-D (less than 45 seconds per vehicle) are generally considered "acceptable" operating conditions according to the *CEQR Technical Manual*. Conversely, LOS E and F are generally considered "unacceptable" operating conditions. The LOS criteria for signalized intersections, as defined in the HCM 2000, are provided in **Table 2: LOS Criteria for Signalized Intersections**.

Table 2: LOS Criteria for Signalized Intersections

Level of Service (LOS)	Average Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 20.0 seconds
C	> 20.0 and ≤ 35.0 seconds
D	> 35.0 and ≤ 55.0 seconds
E	> 55.0 and ≤ 80.0 seconds
F	> 80.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

Unsignalized Intersections

For unsignalized intersections, the total delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS thresholds for unsignalized intersections are different from those for signalized intersections and are summarized in **Table 3: LOS Criteria for Unsignalized Intersections** as follows:

Table 3: LOS Criteria for Unsignalized Intersections

LOS	Average Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

Significant Impact Criteria: Traffic Operations

According to the criteria presented in the *CEQR Technical Manual* for signalized intersections, a lane group under the With-Action condition operating within LOS A, B, or C, or mid-LOS D up to a maximum average control delay of 45.0 seconds/vehicle is not considered significant. However, if a lane group under the No-Action condition is within LOS A, B, or C, then deterioration under the With-Action condition to worse than mid-LOS D (delay greater than 45.0 seconds/vehicle) is considered a significant impact.

For lane groups operating at LOS D, E, or F under the No-Action condition, then deterioration under the With-Action condition that meet the following criteria are considered significant impacts:

- For a lane group operating at LOS D under the No-Action condition, an increase in projected average control delay of five or more seconds is considered significant if the With-Action condition delay exceeds mid-LOS D.
- For a lane group operating at LOS E under the No-Action condition, an increase in projected average control delay of four or more seconds is considered significant when compared with the With-Action condition delay.
- For a lane group operating at LOS F under the No-Action condition, impacts are considered significant and require examination of mitigation if they result in an increase of three or more seconds when compared with the With-Action condition.

The same criteria for signalized intersections apply to unsignalized intersections (mid-LOS D for unsignalized intersections is a 30-second delay); however, for the minor approach to trigger a significant impact, 90 passenger-car-equivalents (PCEs) must be identified in the With-Action condition in any peak hour.

Transit Operations

Eight subway station elements and one bus route were analyzed in conformance to *CEQR Technical Manual* guidelines. A description of these methodologies is provided below.

Subway Stairs

The v/c ratio and LOS for subway stairs are based on the peak 15-minute passenger volume divided by stair capacity. The NYCT guideline capacity for stairs is 10 pedestrians per foot per minute (PFM). This rate is based on the Volume/SVCD (Service Volume between LOS C and D) capacity ratio. The breakpoint between LOS C and LOS D at a v/c ratio of 1.00 has been established by NYCT as the minimum acceptable standard for pedestrian conditions. Therefore, the v/c ratio is used to determine the design capacity of the critical stair locations in a station during each peak 15-minute period.

To calculate the service level of a subway stair, the v/c ratio of the entering flow is calculated separately from the v/c ratio of the exiting flow. These ratios are added together to generate the overall v/c ratio of the stair. The data needed to derive the capacity of a stair include the effective width of the stair, 15-minute passenger volumes, SVCD (based on NYCT capacity guidelines), surge factor, and friction factor. The effective width of a stair is adjusted by reducing its width at the narrowest point by six inches on each side of the stair, and an additional three inches if a center handrail is present. Exiting passenger flows within subway stations can be "surged" which reduces the calculated capacity because there is a disproportionate number of pedestrians concentrated within portions of the 15-minute period. Circulation elements closest to the platform level have the highest reduction in capacity (25%) due to surging. Surging factors decrease for each level above the platform level as a result of passenger volumes dissipating each level towards the street. The effect of surging is also less for elements that serve three or more tracks. It is estimated by NYCT that the capacity on stairs is reduced by 10% due to friction if opposing flows are less than 95% in one direction. The LOS criteria for subway stairs and control area elements (see next section) are defined in **Table 4: LOS Criteria for Subway Station Stairs and Control Areas.**

Table 4: LOS Criteria for Subway Station Stairs and Control Areas

LOS	Description	Volume/SVCD Ratio
A	Free Flow	0.00 to 0.45
B	Fluid Flow	0.45 to 0.70
C	Fluid, somewhat restricted	0.70 to 1.00
D	Crowded, walking speed restricted	1.00 to 1.33
E	Congested, some shuffling and queuing	1.33 to 1.67
F	Severely congested, queued	> 1.67

Source: *CEQR Technical Manual (2014).*

Control Areas

Station control areas separate the unpaid and paid areas of the station and are comprised of regular (low) turnstiles, High Entrance/Exit Turnstiles (HEETs), High Exit Turnstiles (HXT), and Emergency Gates. Regular and HEET turnstiles and Emergency Gates are bi-directional, while HXT turnstiles only serve exiting passengers. The v/c ratios of these fare control elements providing access to the station are based on the peak 15-minute passenger volume divided by the 15-minute capacity. The NYCT guideline capacities are 420 entries and 645 exits at regular turnstiles, 255 entries and 540 exits at HEETs, and 555 exits at HXTs. Emergency Gates are not included in control area capacity calculations. While passengers may make use of these gates, these passengers are assigned to turnstiles. For control area elements, overall capacity is measured by the number of elements, the NYCT guideline capacity per element, surging factors, and friction factors. The application of surging and friction factors to calculate capacity is the same as for stairs. The LOS criteria for control area elements are defined in **Table 4**.

Bus Line-Haul

Bus line-haul is analyzed in terms of passengers carried per bus in the peak direction at the peak load point. This is calculated as the number of passengers on each route divided by the number of buses operating on that route during the peak hours and then compared to NYCT bus capacity guidelines. A 40-ft standard bus has a capacity of 54 passengers, a 60-ft articulated bus has a capacity of 85 passengers, and a 45-ft over-the-road coach bus has a capacity of 55 passengers. The Q53-SBS bus route operates with 60-ft articulated buses and therefore have guideline capacities of 85 passengers per bus.

Significant Impact Criteria: Transit Operations

NYCT has defined significant stair impacts in terms of the width increment threshold (WIT). The WIT is used only to determine significant impact and is not the actual widening that would be required to mitigate a significant impact. For stairs, the WIT is calculated using the formulas provided in the *CEQR Technical Manual* if the With-Action condition v/c ratio is greater than 1.00. Significant impacts are typically considered to occur once the WIT levels for stairs have reached or exceeded the thresholds provided in the *CEQR Technical Manual*.

For regular turnstiles, HEETs, and HXTs, if the No-Action condition v/c ratio is less than 1.00 but the With-Action condition v/c ratio increases to 1.00 or greater, the impact is considered significant. If both the No-Action and With-Action condition v/c ratios are 1.00 or greater, a 0.01 change in v/c ratio is considered significant.

According to MTA bus operating guidelines, increases in bus load levels to above their maximum capacity at any load point as a result of a project is defined as a significant impact since it necessitates adding more bus service along that route.

Pedestrian Operations

The pedestrian crosswalk, corner, and sidewalk elements were analyzed in accordance with the *CEQR Technical Manual* guidelines. A description of these methodologies is provided below.

Crosswalk/Corner

Crosswalk and corner analyses are conducted at signalized intersections using the analytical procedures described in the *2010 Highway Capacity Manual* (HCM 2010). The capacity of crosswalks and corners are evaluated on the basis of pedestrian space measured in terms of square feet (sf) per pedestrian (ft^2/p). To calculate pedestrian space, effective crosswalk widths and corner areas, hourly pedestrian volumes (crosswalk, corner, and sidewalk), conflicting hourly turning vehicles, average walking speed (3.5 feet/second or 3.0 feet/second if 20% of pedestrians are seniors and/or school children or the intersection is in a Senior Pedestrian Focus Area), and signal timing are required. **Table 5: LOS Criteria for Crosswalks and Corners (Signalized Intersections)** shows the LOS criteria for crosswalks and corners based on pedestrian space.

Table 5: LOS Criteria for Crosswalks and Corners (Signalized Intersections)

Level of Service (LOS)	Pedestrian Space (ft^2/p)
A	> 60
B	60 to > 40
C	40 to > 24
D	24 to > 15
E	15 to > 8
F	≤ 8

Source: Transportation Research Board. *Highway Capacity Manual*, 2010.

Crosswalk analyses are conducted at unsignalized intersections using the analytical procedures described in the *HCM 2000*. The capacity of crosswalks at unsignalized intersections are evaluated based on the average delay per pedestrian in terms of seconds. To calculate average delay per pedestrian, effective crosswalk widths, crosswalk lengths, hourly pedestrian volumes, conflicting hourly vehicles, average walking speed (3.5 feet/second), and pedestrian start-up and end clearance time (3.0 seconds) are required. **Table 6: LOS Criteria for Crosswalks and Corners (Unsignalized intersections)** shows the LOS criteria for crosswalks at unsignalized intersections based on average pedestrian delay.

Table 6: LOS Criteria for Crosswalks and Corners (Unsignalized intersections)

LOS	Pedestrian delay Per Pedestrian (s)
A	< 5
B	5 to <10
C	10 to <20
D	20 to <30
E	30 to ≤45
F	> 45

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

Sidewalk

As identified in the HCM 2010, pedestrian unit flow rate is the primary performance measure used to evaluate sidewalks. This measure is based on PFM which is calculated by dividing the average per minute two-way pedestrian volume (during the peak hour) by the effective sidewalk width in feet (incorporating a buffer between walls, curbs, and obstructions). To accurately calculate sidewalk LOS, it is important to determine whether the pedestrian flow is generally "platoon" (with surges from a bus stop, subway station, or a crosswalk) or "non-platoon" (uniform) within the peak period being analyzed. Accounting for platoons generally results in a poorer LOS. **Table 7: LOS Criteria for Sidewalks** shows the non-platoon and platoon LOS criteria for sidewalks based on PFM.

Table 7: LOS Criteria for Sidewalks

Level of Service (LOS)	Non-Platoon Flow (ft^2/p)	Platoon Flow (ft^2/p)
A	> 60	> 530
B	> 40 to 60	> 90 to 530
C	> 24 to 40	> 40 to 90
D	> 15 to 24	> 23 to 40
E	> 8 to 15	> 11 to 23
F	≤ 8	≤ 11

Source: Transportation Research Board. *Highway Capacity Manual*, 2010.

Significant Impact Criteria: Pedestrian Operations

The *CEQR Technical Manual* provides guidance on the impact criteria for pedestrian facilities based on the general comfort and convenience levels of pedestrians, according to the location of the study area. Pedestrians in central business district (CBD) areas have become accustomed to higher pedestrian volumes and generally are more tolerant of restricted LOS conditions that might not be acceptable in other less congested (non-CBD) locations. An acceptable LOS for CBD areas is generally a mid-LOS D or better while an acceptable LOS for non-CBD areas is generally the upper limit of LOS C or better. For purposes of the pedestrian operations analysis, the pedestrian elements in the study area were considered to be part of a CBD area.

For corners and crosswalks in CBD areas, the average pedestrian space that is considered acceptable ranges from LOS A to mid-LOS D. If the pedestrian space deteriorates to mid-LOS D or worse (less than 19.5 ft^2/p), significant impacts are determined based on a sliding scale, as follows:

- If the average pedestrian space under the No-Action condition is greater than 21.5 ft^2/p, then a decrease to 19.5 ft^2/p or less under the With-Action condition is considered a significant impact.

- If the average pedestrian space under the No-Action condition is between 5.1 and 21.5 ft^2/p, a decrease in space under the With-Action condition should be considered significant if it is greater than or equal to ((No-Action pedestrian space ft^2/p / 9.0) – 0.31). The With-Action condition increments are provided in Table 16-13 in the *CEQR Technical Manual*.
- If the average pedestrian space under the No-Action condition is less than 5.1 ft^2/p, then a decrease in pedestrian space greater than or equal to 0.2 ft^2/p under the With-Action condition is considered a significant impact.

For sidewalks in CBD areas, the average pedestrian space that is considered acceptable ranges from LOS A to mid-LOS D. If the pedestrian space deteriorates to mid-LOS D or worse (less than 19.5 ft^2/p for non-platoon flow and less than 31.5 ft^2/p for platoon flow), significant impacts are determined based on a sliding scale, as follows:

Non-platoon flow

- If the average pedestrian space under the No-Action condition is greater than 21.5 ft^2/p, then a decrease to 19.5 ft^2/p or less under the With-Action condition is considered a significant impact.
- If the average pedestrian space under the No-Action condition is between 5.1 and 21.5 ft^2/p, a decrease in space under the With-Action condition should be considered significant if it is greater than or equal to ((No-Action pedestrian space ft^2/p / 9.0) – 0.31). The With-Action condition increments are provided in Table 16-15 in the *CEQR Technical Manual.*
- If the average pedestrian space under the No-Action condition is less than 5.1 ft^2/p, then a decrease in pedestrian space greater than or equal to 0.2 ft^2/p under the With-Action condition is considered a significant impact.

Platoon flow

- If the average pedestrian space under the No-Action condition is greater than 39.2 ft^2/p, then a decrease to 31.5 ft^2/p or less under the With-Action condition is considered a significant impact.
- If the average pedestrian space under the No-Action condition is between 6.4 and 39.2 ft^2/p, a decrease in space under the With-Action condition should be considered significant if it is greater than or equal to (No-Action pedestrian space ft^2/p / (9.5 – 0.321)). The With-Action condition increments are provided in Table 16-17 in the *CEQR Technical Manual*.
- If the average pedestrian space under the No-Action condition is less than 6.4 ft^2/p, then a decrease in pedestrian space greater than or equal to 0.3 ft^2/p under the With-Action condition is considered a significant impact.

Parking Conditions Assessment

A parking analysis identifies the extent to which on-street and off-street parking is available and utilized under existing, No-Action, and With-Action conditions. Typically, this analysis encompasses a study area within 0.25-mile of a proposed development. If the analysis identifies a shortfall in parking in the 0.25-mile study area, the study area could be extended to 0.5-mile to identify additional parking supply. The analysis, which takes into consideration anticipated changes in area parking supply, provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from additional demand generated by the Proposed Project.

Determination of Significant Parking Shortfalls

According to the *CEQR Technical Manual*, if the proposed project generates more parking demand than it supplies, this shortfall may be considered significant. However, the available parking supply should consider

the parking spaces within a 0.25-mile of the Project Site. If the project generated parking demand can be accommodated with the on-site project parking supply and/or on-street/off-street parking spaces within a 0.25-mile radius of the Project Site, then the shortfall would not be considered significant depending on the location of the project. For projects located outside the *CEQR Technical Manual* Parking Zones 1 and 2, which applies to the Proposed Project, a parking shortfall may be considered significant if the parking demand a project generates would consume more than half the available on-street and off-street parking spaces within a 0.25-mile of the Project Site.

V. EXISTING CONDITIONS

Once the project characteristics have been defined, baseline conditions (the "Existing Conditions") are established for traffic, pedestrian, parking, and other physical and operational characteristics.

Traffic Conditions

Existing study area traffic volumes were based on traffic data collected in June 2019 during peak periods when background traffic is typically greatest and when the Proposed Project is projected to generate the greatest number of trips that would be added to the roadway network. The field programs included video turning movement counts at study area intersections during the Weekday AM, Weekday MD, and Weekday PM peak periods. Crosswalk counts were collected during all peak periods for all intersections.

Turning movement counts and vehicle classification counts were performed at each study intersection. Traffic volumes were balanced between intersections where appropriate. Automated Traffic Recorders (ATRs) were placed at eight locations for a continuous, nine-day period in June 2019 to collect 24-hour counts. The ATR counts were used to identify daily and temporal traffic variations.

An inventory of the study intersections was performed to determine intersection control, street and curbside signage, pavement markings, and lane dimensions to be used in the calculation of street capacities. Official signal timing data were obtained from NYCDOT for incorporation into the capacity analysis. In late 2019, Broadway was redesigned to include northbound and southbound bus lanes and bus signal priority in the southbound direction at the intersection of Whitney Avenue and Broadway. The Existing Conditions traffic results included in this report consider the roadway configuration from June 2019. **Figure 5: 2019 Existing Condition Traffic Volumes** shows the Existing Conditions traffic volumes for the three peak hours.

Level of Service – Signalized and Unsignalized Intersections

Table 8: 2019 Existing Conditions Level of Service Analysis – Signalized Intersections and **Table 9: 2019 Existing Conditions Level of Service Analysis – Unsignalized Intersections** present the capacity analysis results for the 2019 Existing Conditions for the signalized and unsignalized intersections, respectively, included in the study area. All analyzed intersection approaches and lane groups operate at mid-LOS D or better during the three analysis peak hours, with the exception of the following locations:

45th Avenue and Broadway

- During the Weekday AM peak hour, the eastbound left-through-right lane group would operate at LOS D with average delay of 52.0 seconds and a v/c ratio of 0.82.
- During the Weekday MD peak hour, the eastbound left-through-right lane group would operate at LOS F with average delay of 102.0 seconds and a v/c ratio of 1.05.
- During the Weekday PM peak hour, the eastbound left-through-right lane group would operate at LOS F with average delay of 92.2 seconds and a v/c ratio of 1.04.

Whitney Avenue and Broadway

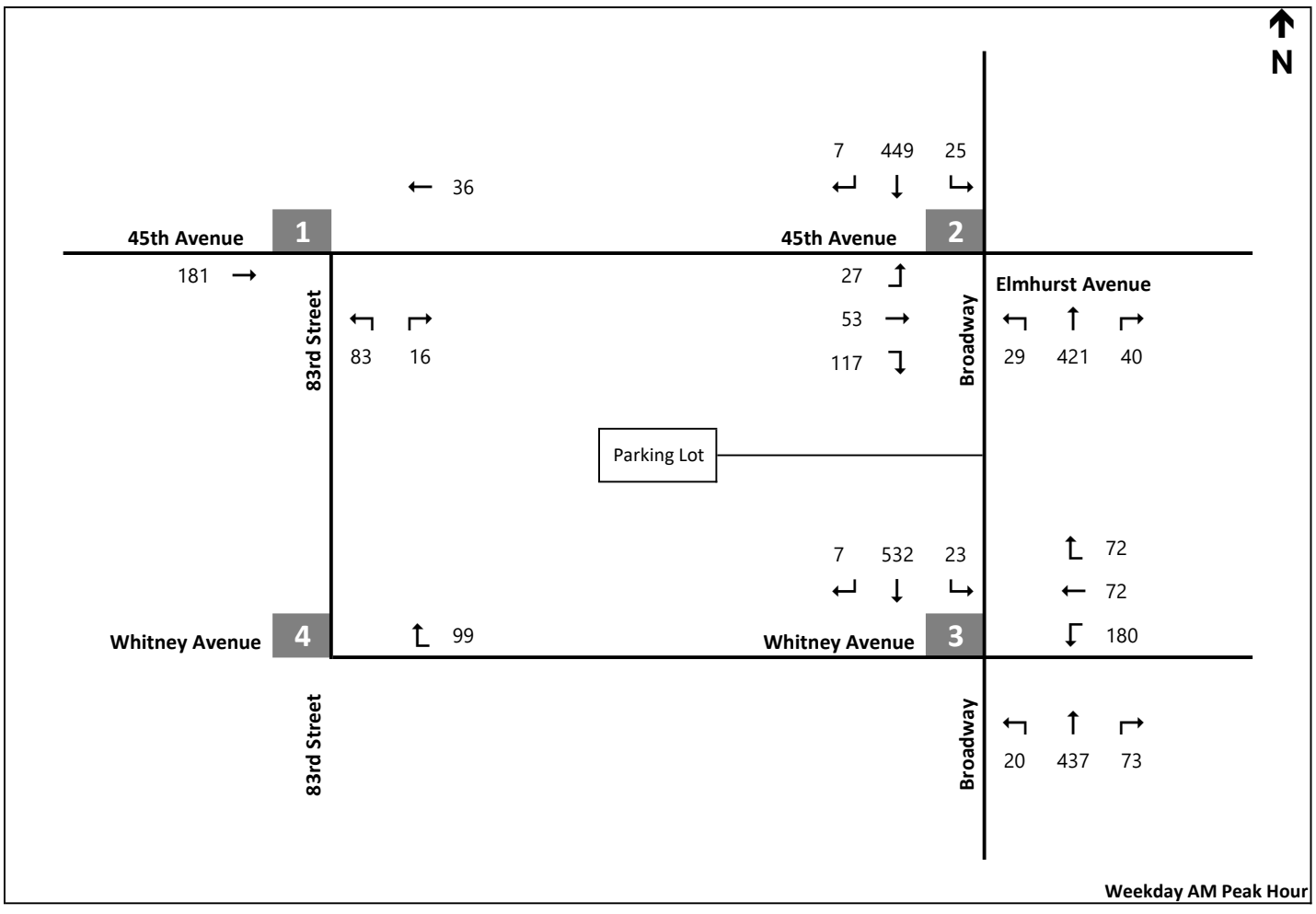
- During the Weekday AM peak hour, the westbound left-through-right lane group would operate at LOS F with average delay of 97.9 seconds and a v/c ratio of 1.05.
- During the Weekday MD peak hour, the westbound left-through-right lane group would operate at LOS F with average delay of 92.6 seconds and a v/c ratio of 1.04.
- During the Weekday PM peak hour, the westbound left-through-right lane group would operate at LOS E with average delay of 69.6 seconds and a v/c ratio of 0.95.

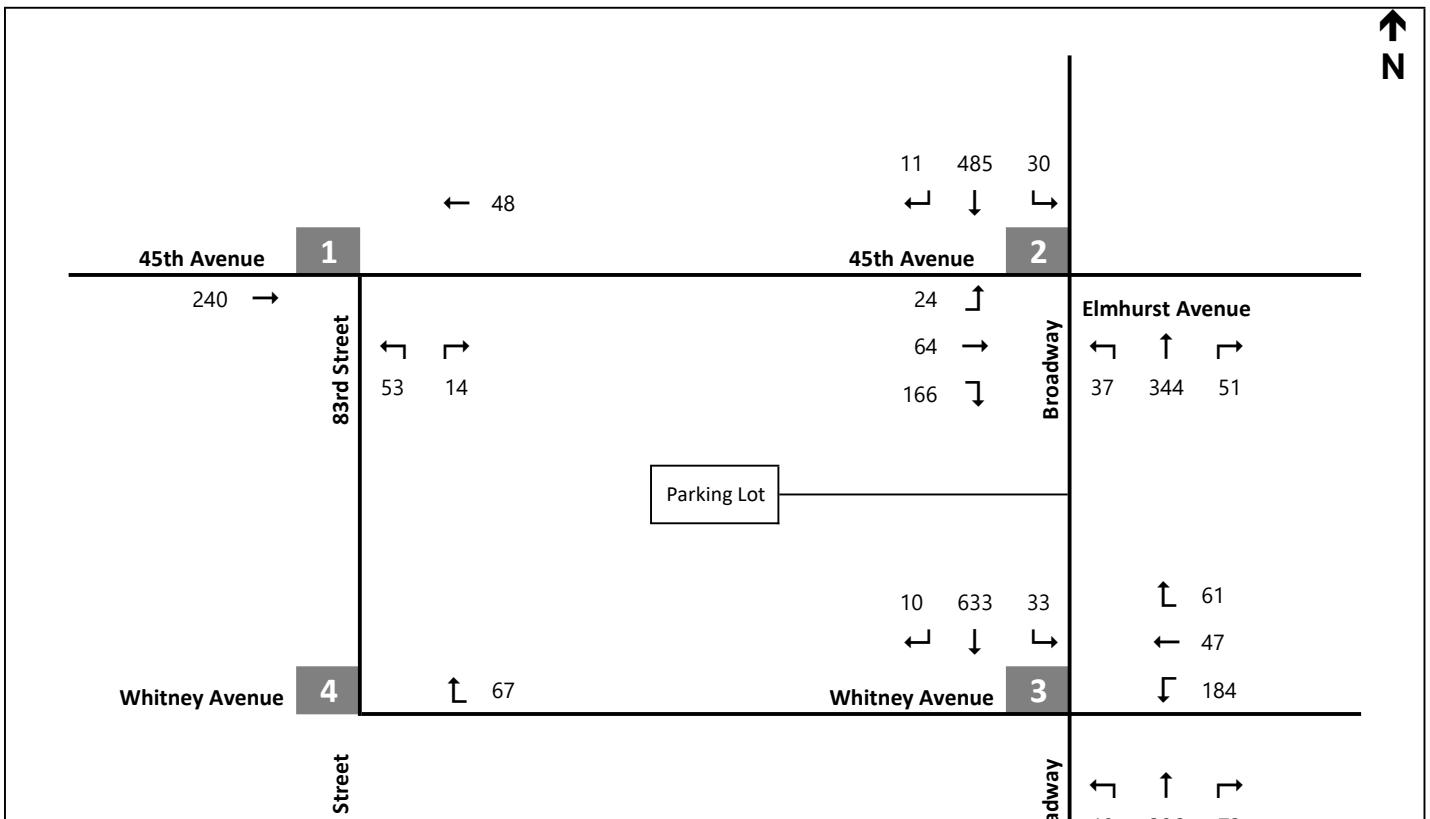
Table 8: 2019 Existing Conditions Level of Service Analysis – Signalized Intersections

#	Intersection & Approach	Weekday AM Peak Hour					Weekday MD Peak Hour					Weekday PM Peak Hour				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
2	**45th Avenue & Broadway**															
	Eastbound	LTR	0.82	52.0	D	227	LTR	1.05	102.0	F	327	LTR	1.04	92.2	F	367
	Northbound	LTR	0.91	24.2	C	444	LTR	0.96	36.4	D	412	LTR	0.85	21.2	C	391
	Southbound	L	0.15	12.7	B	22	L	0.15	12.3	B	25	L	0.17	12.7	B	29
		TR	0.68	21.3	C	310	TR	0.72	22.7	C	353	TR	0.67	20.8	C	310
		Intersection		27.8	C		Intersection		43.9	D		Intersection		38.2	D	
4	**Whitney Avenue & Broadway**															
	Westbound	LTR	1.05	97.9	F	371	LTR	1.04	92.6	F	332	LTR	0.95	69.6	E	293
	Northbound	LT	0.79	25.9	C	358	LT	0.58	17.1	B	239	LT	0.63	18.3	B	265
		R	0.33	14.6	B	54	R	0.31	14.0	B	52	R	0.40	16.5	B	77
	Southbound	L	0.14	5.3	A	6	L	0.15	5.9	A	9	L	0.18	6.3	A	11
		TR	0.70	12.4	B	245	TR	0.84	18.3	B	389	TR	0.76	15.3	B	321
		Intersection		35.5	D		Intersection		34.2	C		Intersection		27.4	C	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. The LOS results were reported using the HCM 2000 methodology.															

Table 9: 2019 Existing Conditions Level of Service Analysis – Unsignalized Intersections

#	Intersection & Approach	Weekday AM Peak Hour					Weekday MD Peak Hour					Weekday PM Peak Hour				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
1	**45th Avenue & 83rd Street**															
	Northbound	LR	0.15	10.8	B	13	LR	0.12	10.9	B	10	LR	0.12	11.3	B	10
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. LOS results cannot be generated for the intersection of Whitney Avenue and 83rd Street. **The LOS results were reported using the HCM 2000 methodology.**															





2019 Existing Condition Traffic Volumes

Transit Conditions

Eight subway station elements and one bus line haul (northbound and southbound directions) were included in the transit analysis. The subway transit elements within the study area were assessed for the Weekday AM and Weekday PM peak hours. The bus line haul was assessed for the Weekday AM, Weekday MD, and Weekday PM peak hours.

Subway Stairs

Stairway analyses were conducted for two street-level stairs and four platform stairs at the Elmhurst Avenue station. Counts of the vertical elements and control areas were conducted in December 2020 during the Weekday AM and Weekday PM peak transit periods and summarized into 15-minute intervals. NYCT also provided field counts collected in May 2021 for the Queens-bound platform stairs (P1/P3) during the Weekday AM and Weekday PM peak transit periods. Due to variations in ridership patterns and volumes because of the COVID-19 pandemic, collected volumes were adjusted based on consultation with NYCT and historical data to reflect 2019 pre-pandemic ridership. Measurements were taken of the total width at the street-level and platform stairways. The effective stairway widths were calculated in accordance with *CEQR Technical Manual* guidelines.

As shown in **Table 10: 2019 Existing Conditions Level of Service Analysis - Subway Stairs,** the street-level and platform stairs operate at LOS B or better during both peak hours.

Table 10: 2019 Existing Conditions Level of Service Analysis - Subway Stairs

Station	Vertical Element	ID	15-Minute Entering Volume [1]	15-Minute Exiting Volume [1]	Total Stair Width (feet) [2]	Number of Intermediate Handrails	Effective Width (feet)	Friction Factor [3]	Surge Factor (onto platform level) [3]	Surge Factor (off of platform level) [3]	15-Minute Entering Capacity [4]	15-Minute Exiting Capacity [4]	V/C [5]	LOS [5]
Weekday AM														
Elmhurst Ave Subway Station	Street Stair (45th Avenue and Broadway SW Corner)	S1, M1, M1A	97	28	5.0	0	4.0	0.9	1	0.8	540	432	0.24	A
	Street Stair (45th Avenue and Broadway NW Corner)	S3, M3A, M3B	32	3	5.3	0	4.3	0.9	1	0.8	585	468	0.06	A
	Platform Stair (b/w control area and platform level)	P1	46	26	5.5	0	4.5	0.9	1	0.75	608	456	0.13	A
	Platform Stair (b/w control area and platform level)	P2	436	18	5.9	0	4.9	1.0	1	0.75	738	554	0.62	B
	Platform Stair (b/w control area and platform level)	P3	2	12	5.2	0	4.2	0.9	1	0.75	563	422	0.03	A
	Platform Stair (b/w control area and platform level)	P4	19	5	5.5	0	4.5	0.9	1	0.75	608	456	0.04	A
Weekday PM														
Elmhurst Ave Subway Station	Street Stair (45th Avenue and Broadway SW Corner)	S1, M1, M1A	56	126	5.0	0	4.0	0.9	1	0.8	540	432	0.40	A
	Street Stair (45th Avenue and Broadway NW Corner)	S3, M3A, M3B	8	11	5.3	0	4.3	0.9	1	0.8	585	468	0.04	A
	Platform Stair (b/w control area and platform level)	P1	25	126	5.5	0	4.5	0.9	1	0.75	608	456	0.32	A
	Platform Stair (b/w control area and platform level)	P2	86	56	5.9	0	4.9	0.9	1	0.75	664	498	0.24	A
	Platform Stair (b/w control area and platform level)	P3	5	67	5.2	0	4.2	0.9	1	0.75	563	422	0.17	A
	Platform Stair (b/w control area and platform level)	P4	0	11	5.5	0	4.5	1.0	1	0.75	675	506	0.02	A

Notes:
(1) Source: Sam Schwartz December 2020 field counts for the street stairs and the Manhattan-bound platform stairs (P2 /P4); NYCT May 2021 and June 2017 field counts for the Queens-bound platform stairs (P1/P3) during the Weekday AM and Weekday PM peak hours, respectively; Due to variations in ridership patterns and volumes as a result of the Covid-19 pandemic, collected volumes were adjusted based on consultation with NYCT Operations Planning and historical data to reflect 2019 pre-pandemic ridership.
(2) Vertical elements measured at the narrowest location.
(3) Friction and surge factors based on NYCT guidelines in accordance with the *CEQR Technical Manual* .
(4) Stair capacity based on NYCT guidelines in accordance with the *CEQR Technical Manual* .
(5) v/c ratios and LOS ratings were calculated based on rates presented in the *CEQR Technical Manual* .

Control Areas

The two subway control areas at the south end of the Elmhurst Avenue station were analyzed. The turnstile counts for the control areas were conducted simultaneous with the subway stair counts and were adjusted to pre-COVID 2019 levels using the same adjustment factor provided by NYCT. In conformance to the *CEQR Technical Manual*, control array capacity was based on NYCT guidelines.

For the control area elements, the quantity, volume, friction and surge factors, capacity, and calculated v/c and LOS results are shown in **Table 11: 2019 Existing Conditions Level of Service Analysis - Control Areas**. The control area elements operate at LOS A during both peak hours.

Table 11: 2019 Existing Conditions Level of Service Analysis - Control Areas

Station	Station Elements	Quantity (Entry)	Quantity (Exit)	15-Minute Entering Volume [1]	15-Minute Exiting Volume [1]	Friction Factor [2]	Surge Factor (onto platform)[2]	Surge Factor (off of platform)[2]	15 Minute Entering Capacity [3]	15 Minute Exiting Capacity [3]	V/C [4]	LOS [4]
Weekday AM												
Elmhurst Ave Subway Station / Manhattan-bound Trains Control Area	Turnstile	0	0	30	43	0.9	0.8	0.8	510	2190	**0.11**	**A**
	HEET	2	2									
	HXT	0	2									
Elmhurst Ave Subway Station / Queens-bound Trains Control Area	Turnstile	3	3	30	25	0.9	0.8	0.8	1260	1935	**0.05**	**A**
	HEET	0	0									
	HXT	0	0									
Weekday PM												
Elmhurst Ave Subway Station / Manhattan-bound Trains Control Area	Turnstile	0	0	43	347	0.9	0.8	0.8	510	2190	**0.34**	**A**
	HEET	2	2									
	HXT	0	2									
Elmhurst Ave Subway Station / Queens-bound Trains Control Area	Turnstile	3	3	33	175	0.9	0.8	0.8	1260	1935	**0.16**	**A**
	HEET	0	0									
	HXT	0	0									

Notes:
(1) Source: Sam Schwartz December 2020 field counts. Due to variations in ridership patterns and volumes as a result of the Covid-19 pandemic, collected volumes were adjusted based on consultation with NYCT Operations Planning and historical data to reflect 2019 pre-pandemic ridership.
(2) Friction and Surge factors based on NYCT guidelines in accordance with the *CEQR Technical Manual.*
(3) Fare array capacity based on NYCT guidelines in accordance with the *CEQR Technical Manual* .
(4) v/c ratios and LOS ratings were calculated based on rates presented in the *CEQR Technical Manual* .

Bus Line-Haul

Bus line-haul data from August 2019 was provided for the Q53-SBS bus route by NYCT/MTA. The data includes the number of passengers on the Q53-SBS at peak load points throughout the day. The number of buses during the peak hours was derived from the current bus schedules published by NYCT/MTA.

Table 12: 2019 Existing Conditions Level of Service Analysis - Bus Line-Haul summarizes the results of the existing bus conditions, including the number of buses per peak hour, the peal hour passenger volumes, average passengers per bus, total route capacity, and available capacity for the analyzed bus route by direction for the three study peak hours. The results of the analysis indicate that the Q53-SBS bus route currently operates within capacity at its peak load points in both directions during the three analysis peak hours.

Table 12: 2019 Existing Conditions Level of Service Analysis - Bus Line-Haul

Route	Peak Direction	Maximum Load Point	Peak Hour Buses [1]	Peak Hour Passengers [1]	Average Passengers Per Bus	Total Capacity Per Bus [2]	Available Capacity Per Bus
Weekday AM							
Q53-SBS	NB	WOODHAVEN BL & EVERTON ST	8	435	54	85	31
Q53-SBS	SB	WOODHAVEN BL & JAMAICA AV	7	232	33	85	52
Weekday MD							
Q53-SBS	NB	WOODHAVEN BL & POLO PL	6	307	51	85	34
Q53-SBS	SB	WOODHAVEN BL & METROPOLITAN AV	7	402	57	85	28
Weekday PM							
Q53-SBS	NB	QUEENS BL & 59 AV	6	395	66	85	19
Q53-SBS	SB	WOODHAVEN BL & JAMAICA AV	8	485	61	85	24

Notes:
(1) Based on data from NYCT currently available and adjusted for seasonality.
(2) Available capacity based on a maximum of 85 passengers per bus (60-foot articulated bus) for Q53-SBS buses.

Pedestrian Conditions

The existing operations of the study area's sidewalks, corner reservoirs, and crosswalks selected for detailed analysis in the study area were assessed during the three study peak hours (Weekday AM, Weekday MD, and Weekday PM). The specific elements analyzed were selected based on meeting the criteria of a projected pedestrian volume increase of more than 200 pedestrians per hour at any sidewalk, crosswalk, or corner reservoir during at least one of the three peak hours. The analyses were performed at a total of six locations within the study area, including two sidewalks, one crosswalk, and three corner reservoirs.

Pedestrian (sidewalk, crosswalk, and corner reservoir) counts were conducted within the study area in June 2019 during the three peak periods. These counts were summarized into one-hour intervals.

Sidewalks

Two sidewalk locations within the study area were analyzed using the collected pedestrian data. As presented in **Table 13: 2019 Existing Conditions Level of Service Analysis – Sidewalks**, all sidewalk locations included in the transportation analysis operate at LOS A for the non-platoon and at LOS C or better for the platoon conditions during the three analysis peak hours.

Table 13: 2019 Existing Conditions Level of Service Analysis – Sidewalks

Location	Total Width (ft)	Obstruction Width (ft)	Effective Width (ft)	Circulation Space (ft^2/p)			Non-Platoon Conditions LOS			Platoon Conditions LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (S leg, W sidewalk)	9.4	6.0	3.4	1311	1530	835	A	A	A	A	A	A
83rd Street and 45th Avenue (E leg, S sidewalk)	16.2	10.5	5.7	85	88	83	A	A	A	C	C	C

Crosswalks

One crosswalk location within the study area was analyzed using the collected pedestrian data. As presented in **Table 14: 2019 Existing Conditions Level of Service Analysis - Crosswalks**, the crosswalk location included in the transportation analysis operates at LOS A during the three analysis peak hours.

Table 14: 2019 Existing Conditions Level of Service Analysis - Crosswalks

Location	Length (ft)	Width (ft)	Available Circulation Space			Crosswalk Circulation		
			AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (S leg)	31.2	14.5	2.8	1.8	1.7	A	A	A

Corners

Three corner reservoir locations were analyzed using pedestrian data within the study area. As presented in **Table 15: 2019 Existing Conditions Level of Service Analysis – Corners**, all corner reservoirs included in the transportation analysis operate at LOS A during the three analysis peak hours.

Table 15: 2019 Existing Conditions Level of Service Analysis – Corners

Location	Available Circulation Space (ft^2/p)			Corner Circulation LOS		
	AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (SW corner)	158	141	113	A	A	A
83rd Street and 45th Avenue (SE corner)	91	102	84	A	A	A
Broadway and 45th Avenue (SW corner)	152	242	202	A	A	A

Parking Conditions

Existing study area on-street parking conditions were evaluated by performing a field inventory/survey of parking regulations and utilizations within a 0.25-mile radius of the Project Site. On-street parking regulations within 0.25-mile of the study area are summarized in **Figure 4** and **Table 1.**

Parking utilization surveys were conducted in the study area under typical weekday conditions in June 2019 during the Weekday AM and Weekday PM peak hours, when parking demand is expected to be the greatest. Individual street capacities and an hourly assessment of on-street parking utilization were collected for each street in the study area. **Table 16: 2020 Existing Conditions On-Street Parking Utilization Summary** presents a summary of the survey results in terms of the average percentage of on-street spaces utilized during each peak hour.

The results of the survey indicate that within 0.25-mile radius of the Project Site, on-street parking utilization is 86% of available spaces during the Weekday AM and Weekday PM peak hours.

Table 16: 2020 Existing Conditions On-Street Parking Utilization Summary

2020 Existing	Weekday AM	Weekday PM
Capacity	1,758	1,738
Demand	1,506	1,497
Available Spaces	252	241
Utilization	**86%**	**86%**

VI. FUTURE WITHOUT THE PROPOSED PROJECT

The future without the Proposed Actions (the "No-Action condition") builds on the Existing Conditions analysis by incorporating background growth, trips generated by the Project Site under current zoning, other nearby projects expected to be completed by the analysis year (2025-2026 school year), and anticipated changes in the transportation network. The No-Action condition analysis focuses on conditions in 2025, when the Proposed Project is expected to be complete with full school enrollment. The analysis of the No-Action condition serves as the baseline to which the future condition with the project will be compared to identify potential impacts.

The *CEQR Technical Manual* guidelines (Table 16-4) provide an annual background growth rate for this area of Queens of 0.5% for the first five years and 0.25% for the years beyond. The annual growth rates were applied, over a period of six years, to the 2019 Existing Conditions volumes to develop the 2025 No-Action condition background traffic, transit, pedestrian, and parking volumes.

Under the No-Action condition, the Project Site would remain under the existing zoning designations. Light industrial space would be feasible on the Project Site and would be constructed as-of-right in conformance to existing zoning designations. Absent the Proposed Actions, development on the Project Site was assumed to include 41,320 gsf of light industrial space.

In addition to the background growth and No-Action development on the Project Site, projects expected to be completed by 2025 located within and adjacent to the 0.50-mile radius of the Project Site were included in the No-Action analysis. These development sites are shown in **Figure 6: No-Action Projects** and described below in **Table 17: No-Action Projects**.

The background growth and trips generated by planned development projects were added to the Existing Conditions volumes to develop the No-Action volumes.

Table 17: No-Action Projects

Map No.	Project Name	Block-Lot	Future Use	Build Year
1	45-15 82nd Street	1546-7503	Mixed-use commercial and residential building with 138 residential units and 18,538 gsf of retail space with 143 parking spaces	2019
2	88-08 Justice Avenue	1842-39	Mixed-use commercial and residential building with 184 residential units and 141,375 gsf of day care space with 252 parking spaces	2020

In late 2019, Broadway was redesigned in the study area to include northbound and southbound bus lanes and bus signal priority in the southbound direction at the intersection of Whitney Avenue and Broadway. The new geometry and signal timing were incorporated in the No-Action analyses.

Traffic Conditions

Figure 7: 2025 No-Action Condition Traffic Volumes shows the 2025 No-Action traffic volumes for the three peak hours. **Table 18: 2025 No-Action Condition Level of Service Analysis – Signalized Intersections** and **Table 19: 2025 No-Action Condition Level of Service Analysis – Unsignalized Intersections** present the capacity analysis results for the 2025 No-Action condition for the signalized and unsignalized study intersections, respectively. All analyzed intersection approaches and lane groups operate at an acceptable level of mid-LOS D or better during the three analysis peak hours, with the exception of the following locations:

45th Avenue and Broadway

- During the Weekday AM peak hour, the eastbound left-through-right lane group would operate at LOS E with average delay of 62.8 seconds and a v/c ratio of 0.89.
- During the Weekday MD peak hour, the eastbound left-through-right lane group would operate at LOS F with average delay of 151.9 seconds and a v/c ratio of 1.20.
- During the Weekday PM peak hour, the eastbound left-through-right lane group would operate at LOS F with average delay of 145.2 seconds and a v/c ratio of 1.19.

Whitney Avenue and Broadway

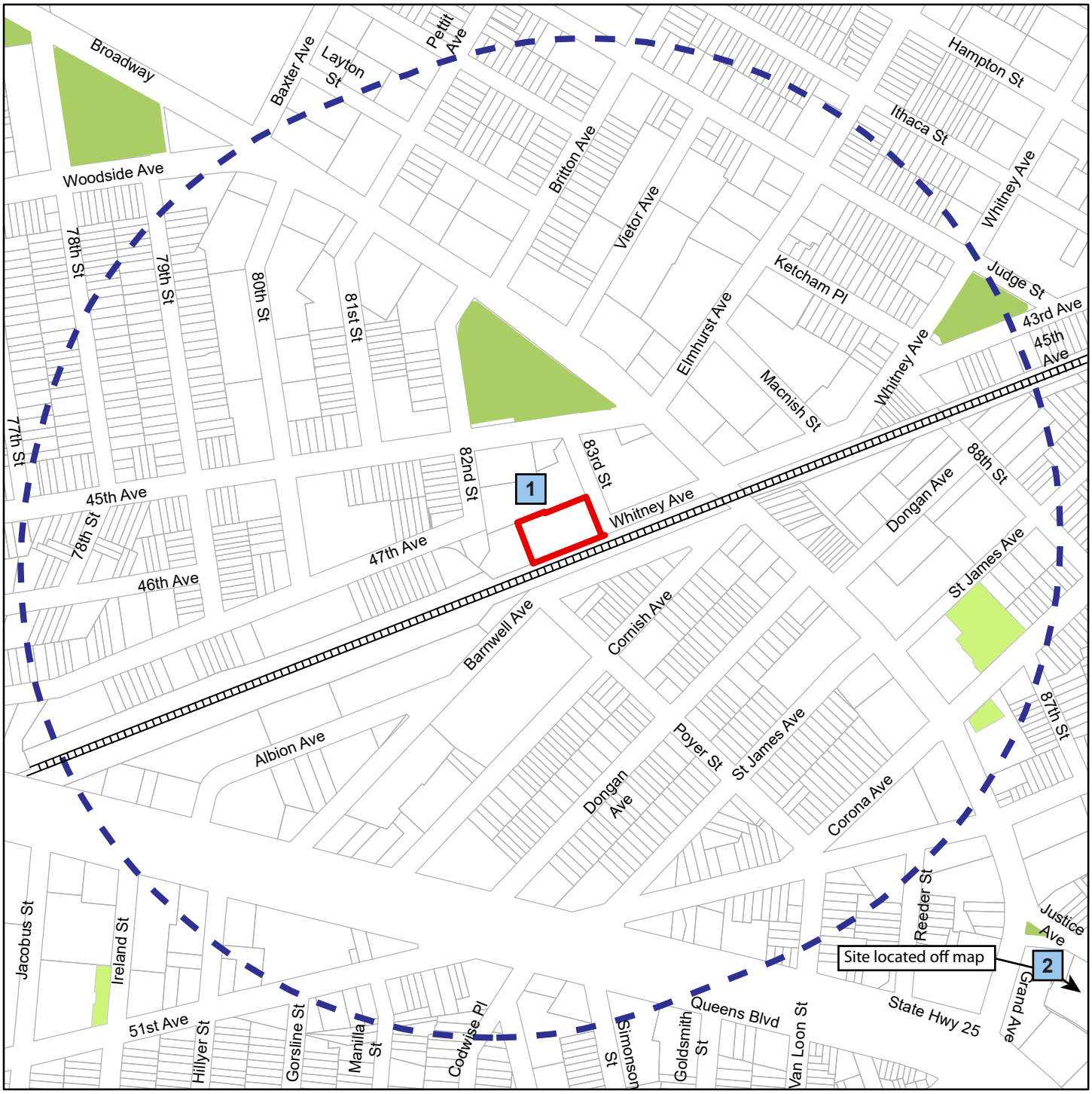
- During the Weekday AM peak hour, the westbound left-through-right lane group would operate at LOS F with average delay of 217.8 seconds and a v/c ratio of 1.36.
- During the Weekday MD peak hour, the westbound left-through-right lane group would operate at LOS F with average delay of 171.3 seconds and a v/c ratio of 1.25.
- During the Weekday PM peak hour, the westbound left-through-right lane group would operate at LOS F with average delay of 152.3 seconds and a v/c ratio of 1.20.

Table 18: 2025 No-Action Condition Level of Service Analysis – Signalized Intersections

#	Intersection & Approach	Weekday AM Peak Hour					Weekday MD Peak Hour					Weekday PM Peak Hour				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
2	**45th Avenue & Broadway**															
	Eastbound	LTR	0.89	62.8	E	252	LTR	1.20	151.9	F	371	LTR	1.19	145.2	F	424
	Northbound	LTR	0.99	32.0	C	385	LTR	0.97	34.9	C	417	LTR	0.85	17.2	B	140
	Southbound	L	0.16	13.0	B	24	L	0.15	12.5	B	26	L	0.18	12.9	B	30
		T	0.56	17.2	B	261	T	0.61	18.3	B	297	T	0.58	17.6	B	277
		R	0.04	10.6	B	11	R	0.03	10.6	B	12	R	0.02	10.5	B	9
		Intersection		31.9	C		Intersection		53.4	D		Intersection		50.4	D	
4	**Whitney Avenue & Broadway**															
	Westbound	LTR	1.36	217.8	F	430	LTR	1.25	171.3	F	374	LTR	1.20	152.3	F	344
	Northbound	L	0.25	18.3	B	24	L	0.16	16.3	B	15	L	0.14	14.8	B	14
		TR	0.91	39.1	D	487	TR	0.76	26.4	C	355	TR	0.88	36.9	D	476
	Southbound	LT	0.79	18.2	B	425	LT	0.92	27.2	C	507	LT	0.96	35.6	D	514
		R	0.04	5.6	A	2	R	0.03	5.9	A	3	R	0.05	6.1	A	5
		Intersection		70.3	E		Intersection		60.3	E		Intersection		60.2	E	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. The LOS results were reported using the HCM 2000 methodology.															

Table 19: 2025 No-Action Condition Level of Service Analysis – Unsignalized Intersections

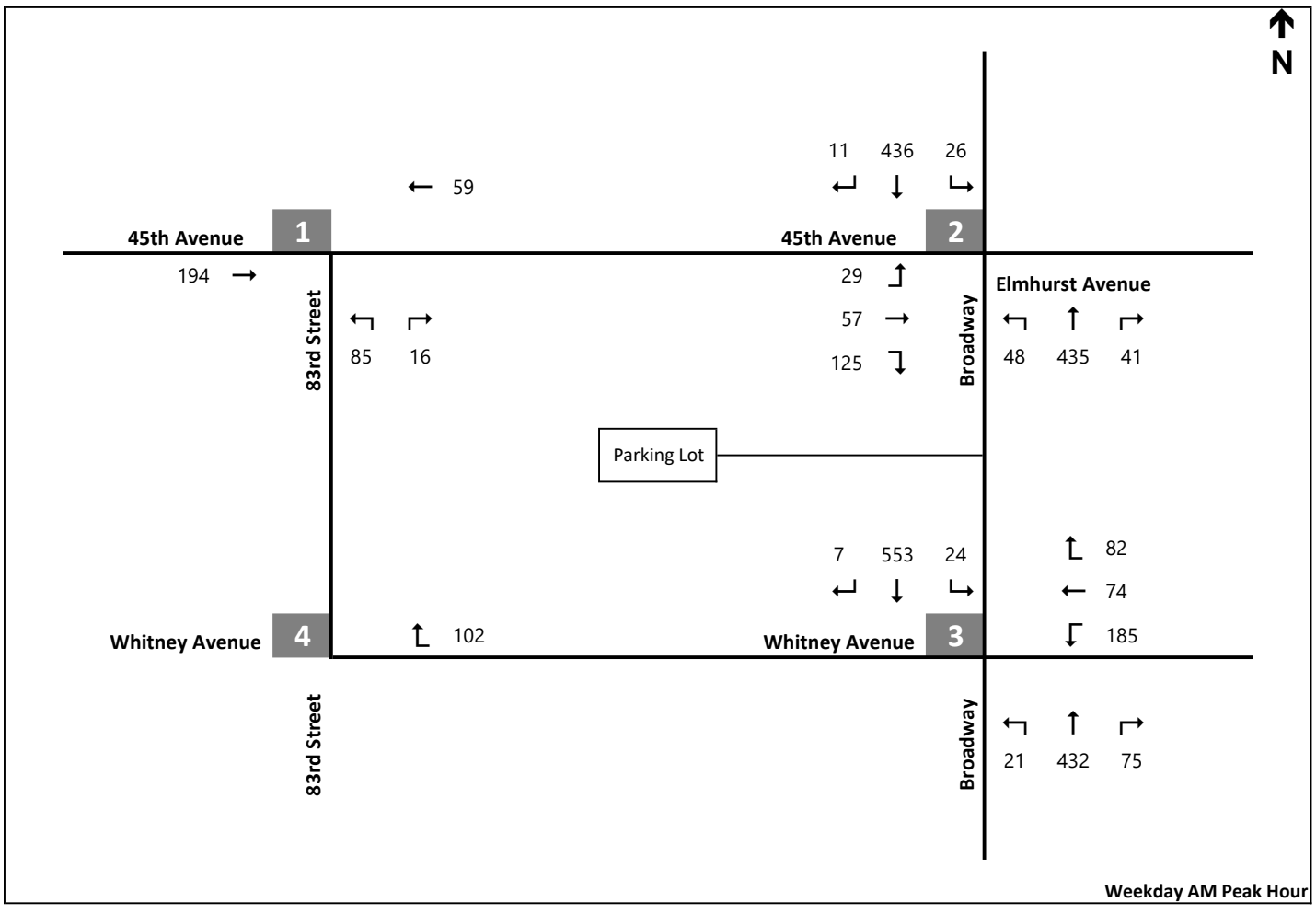
#	Intersection & Approach	Weekday AM Peak Hour					Weekday MD Peak Hour					Weekday PM Peak Hour				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
1	**45th Avenue & 83rd Street**															
	Northbound	LR	0.16	11.2	B	15.0	LR	0.13	11.2	B	11.0	LR	0.13	11.8	B	11.0
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. LOS results cannot be generated for the intersection of Whitney Avenue and 83rd Street. The LOS results were reported using the HCM 2000 methodology.															

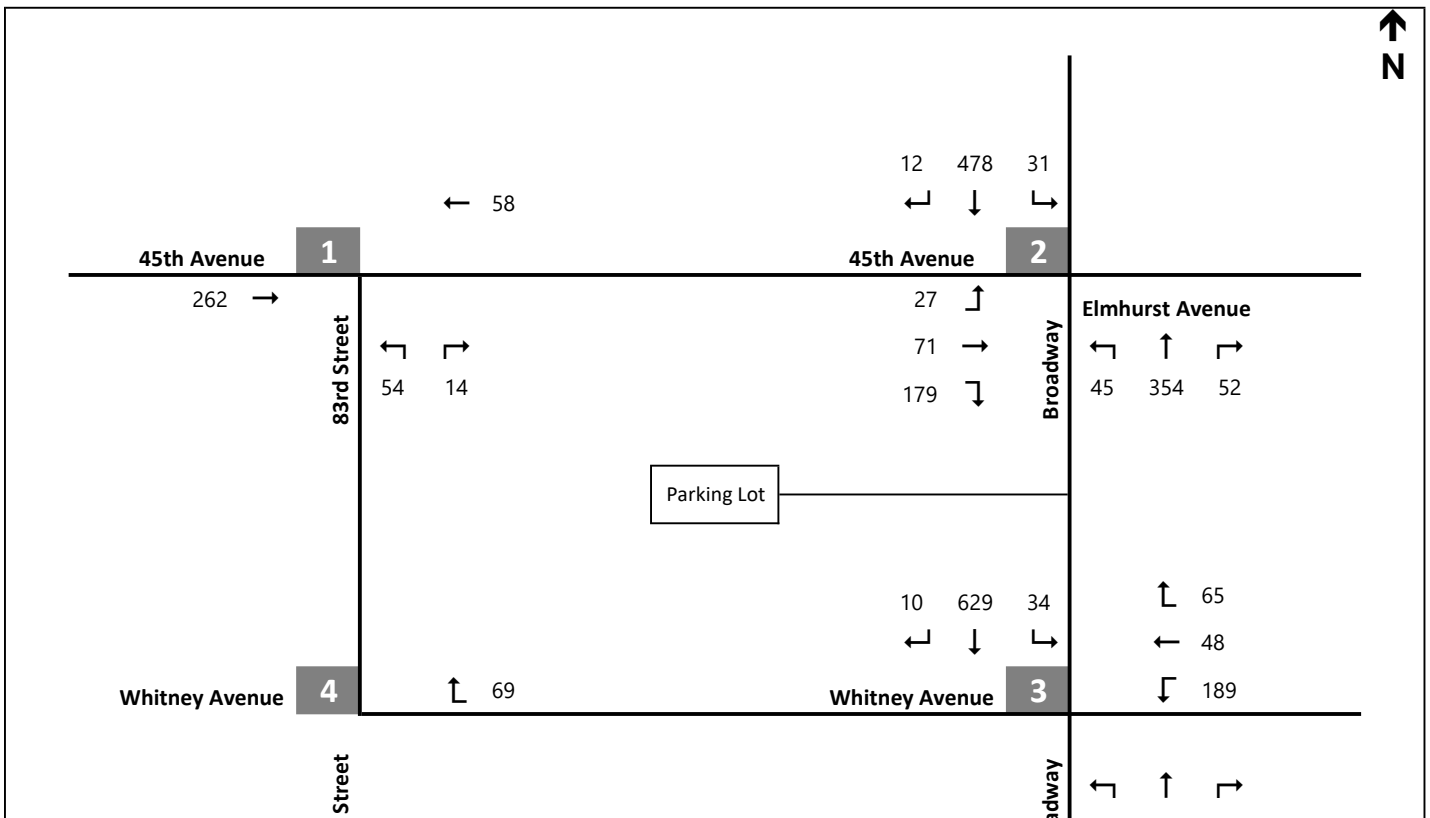


NO-ACTION DEVELOPMENTS PROJECTS MAP

Figure 6

45-20 83rd Street Special Street Permit





2025 No-Action Condition Traffic Volumes

Transit Operations

Transit volumes for the No-Action conditions were developed by increasing 2019 existing volumes with a general annual background growth rate of 0.50% for the first five years and 0.25% for the years beyond for this area of Queens. The transit trips generated by development projects planned for 2025 were superimposed onto the existing transit volumes and background growth to generate No-Action condition peak period volumes for analysis during the analysis peak hours.

Subway Stairs

As shown in **Table 20: 2025 No-Action Condition Level of Service Analysis - Subway Stairs**, the street-level and platform stairs would operate at LOS C or better during both peak hours.

Table 20**: 2025 No-Action Condition Level of Service Analysis - Subway Stairs**

Station	Vertical Element	ID	15-Minute Entering Volume [1]	15-Minute Exiting Volume [1]	Total Stair Width (feet) [2]	Number of Intermediate Handrails	Effective Width (feet)	Friction Factor [3]	Surge Factor (onto platform level) [3]	Surge Factor (off of platform level) [3]	15-Minute Entering Capacity [4]	15-Minute Exiting Capacity [4]	V/C [5]	LOS [5]
Weekday AM														
Elmhurst Ave Subway Station	Street Stair (45th Avenue and Broadway SW Corner)	S1, M1, M1A	166	49	5.0	0	4.0	0.9	1	0.8	540	432	0.42	A
	Street Stair (45th Avenue and Broadway NW Corner)	S3, M3A, M3B	33	4	5.3	0	4.3	0.9	1	0.8	585	468	0.06	A
	Platform Stair (b/w control area and platform level)	P1	54	38	5.5	0	4.5	0.9	1	0.75	608	456	0.17	A
	Platform Stair (b/w control area and platform level)	P2	505	24	5.9	0	4.9	1.0	1	0.75	738	554	0.73	C
	Platform Stair (b/w control area and platform level)	P3	3	17	5.2	0	4.2	0.9	1	0.75	563	422	0.04	A
	Platform Stair (b/w control area and platform level)	P4	22	6	5.5	0	4.5	0.9	1	0.75	608	456	0.05	A
Weekday PM														
Elmhurst Ave Subway Station	Street Stair (45th Avenue and Broadway SW Corner)	S1, M1, M1A	104	192	5.0	0	4.0	0.9	1	0.8	540	432	0.64	B
	Street Stair (45th Avenue and Broadway NW Corner)	S3, M3A, M3B	8	14	5.3	0	4.3	0.9	1	0.8	585	468	0.04	A
	Platform Stair (b/w control area and platform level)	P1	38	168	5.5	0	4.5	0.9	1	0.75	608	456	0.43	A
	Platform Stair (b/w control area and platform level)	P2	121	63	5.9	0	4.9	0.9	1	0.75	664	498	0.31	A
	Platform Stair (b/w control area and platform level)	P3	7	89	5.2	0	4.2	0.9	1	0.75	563	422	0.22	A
	Platform Stair (b/w control area and platform level)	P4	0	12	5.5	0	4.5	1.0	1	0.75	675	506	0.02	A

Notes:
(1) Volumes related to general background growth assigned based on guidance from NYCT.
(2) Vertical elements measured at the narrowest location.
(3) Friction and surge factors based on NYCT guidelines in accordance with the *CEQR Technical Manual* .
(4) Stair capacity based on NYCT guidelines in accordance with the *CEQR Technical Manual* .
(5) v/c ratios and LOS ratings were calculated based on rates presented in the *CEQR Technical Manual* .

Control Areas

As shown in **Table 21: 2025 No-Action Condition Level of Service Analysis - Control Areas,** all control area elements would operate at LOS A during both peak hours.

Table 21: 2025 No-Action Condition Level of Service Analysis - Control Areas

Station	Station Elements	Quantity (Entry)	Quantity (Exit)	15-Minute Entering Volume [1]	15-Minute Exiting Volume [1]	Friction Factor [2]	Surge Factor (onto platform)[2]	Surge Factor (off of platform)[2]	15 Minute Entering Capacity [3]	15 Minute Exiting Capacity [3]	V/C [4]	LOS [4]
Weekday AM												
Elmhurst Ave Subway Station / Manhattan-bound Trains Control Area	Turnstile HEET HXT	0 2 0	0 2 2	37	60	0.9	0.8	0.8	510	2190	**0.14**	**A**
Elmhurst Ave Subway Station / Queens-bound Trains Control Area	Turnstile HEET HXT	3 0 0	3 0 0	90	33	0.9	0.8	0.8	1260	1935	**0.12**	**A**
Weekday PM												
Elmhurst Ave Subway Station / Manhattan-bound Trains Control Area	Turnstile HEET HXT	0 2 0	0 2 2	58	415	0.9	0.8	0.8	510	2190	**0.42**	**A**
Elmhurst Ave Subway Station / Queens-bound Trains Control Area	Turnstile HEET HXT	3 0 0	3 0 0	67	186	0.9	0.8	0.8	1260	1935	**0.21**	**A**

Notes:
(1) New turnstile volumes associated with the general background growth were distributed based on the existing counts.
(2) Friction and Surge factors based on NYCT guidelines in accordance with the *CEQR Technical Manual.*
(3) Fare array capacity based on NYCT guidelines in accordance with the *CEQR Technical Manual* .
(4) v/c ratios and LOS ratings were calculated based on rates presented in the *CEQR Technical Manual* .

Bus Line-Haul

Table 22: 2025 No-Action Condition Level of Service Analysis - Bus Line-Haul summarized the bus line-haul under No-Action condition, including the number of buses during the peak hours, the peak hour passengers, average passengers per bus, total capacity, and available capacity of the Q53-SBS bus routes.

As presented in **Table 22,** the Q53-SBS buses would operate within capacity during the three analysis peak hours.

Table 22: 2025 No-Action Condition Level of Service Analysis - Bus Line-Haul

Route	Peak Direction	Maximum Load Point	Peak Hour Buses	Peak Hour Passengers [1]	Average Passengers Per Bus	Total Capacity Per Bus [2]	Available Capacity Per Bus
Weekday AM							
Q53-SBS	NB	WOODHAVEN BL & EVERTON ST	8	458	57	85	28
Q53-SBS	SB	WOODHAVEN BL & JAMAICA AV	7	249	36	85	49
Weekday MD							
Q53-SBS	NB	WOODHAVEN BL & POLO PL	6	323	54	85	31
Q53-SBS	SB	WOODHAVEN BL & METROPOLITAN AV	7	421	60	85	25
Weekday PM							
Q53-SBS	NB	QUEENS BL & 59 AV	6	421	70	85	15
Q53-SBS	SB	WOODHAVEN BL & JAMAICA AV	8	514	64	85	21

Notes:
(1) Bus volumes associated with general background growth were distributed proportionally based on existing ridership.
(2) Available capacity based on a maximum of 85 passengers per bus (60-foot articulated bus) for Q53-SBS buses.

Pedestrian Operations

Pedestrian volumes for the No-Action conditions were developed by increasing existing volumes with a general annual background growth rate of 0.50% for the first five years and 0.25% for the years beyond for this area of Queens. The pedestrian trips generated by development projects planned for 2025 were superimposed onto the existing pedestrian elements and background growth to generate No-Action condition peak period volumes for analysis during the three analysis peak hours.

Sidewalks

As presented in **Table 23: 2025 No-Action Condition Level of Service Analysis – Sidewalks**, all sidewalk locations included in the transportation analysis are projected to operate at LOS A for non-platoon conditions and at LOS C or better for platoon conditions during the three analysis peak hours for the No-Action condition.

Table 23: 2025 No-Action Condition Level of Service Analysis – Sidewalks

Location	Total Width (ft)	Obstruction Width (ft)	Effective Width (ft)	Circulation Space (ft^2/p)			Non-Platoon Conditions LOS			Platoon Conditions LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (S leg, W sidewalk)	9.4	6.0	3.4	290	281	196	A	A	A	B	B	B
83rd Street and 45th Avenue (E leg, S sidewalk)	16.2	10.5	5.7	66	72	65	A	A	A	C	C	C

Crosswalks

As presented in **Table 24: 2025 No-Action Condition Level of Service Analysis – Crosswalks**, the crosswalk location included in the transportation analysis is projected to operate at LOS A during the three analysis peak hours during the No-Action condition.

Table 24: 2025 No-Action Condition Level of Service Analysis – Crosswalks

Location	Length (ft)	Width (ft)	Available Circulation Space			Crosswalk Circulation		
			AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (S leg)	31.2	14.5	2.9	1.9	1.8	A	A	A

Corners

As presented in **Table 25: 2025 No-Action Condition Level of Service Analysis – Corners**, all corner reservoirs included in the transportation analysis are projected to operate at LOS A during the three analysis peak hours during the No-Action condition.

Table 25: 2025 No-Action Condition Level of Service Analysis – Corners

Location	Available Circulation Space (ft^2/p)			Corner Circulation LOS		
	AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (SW corner)	119	115	89	A	A	A
83rd Street and 45th Avenue (SE corner)	72	83	64	A	A	A
Broadway and 45th Avenue (SW corner)	138	217	178	A	A	A

Parking Supply and Utilization

The utilization of on-street parking facilities in the study area is expected to increase due to the area's background growth by an annual growth rate of 0.50% for the first five years and 0.25% for the years beyond. The generated auto trips from No-Action project 2 are assumed to park outside of the 0.25-mile study area, as it is approximately a 0.5-miles away from the Project Site. No-Action project 1 is expected to provide 143 on-site parking spaces to meet its parking demands; therefore, it would not add to the on-street demand. The peak hour parking demands of this project was estimated based on parking accumulation estimates from *Flushing Commons FEIS* and *Domino Sugar FEIS*.

As shown in **Table 26: 2025 No-Action Condition Parking Utilization Summary,** within 0.25-mile of the Project Site, the on-street parking utilization is expected to increase to 89% and 89% during the Weekday AM and Weekday PM periods, respectively, in the 2025 No-Action condition.

Table 26: 2025 No-Action Condition Parking Utilization Summary

2025 No-Action	Weekday AM	Weekday PM
Capacity		
Existing Capacity	1,758	1,738
Total No-Action Capacity	1,758	1,738
Demand		
2020 Existing Demand	1,506	1,497
Background Growth Increment [(1)]	42	42
No-Action Demand from As-of-Right Development	30	11
No-Action Demand from Development Sites [(2)]	0	0
Total No-Action Demand	1,578	1,550
Utilization		
Available Spaces	180	188
No-Action Utilization	**90%**	**89%**

1. Reflects an annual background growth rate of 0.50 percent per year for two years (2020 CEQR Technical Manual, Table 16-4).
2. All parking demand generated by the No-Action sites would be accommodated in the on-site parking spaces.

VII. DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project would result in the redevelopment of a site located at 45-20 83rd Street in the Elmhurst neighborhood of Queens, New York. The Proposed Project is bounded by 45th Avenue to the north and 83rd Street to the east, as shown on **Figure 1**.

The Proposed Project would include the development of a charter school with 567 students/88 staff and a residential building with 168 dwelling units and 72 parking spaces.

In the absence of the Proposed Project, 41,320 gsf of light industrial space could be built as-of-right under existing zoning for the Project Site. Therefore, the total increment analyzed for the Proposed Project would include:

- a charter school with 567 students and 88 staff
- 168 residential dwelling units
- -41,320 gsf of light industrial space

It should be noted that only a partial trip generation credit was taken from the as-of-right light industrial space in the With-Action condition per guidance from NYCDOT. These adjustments were made to ensure that no trip generation credit was taken from pedestrian and vehicular trips generated by the proposed school. For simplicity, no credit at all was taken in the With-Action parking accumulation analysis.

Project Improvements

The following roadway and pedestrian improvements are recommended as part of the Proposed Project and will be reviewed for approval and installation by NYCDOT prior to opening. The applicant will work with NYCDOT to ensure that the appropriate safety improvement measures are implemented prior to the school opening.

- Construct a new sidewalk on the south side of Whitney Avenue between 83rd Street and Broadway.
- To facilitate school crossings, install an enhanced crosswalk across 83rd Street just north of Whitney Avenue with ADA compliant pedestrian ramps.
- To facilitate vehicle maneuvers on 83rd Street and Whitney Avenue, modify curbside regulations to create a total of 181’ of “No Standing Anytime” zones on the north and south curbs of Whitney Avenue and 38’ of “No Standing Anytime” zone on the east curb of 83rd Street (approximately 9 parking spaces), as shown on Figure C-006 of Appendix A.
- To facilitate school pick-up and drop-off activities, modify curbside regulations to create “No Standing School Days 7 AM – 4 PM” parking zones along the north side of Whitney Avenue for approximately 80’ (approximately four parking spaces), replacing existing metered parking, and along the west side of 83rd Street for approximately 110’ (approximately six parking spaces), replacing existing “No Standing 7am-6pm” parking regulations. The parking regulation changes would result in the loss of approximately four parking spaces between 7 AM and 4 PM on school days.
- Install ADA compliant pedestrian ramps at the southwest and southeast corners at 83rd Street and 45th Avenue, and all four corners at Broadway and Whitney Avenue.
- Install appropriate traffic control at the intersection of Whitney Avenue and 83rd Street.

The following roadway and signal timing improvements are recommended as part of the Proposed Project. NYCDOT will determine if the implementation of these improvements will occur before the school opens or delayed until after a post-opening monitoring study is conducted to determine their appropriateness:

- The eastbound approach at 45th Avenue and Broadway would be restriped to include one 10’ left/through lane and one 10’ right-turn only lane between 83rd Street and Broadway. The centerline

would be shifted north by 2'. Parking would be removed on the north and south curb lanes along 45th Avenue between 83rd Street and Broadway. A total of 16 metered spaces would be removed as a result.

- The northbound approach at 45th Avenue and Broadway would be restriped to extend shared bus/ bike lane to the stop bar with right turn permitted from the bus lane. Parking would be removed on the east curb lane along Broadway between the end of the bus lane and the stop bar. A total of four metered spaces would be removed as a result.
- At the intersection of 45th Avenue and Broadway, modify signal timing as follows:
    - During the AM peak hour, shift 2 seconds of green time from the northbound/southbound phase to the eastbound phase.
    - During the MD peak hour, shift 1 second of green time from the northbound/southbound phase to the eastbound phase.
- The westbound approach at Whitney Avenue and Broadway would be restriped to include one 10' left-turn only lane and one 10' through/right lane between 83rd Street and Broadway. Parking would be removed on the north curb lane along Whitney Avenue between Macnish Street and Broadway. A total of 12 metered parking spaces would be removed as a result.
- At the intersection of Whitney Avenue and Broadway, modify signal timing as follows:
    - During the AM peak hour, shift 1 second of green time from the westbound phase to the northbound/southbound phase.

The following additional consideration was requested by NYCDOT in a comment letter dated July 19th, 2021

- NYC DOT reviewed the residential conceptual plans submitted with the Land Use Application as an illustration of a Future With-Action Condition. In this letter, NYC DOT indicated it has operational and safety concerns about this proposed location of the 22' curb cut to be located approximately 41-feet of the 82nd St and 47th Ave intersection, which provides minimal spacing from the existing curb cut to the west and consolidates turning movement conflicts from both driveways. DOT has also indicted that the illustrated curb location would reduce sight-lines for drivers turning in/out towards traffic approaching southbound on 82nd Street. In response to these concerns, the Applicant/Developer, will at the time of Builders Pavement Plan (BPP) development and prior to submittal of building plans to DOB, the Applicant/Developer will evaluate, and if feasible, retain the existing driveway and associated curb cut location to align as a third leg to the 82nd Street and 47th Avenue intersection.

Post-Opening Monitoring

The applicants would conduct post-opening monitoring studies within the first six months after opening and again once the Proposed Project is at full occupancy in 2025. The purpose of the monitoring studies is to observe traffic operations at key intersections to determine if the recommended project improvements as described above should be implemented or refined. Before commencing the monitoring plan, the applicant would submit a detailed scope of work for NYCDOT review and approval. The monitoring plan would include the following intersections:

- 45th Avenue and Broadway
- 45th Avenue and 82nd Street
- 45th Avenue and 83rd Street
- Broadway and Whitney Avenue
- Whitney Avenue and 83rd Street

The monitoring plans would consist the following activities on one typical day for the three weekday peak hours for the intersections listed above:

- Intersection turning movement counts, including vehicle classification counts, pedestrian counts, and bicycle counts
- Field observations of intersection operations and queue lengths
- Traffic analyses using Synchro
- Recommendations to improve intersection operations and provide additional safety measures, if necessary

The monitoring plans would also include a travel demand survey to determine actual travel patterns for students, parents, and staff, a re-evaluation of the control warrants at the intersection of 83rd Street and Whitney Avenue, and a parking assessment study for the MD peak period.

The applicant would be responsible for the cost of the post-opening studies.

Analysis Scenarios

The trip generation and assignment estimates were prepared for three peak hours: Weekday AM (7:30 AM to 8:30 AM), Weekday Midday (MD) (3:15 PM to 4:15 PM), and Weekday PM (5:15 PM to 6:15 PM).

Trip Generation

The assumptions used to develop the trip generation and trip distribution characteristics of the Proposed Project are described in the TDA Memorandum**.** Complete transportation demand factors and trip generation estimates are also included in the TDA Memorandum.

Trip Assignment

Trips were assigned to the study area along main streets and arterials. Additional information regarding the vehicular and pedestrian trip assignments are provided in the TDA Memorandum.

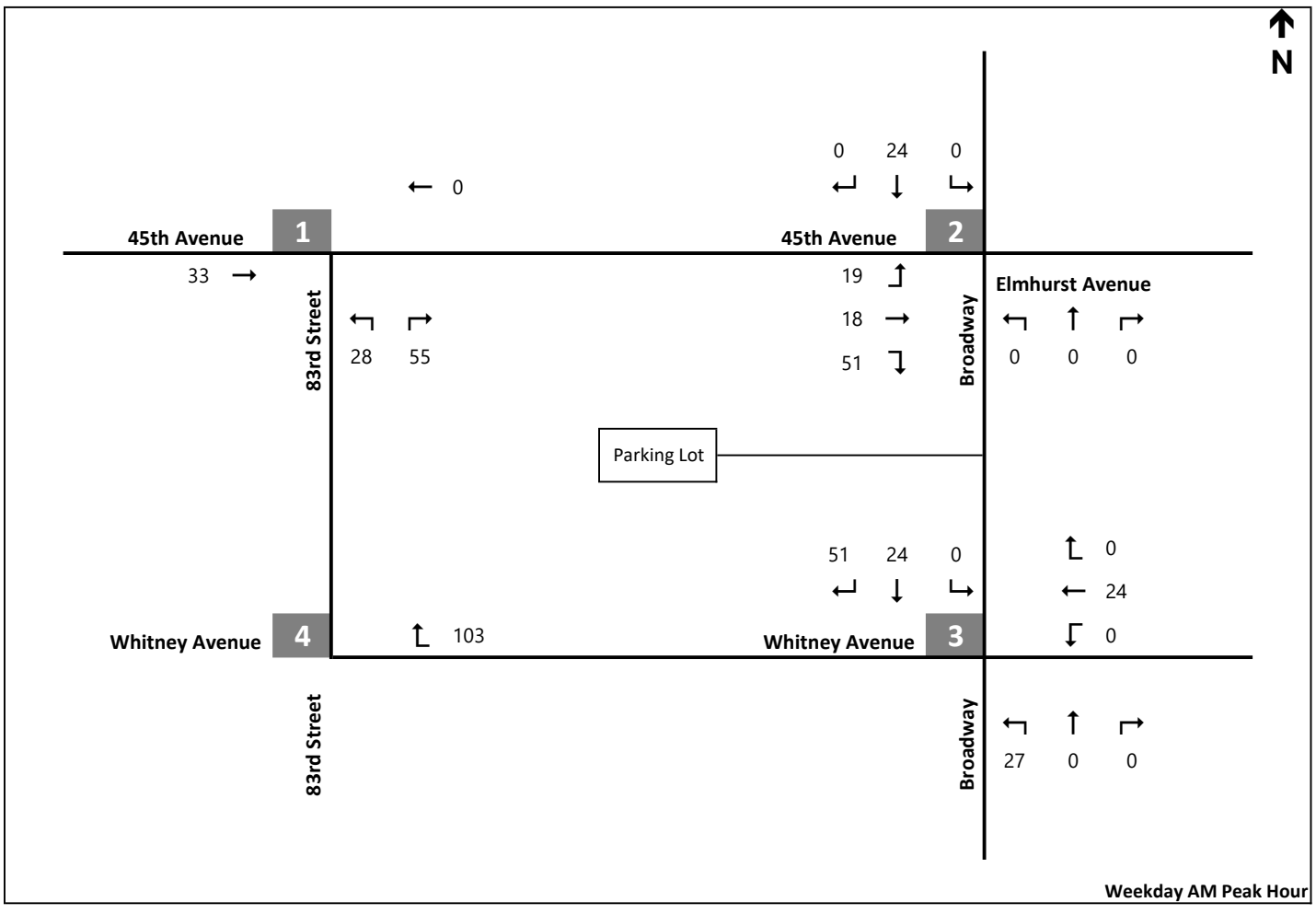
Parking Accumulation

Table 27: 2025 With-Action Condition Weekday Project Parking Accumulation shows the parking accumulation for a typical Weekday for the Proposed Project. The total net parking demand during a typical weekday would peak at 34 spaces between 7:00 AM and 3:00 PM.

Table 27: 2025 With-Action Condition Weekday Project Parking Accumulation

Hour	School Staff			Residential				Total On-Street Net Accumulation
	IN	OUT	Accumulation	IN	OUT	Total Accumulation	On-Street Accumulation[1]	
Before 12	0	0	0	0	0	82	10	10
12-1 AM	0	0	0	2	2	82	10	10
1-2 AM	0	0	0	1	1	82	10	10
2-3 AM	0	0	0	1	1	82	10	10
3-4 AM	0	0	0	0	0	82	10	10
4-5 AM	0	0	0	0	0	82	10	10
5-6 AM	0	0	0	0	0	82	10	10
6-7 AM	6	0	6	0	1	81	9	15
7-8 AM	25	0	31	2	8	75	3	34
8-9 AM	3	0	34	4	21	58	0	34
9-10 AM	0	0	34	4	12	49	0	34
10-11 AM	0	0	34	5	7	47	0	34
11-12 PM	0	0	34	5	5	47	0	34
12-1 PM	0	0	34	6	4	48	0	34
1-2 PM	0	0	34	5	4	49	0	34
2-3 PM	0	0	34	5	5	49	0	34
3-4 PM	0	27	7	9	3	55	0	7
4-5 PM	0	0	7	12	5	62	0	7
5-6 PM	0	7	0	19	8	72	0	0
6-7 PM	0	0	0	16	7	82	10	10
7-8 PM	0	0	0	13	7	88	16	16
8-9 PM	0	0	0	6	5	88	16	16
9-10 PM	0	0	0	2	7	83	11	11
10-11 PM	0	0	0	4	5	82	10	10
11-12 PM	0	0	0	3	3	82	10	10
Total	**34**	**34**		**124**	**124**			

Note: Individual numbers may not add up to total due to rounding. Peak hour in/outs adjusted to match trip generation peak hour in/outs.
1. 72 parking spaces provided for residential demand.



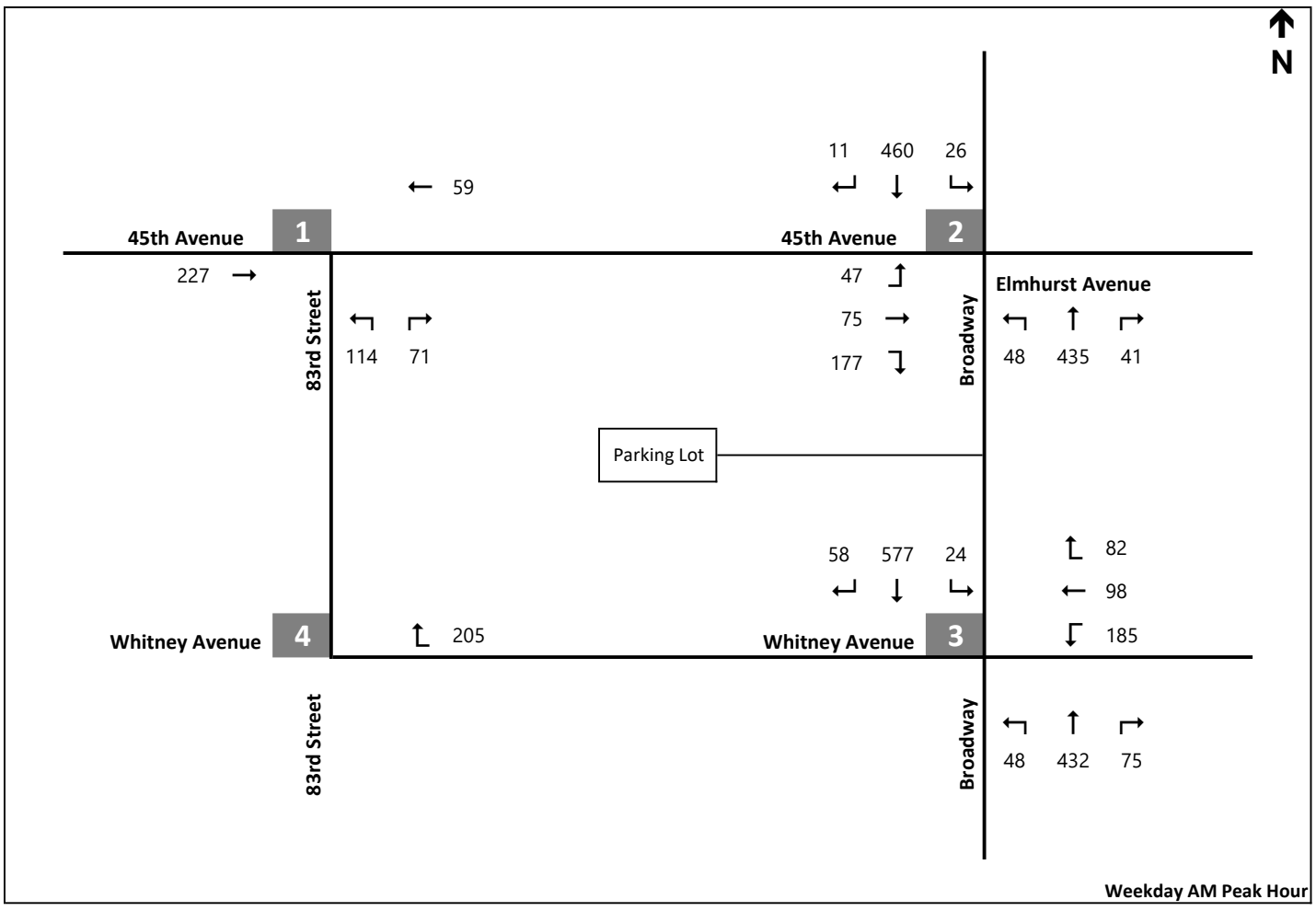
Proposed Project Increment Traffic Volumes

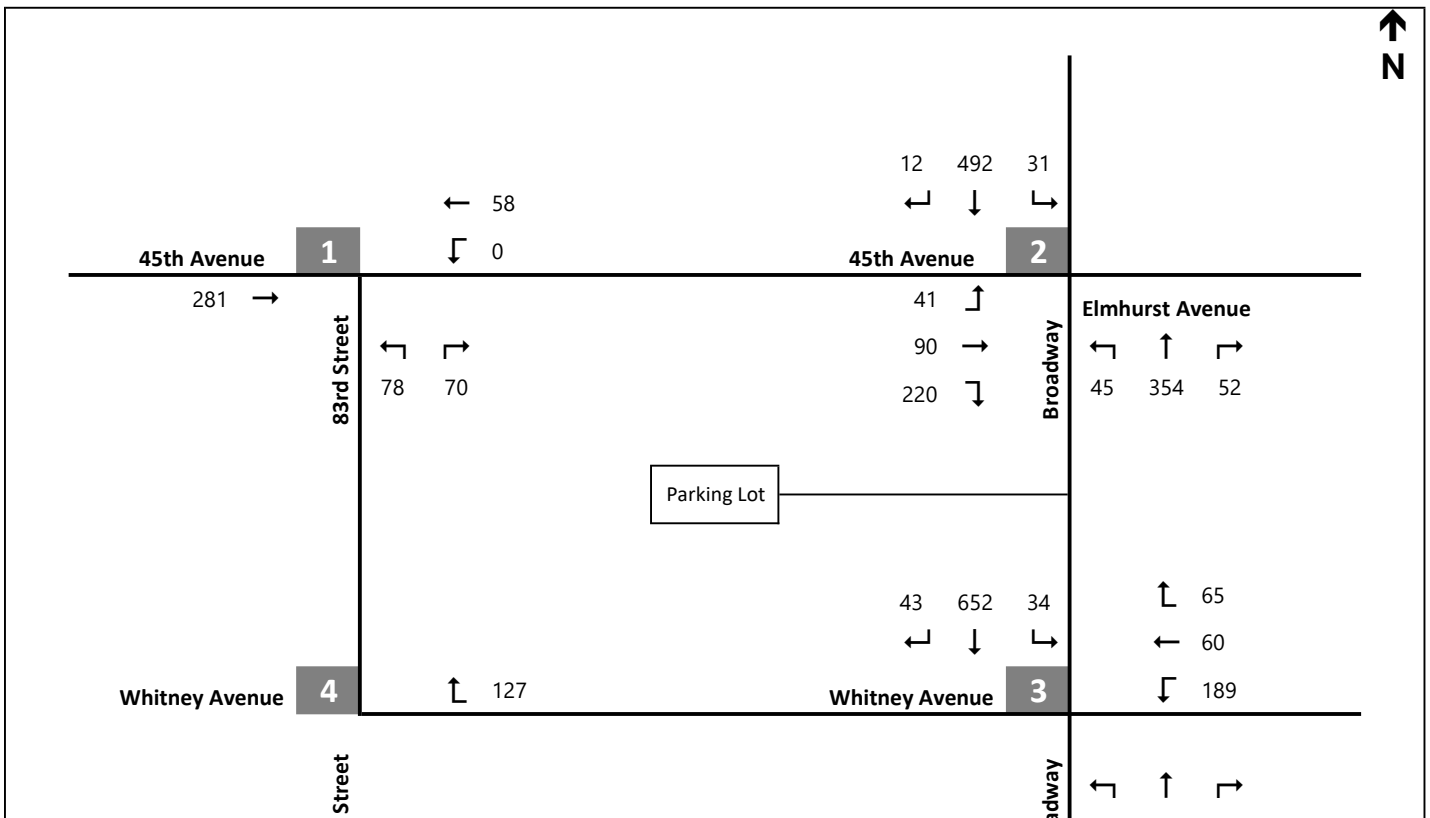
VIII. FUTURE WITH THE PROPOSED PROJECT

The No-Action condition analysis forms the future baseline to which projected trip increments associated with the Proposed Project are added to formulate the "With-Action condition." The *CEQR Technical Manual* defines how impacts to traffic, transit, pedestrians, and parking are to be determined. If the analysis results show that the Proposed Project would result in significant transportation-related impacts, mitigation measures are recommended to alleviate these impacts.

Traffic Conditions

Figure 9: 2025 With-Action Condition Traffic Volumes shows the 2025 With-Action condition traffic volumes for the three peak hours. **Table 28: 2025 No-Action and With-Action Condition Level of Service Analysis – Signalized Intersections and Table 29: 2025 No-Action and With-Action Condition Level of Service Analysis – Unsignalized Intersections** present a comparison of No-Action and With-Action conditions for the signalized and unsignalized study intersections, respectively. As shown, the Proposed Project would not result in any significant adverse traffic impacts.





2025 With-Action Condition Traffic Volumes

Table 28: 2025 No-Action and With-Action Condition Level of Service Analysis – Signalized Intersections

#	Intersection & Approach	Weekday AM Peak Hour										Weekday MD Peak Hour										Weekday PM Peak Hour									
		2025 No-Action					2025 With-Action With Project Improvements					2025 No-Action					2025 With-Action With Project Improvements					2025 No-Action					2025 With-Action With Project Improvements				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
2	**45th Avenue & Broadway**																														
	Eastbound	LTR	0.89	62.8	E	252						LTR	1.20	151.9	F	371						LTR	1.19	145.2	F	424					
							LT	0.33	25.9	C	106						LT	0.35	26.9	C	116						LT	0.40	27.6	C	146
							R	0.89	64.6	E	223						R	1.16	145.0	F	310						R	1.06	112.1	F	277
	Northbound	LTR	0.99	32.0	C	385	LT	0.99	39.3	D	182	LTR	0.97	34.9	C	417	LT	0.83	22.6	C	374	LTR	0.85	17.2	B	140	LT	0.70	14.6	B	132
							R	0.22	13.7	B	15						R	0.25	12.0	B	26						R	0.24	11.7	B	20
	Southbound	L	0.16	13.0	B	24	L	0.21	15.6	B	26	L	0.15	12.5	B	26	L	0.17	13.5	B	27	L	0.18	12.9	B	30	L	0.20	13.4	B	31
		T	0.56	17.2	B	261	T	0.61	19.6	B	294	T	0.61	18.3	B	297	T	0.64	19.7	B	318	T	0.58	17.6	B	277	T	0.59	17.9	B	284
		R	0.04	10.6	B	11	R	0.04	11.7	B	12	R	0.03	10.6	B	12	R	0.04	11.2	B	12	R	0.02	10.5	B	9	R	0.02	10.5	B	9
		Intersection		31.9	C		Intersection		33.4	C		Intersection		53.4	D		Intersection		41.0	D		Intersection		50.4	D		Intersection		31.7	C	
4	**Whitney Avenue & Broadway**																														
	Westbound	LTR	1.36	217.8	F	430						LTR	1.25	171.3	F	374						LTR	1.20	152.3	F	344					
							L	1.07	122.9	F	252						L	0.84	57.6	E	217						L	0.81	54.1	D	229
							TR	0.60	38.6	D	165						TR	0.45	32.4	C	117						TR	0.41	31.8	C	102
	Northbound	L	0.25	18.3	B	24	L	0.52	30.1	C	60	L	0.16	16.3	B	15	L	0.35	25.2	C	31	L	0.14	14.8	B	14	L	0.25	18.8	B	24
		TR	0.91	39.1	D	487	TR	0.94	44.2	D	500	TR	0.76	26.4	C	355	TR	0.76	26.4	C	355	TR	0.88	36.9	D	476	TR	0.88	37.1	D	478
	Southbound	LT	0.79	18.2	B	425	LT	0.80	19.8	B	500	LT	0.92	27.2	C	507	LT	0.95	31.4	C	532	LT	0.96	35.6	D	514	LT	0.98	39.7	D	548
		R	0.04	5.6	A	2	R	0.22	7.7	A	20	R	0.03	5.9	A	3	R	0.12	6.9	A	15	R	0.05	6.1	A	5	R	0.12	6.9	A	14
		Intersection		70.3	E		Intersection		41.3	D		Intersection		60.3	E		Intersection		32.8	C		Intersection		60.2	E		Intersection		38.9	D	

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. The LOS results were reported using the HCM 2000 methodology.

Table 29: 2025 No-Action and With-Action Condition Level of Service Analysis – Unsignalized Intersections

#	Intersection & Approach	Weekday AM Peak Hour										Weekday MD Peak Hour										Weekday PM Peak Hour									
		2025 No-Action					2025 With-Action With Project Improvements					2025 No-Action					2025 With-Action With Project Improvements					2025 No-Action					2025 With-Action With Project Improvements				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
1	**45th Avenue & 83rd Street**																														
	Northbound	LR	0.16	11.2	B	15.0	LR	0.31	12.5	B	33.0	LR	0.13	11.2	B	11.0	LR	0.26	12.3	B	26.0	LR	0.13	11.8	B	11.0	LR	0.22	12.5	B	21.0

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. LOS results cannot be generated for the intersection of Whitney Avenue and 83rd Street. The LOS results were reported using the HCM 2000 methodology.

Transit Operations

Trips generated by the Proposed Project were added to the No-Action transit volumes to generate With-Action peak hour volumes for the analysis peak hours.

Subway Stairs

As shown in **Table 30: 2025 With-Action Condition Level of Service Analysis - Subway Stairs**, the street-level and platform stairs would operate at LOS C or better during both peak hours. According to the significance criteria defined for subway stairs in the *CEQR Technical Manual*, no significant adverse impacts are expected at any of the subway stairs.

Table 30: 2025 With-Action Condition Level of Service Analysis - Subway Stairs

Station	Vertical Element	ID	15-Minute Entering Volume [1]	15-Minute Exiting Volume [1]	Total Stair Width (feet) [2]	Number of Intermediate Handrails	Effective Width (feet)	Friction Factor [3]	Surge Factor (onto platform level) [3]	Surge Factor (off of platform level) [3]	15-Minute Entering Capacity [4]	15-Minute Exiting Capacity [4]	V/C [5]	LOS [5]	Impact [6]
Weekday AM															
Elmhurst Ave Subway Station	Street Stair (45th Avenue and Broadway SW Corner)	S1, M1, M1A	271	147	5.0	0	4.0	0.9	1	0.8	540	432	0.84	C	No
	Street Stair (45th Avenue and Broadway NW Corner)	S3, M3A, M3B	33	9	5.3	0	4.3	0.9	1	0.8	585	468	0.08	A	No
	Platform Stair (b/w control area and platform level)	P1	64	88	5.5	0	4.5	0.9	1	0.75	608	456	0.30	A	No
	Platform Stair (b/w control area and platform level)	P2	596	48	5.9	0	4.9	0.9	1	0.75	664	498	0.99	C	No
	Platform Stair (b/w control area and platform level)	P3	3	38	5.2	0	4.2	0.9	1	0.75	563	422	0.10	A	No
	Platform Stair (b/w control area and platform level)	P4	26	12	5.5	0	4.5	0.9	1	0.75	608	456	0.07	A	No
Weekday PM															
Elmhurst Ave Subway Station	Street Stair (45th Avenue and Broadway SW Corner)	S1, M1, M1A	152	263	5.0	0	4.0	0.9	1	0.8	540	432	0.89	C	No
	Street Stair (45th Avenue and Broadway NW Corner)	S3, M3A, M3B	8	18	5.3	0	4.3	0.9	1	0.8	585	468	0.05	A	No
	Platform Stair (b/w control area and platform level)	P1	50	212	5.5	0	4.5	0.9	1	0.75	608	456	0.55	B	No
	Platform Stair (b/w control area and platform level)	P2	154	70	5.9	0	4.9	0.9	1	0.75	664	498	0.37	A	No
	Platform Stair (b/w control area and platform level)	P3	10	112	5.2	0	4.2	0.9	1	0.75	563	422	0.28	A	No
	Platform Stair (b/w control area and platform level)	P4	1	13	5.5	0	4.5	1.0	1	0.75	675	506	0.03	A	No

Notes:
(1) New stairway volumes associated with the Proposed Project were distributed based on proximity to the project site, subway station layout, and guidance from NYCT.
(2) Vertical elements measured at the narrowest location.
(3) Friction and surge factors based on NYCT guidelines in accordance with the *CEQR Technical Manual.*
(4) Stair capacity based on NYCT guidelines in accordance with the *CEQR Technical Manual* .
(5) v/c ratios and LOS ratings were calculated based on rates presented in the *CEQR Technical Manual* .
(6) Determination of significant impacts based on NYCT guidelines in accordance with the *CEQR Technical Manual.*

Control Areas

As shown in **Table 25: 2025 No-Action Condition Level of Service Analysis – Corners**, the subway control areas would operate at LOS B or better during both peak hours. According to the significance criteria defined for subway control areas in the *CEQR Technical Manual*, no significant adverse impacts are expected at either control area.

Table 31: 2025 With-Action Condition Level of Service Analysis - Control Areas

Station	Station Elements	Quantity (Entry)	Quantity (Exit)	15-Minute Entering Volume [1]	15-Minute Exiting Volume [1]	Friction Factor [2]	Surge Factor (onto platform)[2]	Surge Factor (off of platform)[2]	15 Minute Entering Capacity [3]	15 Minute Exiting Capacity [3]	V/C [4]	LOS [4]	Impact[5]
Weekday AM													
Elmhurst Ave Subway Station / Manhattan-bound Trains Control Area	Turnstile HEET HXT	0 2 0	0 2 2	48	131	0.9	0.8	0.8	510	2190	**0.21**	**A**	No
Elmhurst Ave Subway Station / Queens-bound Trains Control Area	Turnstile HEET HXT	3 0 0	3 0 0	185	63	0.9	0.8	0.8	1260	1935	**0.25**	**A**	No
Weekday PM													
Elmhurst Ave Subway Station / Manhattan-bound Trains Control Area	Turnstile HEET HXT	0 2 0	0 2 2	73	483	0.9	0.8	0.8	510	2190	**0.50**	**B**	No
Elmhurst Ave Subway Station / Queens-bound Trains Control Area	Turnstile HEET HXT	3 0 0	3 0 0	100	194	0.9	0.8	0.8	1260	1935	**0.25**	**A**	No

Notes:
(1) New turnstiles volumes associated with the Proposed Project were distributed based trip assignement assumptions decribed in the TDF Memorandum.
(2) Friction and Surge factors based on NYCT guidelines in accordance with the *CEQR Technical Manual.*
(3) Fare array capacity based on NYCT guidelines in accordance with the *CEQR Technical Manual* .
(4) v/c ratios and LOS ratings were calculated based on rates presented in the *CEQR Technical Manual* .
(5) Determination of significant impacts based on NYCT guidelines in accordance with the *CEQR Technical Manual* .

Bus Line-Haul

The 2025 With-Action condition results for the Q53-SBS bus line-haul were compared with the No-Action condition results for all three peak hours. As shown in **Table 32: 2025 With-Action Condition Level of Service Analysis - Bus Line Haul,** the Q53-SBS would operate within capacity during the three peak hours. Therefore, based on the significant adverse impact criteria defined for bus line-hauls in the *CEQR Technical Manual*, the Proposed Project would not result in any significant adverse bus impacts.

Table 32: 2025 With-Action Condition Level of Service Analysis - Bus Line Haul

Route	Peak Direction	Maximum Load Point	Peak Hour Buses	Peak Hour Passengers [1]	Average Passengers Per Bus	Total Capacity Per Bus [2]	Available Capacity Per Bus [2]	Impact [3]
Weekday AM								
Q53-SBS	NB	WOODHAVEN BL & EVERTON ST	8	524	66	85	19	No
Q53-SBS	SB	WOODHAVEN BL & JAMAICA AV	7	315	45	85	40	No
Weekday MD								
Q53-SBS	NB	WOODHAVEN BL & POLO PL	6	368	61	85	24	No
Q53-SBS	SB	WOODHAVEN BL & METROPOLITAN AV	7	465	66	85	19	No
Weekday PM								
Q53-SBS	NB	QUEENS BL & 59 AV	6	448	75	85	10	No
Q53-SBS	SB	WOODHAVEN BL & JAMAICA AV	8	541	68	85	17	No

Notes:
(1) Based on most currently available data from NYCT. Bus volumes generated by the Proposed Project were distributed based on trip assignment assumptions described in the TDF Memorandum.
(2) Available capacity based on a maximum of 85 passengers per bus (60-foot articulated bus) for Q53-SBS buses.
(3) Determination of significant impacts based on NYCT guidelines in accordance with the *CEQR Technical Manual* .

Pedestrian Operations

Trips generated by the Proposed Project were added to the No-Action pedestrian network to generate With-Action peak hour volumes for the three analysis peak hours. The With-Action condition analyses were performed at all pedestrian elements considered in the No-Action condition analyses in addition to one proposed sidewalk on the south side of Whitney Avenue between 83rd Street and Broadway.

Sidewalks

The 2025 With-Action condition results for the two existing sidewalk locations were compared with the No-Action condition results for all three peak hours. In addition, one proposed sidewalk that would be created as part of the Proposed Project was also analyzed. As shown in **Table 33: 2025 With-Action Condition Level of Service Analysis – Sidewalks**, the sidewalks are expected to operate at LOS C or better during three analysis peak hours for the non-platoon conditions and at mid-LOS D or better during the three analysis peak hours for the platoon conditions. Therefore, based on the significant adverse impact criteria in the *CEQR Technical Manual*, the Proposed Project would not result in any significant adverse impacts on any sidewalk element.

Table 33: 2025 With-Action Condition Level of Service Analysis – Sidewalks

Location	Total Width (ft)	Obstruction Width (ft)	Effective Width (ft)	Circulation Space (ft^2/p)			Non-Platoon Conditions LOS			Platoon Conditions LOS		
				AM	MD	PM	AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (S leg, W sidewalk)	9.4	6.0	3.4	39	44	76	C	B	A	D	C	C
83rd Street and 45th Avenue (E leg, S sidewalk)	16.2	10.5	5.7	37	50	51	C	B	B	D	C	C
Broadway and Whitney Avenue (W leg, S sidewalk)	8.0	3.0	5.0	314	354	485	A	A	A	B	B	B

Crosswalks

The 2025 With-Action condition results for the one crosswalk location was compared with the No-Action condition results for all three peak hours. As shown in **Table 34: 2025 With-Action Condition Level of Service Analysis – Unsignalized Crosswalk,** the crosswalk is projected to operate at LOS B or better during the three analysis peak hours. Therefore, based on the significant adverse impact criteria in the *CEQR Technical Manual*, the Proposed Project would not result in any significant adverse impacts on the crosswalk element.

Table 34: 2025 With-Action Condition Level of Service Analysis – Unsignalized Crosswalk

Location	Length (ft)	Width (ft)	Available Circulation Space			Crosswalk Circulation LOS		
			AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (S leg)	31.2	14.5	5.9	4.5	3.1	B	A	A

Corners

The 2025 With-Action condition results for the three corner reservoir locations were compared with the No-Action condition results for all three peak hours. As shown in **Table 35: 2025 With-Action Condition Level of Service Analysis - Corners,** the corners are projected to operate at LOS B or better during the three analysis peak hours. Therefore, based on the significant adverse impact criteria in the *CEQR Technical Manual*, the Proposed Project would not result in any significant adverse impacts on any corner element.

Table 35: 2025 With-Action Condition Level of Service Analysis - Corners

Location	Available Circulation Space (ft^2/p)			Corner Circulation LOS		
	AM	MD	PM	AM	MD	PM
83rd Street and 45th Avenue (SW corner)	58	71	68	B	A	A
83rd Street and 45th Avenue (SE corner)	43	57	51	B	B	B
Broadway and 45th Avenue (SW corner)	108	180	162	A	A	A

Parking Occupancy and Utilization

As described previously, the Proposed Project would result in changes to parking regulations that would result in the loss of approximately 41 parking spaces at all times, plus an additional four parking spaces between 7 AM and 4 PM on school days.

In addition, the utilization of on-street parking spaces in the study area is expected to increase due to the parking demand generated by the Proposed Project. The Proposed Project would provide 72 on-site parking spaces for the residential land use. Any residential demand beyond the spaces provided and school staff demand was expected to park off-site and increase the utilization of on-street parking spaces in the study area.

The With-Action condition parking utilization analysis is summarized in **Table 36: 2025 With-Action Condition Parking Utilization Summary.** The parking utilization is expected to increase to 94% and 91% during the Weekday AM and Weekday PM peak periods, respectively, in the With-Action condition.

As shown in **Table 37: 2025 With-Action Utilization of Available Parking Spaces**, the parking demand generated by the Proposed Project would represent less than half of the available on-street parking spaces during all peak periods; therefore, there would be no significant adverse parking-related shortfall associated with the Proposed Project.

Table 36: 2025 With-Action Condition Parking Utilization Summary

2025 With-Action	Weekday AM	Weekday PM
Capacity		
No Action Capacity	1,758	1,738
Net Change in With-Action Parking Supply(1)	-45	-41
Total With-Action Capacity	1,713	1,697
Demand		
Total No Action Demand	1,578	1,550
Project Demand Increment(2)	34	0
Total With-Action Demand	1,612	1,550
Utilization		
Available Spaces	101	147
With-Action Utilization	**94%**	**91%**

1. Represents parking spaces that would be removed due to Proposed Project improvements.

2. Represents the removal of the as-of-right warehouse parking demand and the addition of the school staff parking demand. Residential parking demand would be accommodated in the 72 on-site resdential parking spaces provided during both peak hours.

Table 37: 2025 With-Action Utilization of Available Parking Spaces

2025 With-Action Available Parking Spaces Utilization	Weekday AM	Weekday PM
Available Parking Spaces		
No-Action Available Spaces	180	188
Net Change in With-Action Parking Supply	-45	-41
Available With-Action Parking Spaces	135	147
Demand		
With-Action Demand	34	0
Utilization		
Utilization of Available Parking Spaces by With-Action Demand	25%	0%

Appendix A: Architectural Plans



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45-20 83rd Street - Charter School

Elmhurst, New York

Whitney Avenue View

09/03/2020



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45-20 83rd Street - Charter School

Elmhurst, New York

Whitney Avenue View

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45-20 83rd Street - Charter School

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83rd Street Aerial View

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45-20 83rd Street - Charter School

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83rd Street View

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45-20 83rd Street - Charter School

Elmhurst, New York

Railroad View

09/03/2020



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45-20 83rd Street - Residential

Elmhurst, New York

82nd Street View

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45-20 83rd Street - Residential

Elmhurst, New York

47th Avenue View

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45-20 83rd Street - Residential

Elmhurst, New York

Railroad View

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PROPOSED RESIDENTIAL DEVELOPMENT

80-52 47TH AVENUE DEVELOPMENT SITE
ELMHURST, NY 11373

BLOCK: 1536
LOT: 80, 223

EXISTING ZONING DISTRICT:
- M1-1 (44,437 SF)

PROPOSED ZONING DISTRICT:
- **R7A w/ C2-3 OVERLAY (44,437 SF)**

ZONING MAP: 9d

ZONING LOT AREA: **44,437 SF**

EXISTING USE: COMMUNITY FACILITY (U.G. 3)

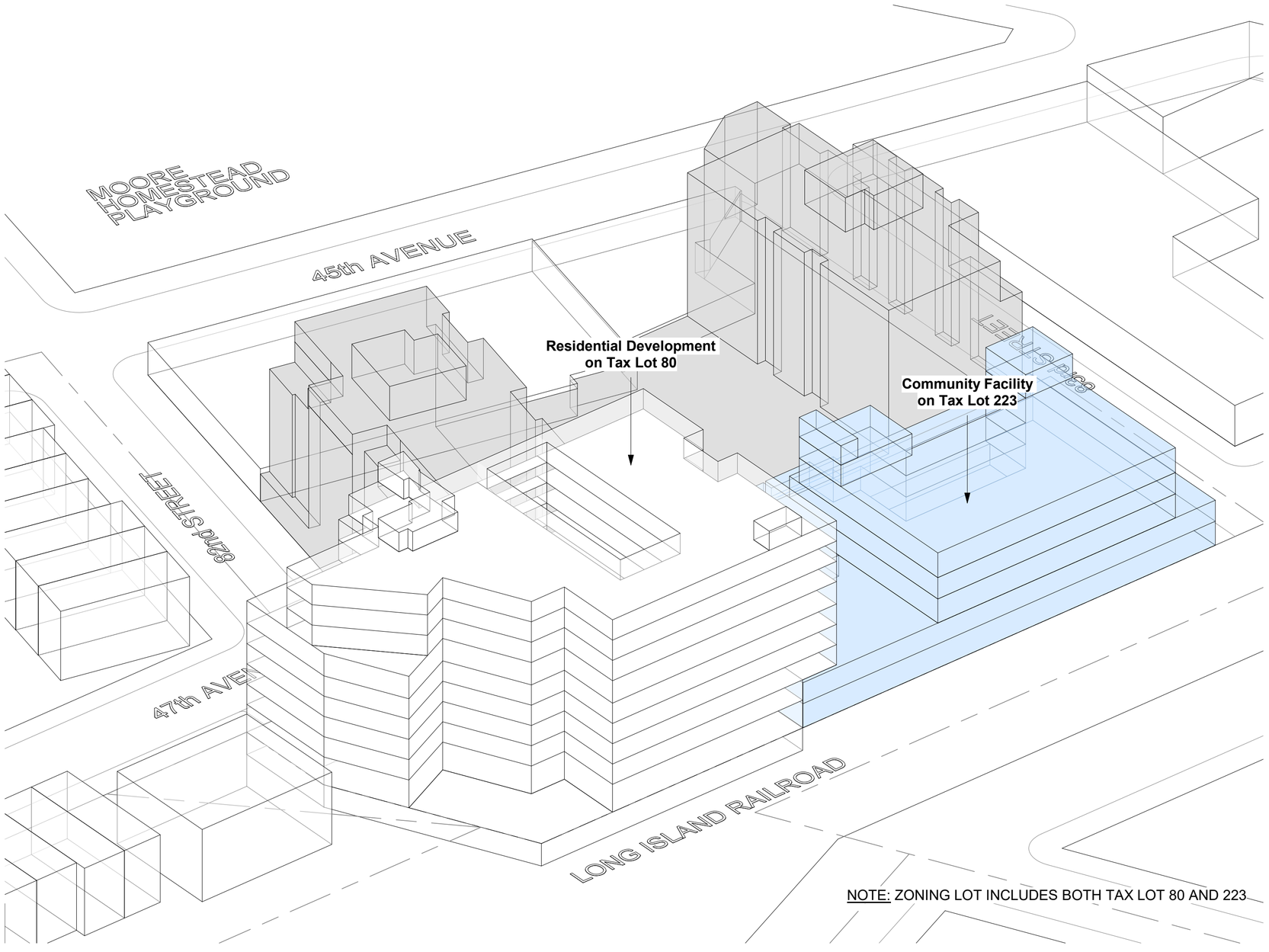
PROPOSED USE: **RESIDENTIAL (U.G. 2) AND COMMUNITY FACILITY (U.G. 3)**

QUALITY HOUSING PROGRAM SHALL APPLY.

MAXIMUM FLOOR AREA RATIO:
- R7A w/ C2-3 OVERLAY: **4.60** FOR RESIDENTIAL w/ MINIMUM OF 20% INCLUSIONARY HOUSING PROVIDED.
- 20% INCLUSIONARY HOUSING IS PROPOSED.

MAXIMUM ZONING FLOOR AREA ALLOWED:
- R7A w/ C2-3 OVERLAY: 44,437 SF X 4.60 = **204,410 ZSF**

PROPOSED ZONING FLOOR AREA:
- COMMUNITY FACILITY = 63,277 ZSF
- RESIDENTIAL DEVELOPMENT = 140,845 ZSF
- **TOTAL = 63,277 ZSF + 141,133 ZSF = 204,410 ZSF ✓**



NOTE: ZONING LOT INCLUDES BOTH TAX LOT 80 AND 223

FLOOR AREA CALCULATIONS:

COMMUNITY FACILITY

FLOOR	BUILT	DEDUCTIONS	ZONING
1ST	22,986 GSF	1,085 SF	21,901 ZSF
2ND	21,884 GSF	131 SF	21,753 ZSF
3RD	9,520 GSF	560 SF	8,960 ZSF
4TH	9,107 GSF	430 SF	8,677 ZSF
MEZZ	2,569 GSF	1,001 SF	1,568 ZSF
ROOF	1,502 GSF	1,084 SF	418 ZSF
	67,568 GSF	**4,291 SF**	**63,277 ZSF**

RESIDENTIAL DEVELOPMENT

FLOOR	BUILT	QH DEDUCTION	ZONING
CELLAR	19,972 GSF	0 SF	0 ZSF
1ST	12,863 GSF	495 SF	12,368 ZSF
2ND	15,023 GSF	12 SF	15,011 ZSF
3RD	16,863 GSF	12 SF	16,851 ZSF
4TH	16,863 GSF	12 SF	16,851 ZSF
5TH	16,863 GSF	12 SF	16,851 ZSF
6TH	16,863 GSF	12 SF	16,851 ZSF
7TH	15,280 GSF	12 SF	15,268 ZSF
8TH	15,280 GSF	12 SF	15,268 ZSF
9TH	15,204 GSF	12 SF	15,192 ZSF
ROOF	622 GSF	0 SF	622 ZSF
	161,696 GSF	**591 SF**	**141,133 ZSF**
		GRAND TOTAL:	**204,410 ZSF**

QUALITY HOUSING PROGRAM:

REFUSE STORAGE AND DISPOSAL REQUIRED.
DISPOSAL ROOM SHALL NOT BE LESS THAN 12 SF FOR EACH STORY.

COMMON LAUNDRY FACILITIES NOT REQUIRED, NOT PROPOSED.

RECREATION SPACE REQUIRED: 3.3% OF RESIDENTIAL FLOOR AREA = 141,133 ZSF X 3.3% = 4,657 SF
483 SF INDOOR PROVIDED, 4,174 SF OUTDOOR PROVIDED.

R7A DISTRICT BULK REGULATIONS:

- MINIMUM BASE HEIGHT: 40'-0"
- MAXIMUM BASE HEIGHT: 75'-0"
- (65'-0" WITHIN 25'-0" OF R6B DISTRICT BOUNDARY)
- MAXIMUM BUILDING HEIGHT: 90'-0"
- MAXIMUM NUMBER OF STORIES: 9

RESIDENTIAL DENSITY:

DWELLING UNITS PROPOSED: 163
MAXIMUM NUMBER OF DWELLING UNITS PERMITTED = 141,133 SF ALLOWABLE RESIDENTIAL FLOOR AREA / 680 SF DWELLING UNIT FACTOR = 207 UNITS ✓

APARTMENT MATRIX:

FLOOR	STUDIO	1-BR	2-BR	3-BR	TOTAL PER FLOOR
1ST	1	8	1	1	11
2ND	4	11	2	1	18
3RD	4	9	5	2	20
4TH	4	9	5	2	20
5TH	4	9	5	2	20
6TH	4	9	5	2	20
7TH	3	8	5	2	18
8TH	3	8	5	2	18
9TH	3	8	5	2	18
	30	**79**	**38**	**16**	**163**
	18.4%	48.5%	23.3%	9.8%	

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SPECIAL PERMIT APPLICATION TO BOARD OF STANDARDS AND APPEALS FOR A PROPOSED CHARTER SCHOOL USE IN AN M1-1 DISTRICT.

45-20 83RD STREET, ELMHURST, NEW YORK 11373

BLOCK: 1536 LOT: 80, 223
ZONING DISTRICT: M1-1
ZONING MAP: 9d
ZONING LOT AREA: 44,437 SF
PROPOSED USE: COMMUNITY FACILITY (U.G. 3)
MAXIMUM FLOOR AREA RATIO: COMMUNITY FACILITY : 2.40
MANUFACTURING AND COMMERCIAL : 1.00

MAXIMUM ZONING FLOOR AREA ALLOWED:
44,437 SF X 2.40 = 106,649 ZSF

EXISTING ZONING FLOOR AREA ON ZONING LOT: 41,320 ZSF

PROPOSED ZONING FLOOR AREA: 73,114 ZSF ✓
73,114 ZSF / 44,437 SF = 1.65 FAR

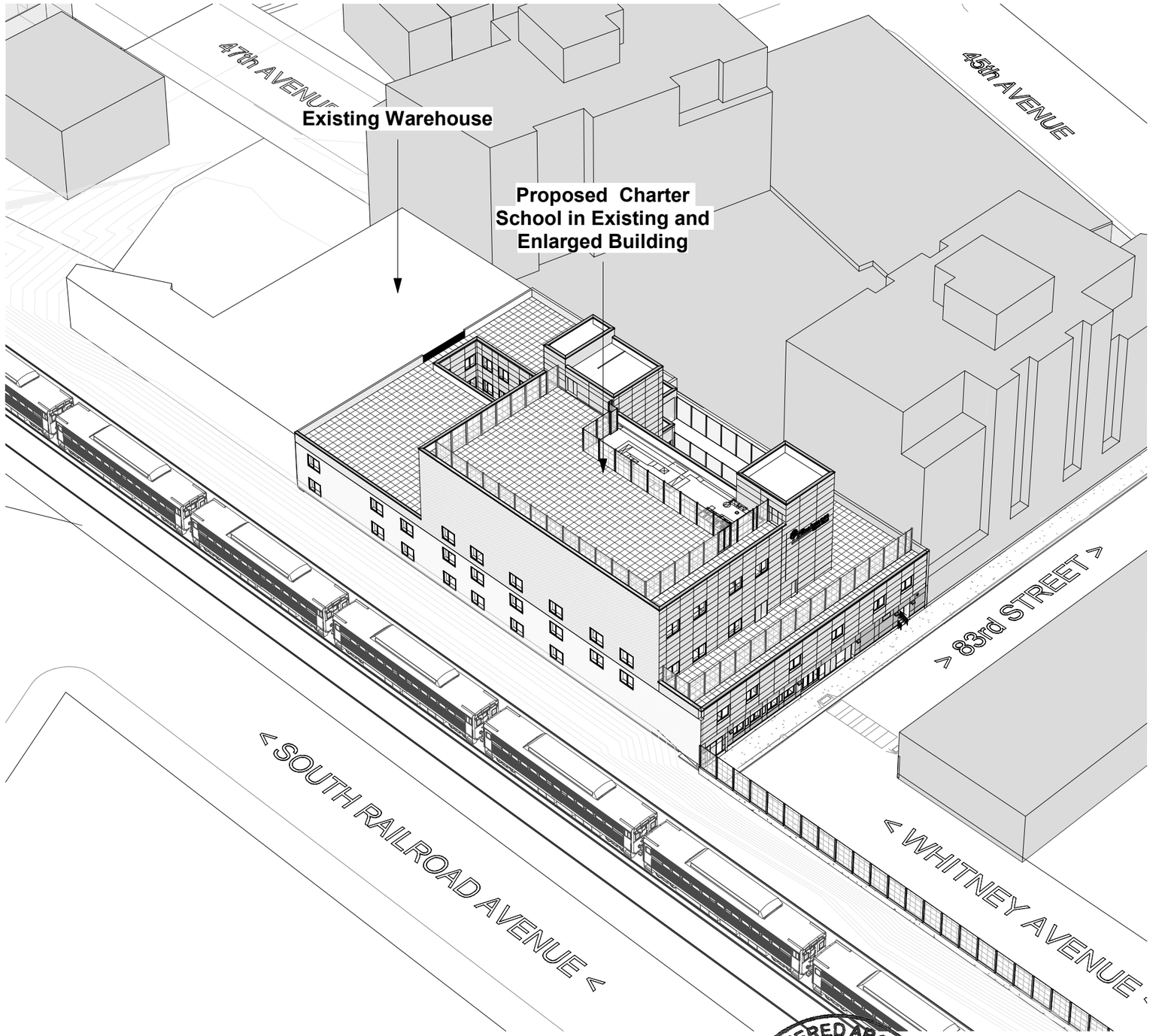
FLOOR AREA CALCULATIONS:
PROPOSED CHARTER SCHOOL

FLOOR	BUILT	ZONING
1ST	23,046 GSF	22,486 ZSF
2ND	21,896 GSF	21,361 ZSF
3RD	9,890 GSF	9,197 ZSF
4TH	9,427 GSF	8,726 ZSF
MEZZ	2,501 GSF	1,122 ZSF
ROOF	526 GSF	372 ZSF
	67,286 GSF	**63,264 ZSF**

EXISTING REDUCED WAREHOUSE

FLOOR	BUILT	ZONING
1ST	9,850 GSF	9,850 ZSF
	9,850 GSF	**9,850 ZSF**
TOTAL FOR ZONING LOT:	**77,136 GSF**	**73,114 ZSF**

MAXIMUM BASE HEIGHT: 35'-0" w/ 1:1 SKY EXPOSURE PLANE
INITIAL SETBACK ON NARROW STREETS: 20'-0"
MAXIMUM BUILDING HEIGHT: NONE



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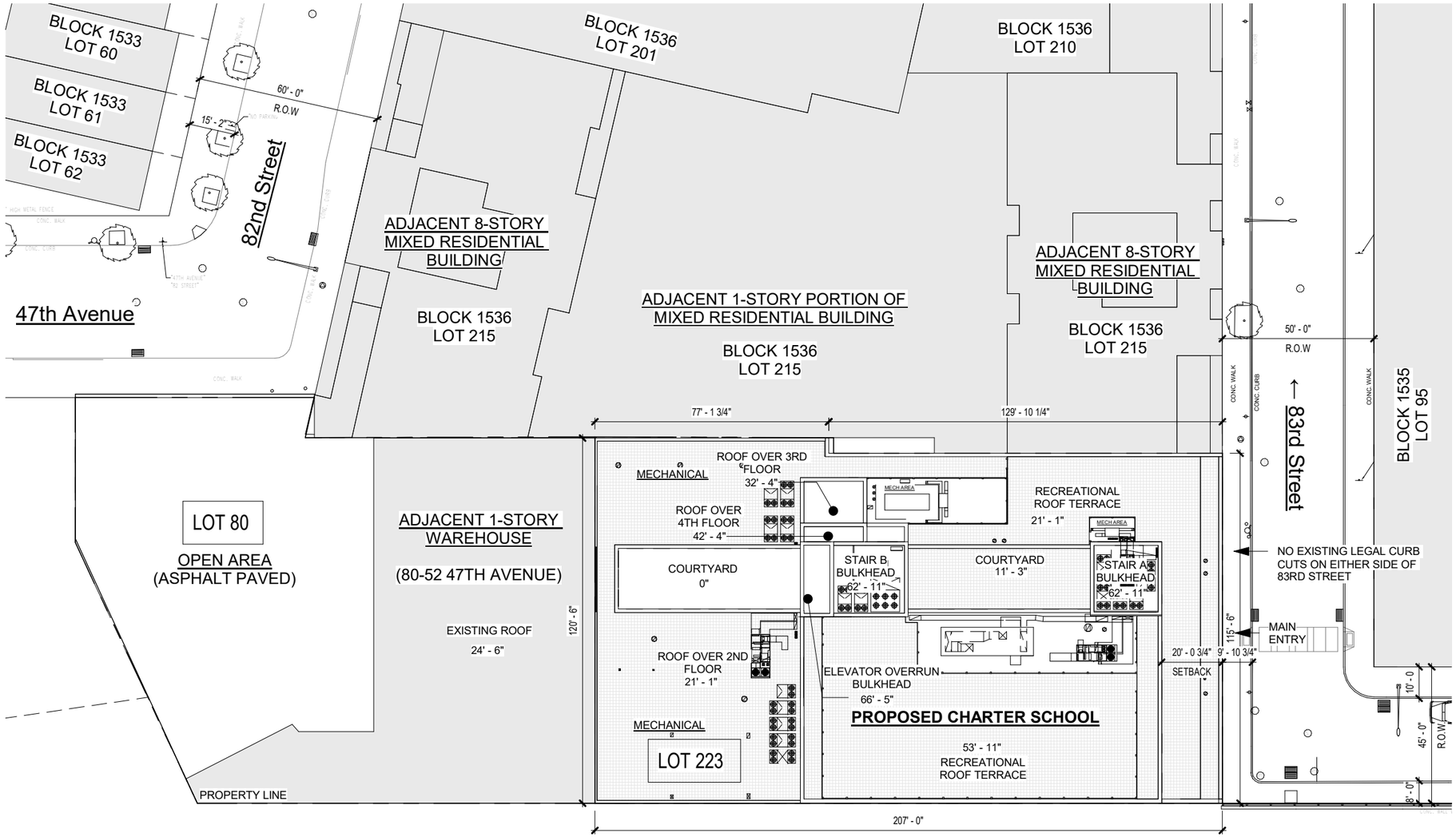
CHARTER SCHOOL
45-20 83RD STREET

REGISTERED ARCHITECT STEPHEN B. JACOBS 9723 STATE OF NEW YORK

BSA-1

06/08/20



1 BSA-PROPSOED LOT PLAN
1" = 40'-0"

0' 20' 40' 80' 160'

NOTE:
INTERIOR LAYOUT SHOWN SHALL SUBSTANTIALLY CONFORM TO DRAWINGS FILED AT BSA, AND ALL EXITS SHALL BE APPROVED BY DOB.

MAXIMUM OCCUPANT LOAD PER FLOOR AND SPACE SHALL BE APPROVED BY DOB.

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THE SCHOOL WILL NOTIFY DOT SCHOOL SAFETY NEAR THE END OF CONSTRUCTION SO THAT THEY CAN DETERMINE IF ADDITIONAL TRAFFIC SAFETY IMPROVEMENTS OR PARKING REGULATION CHANGES ARE NECESSARY.

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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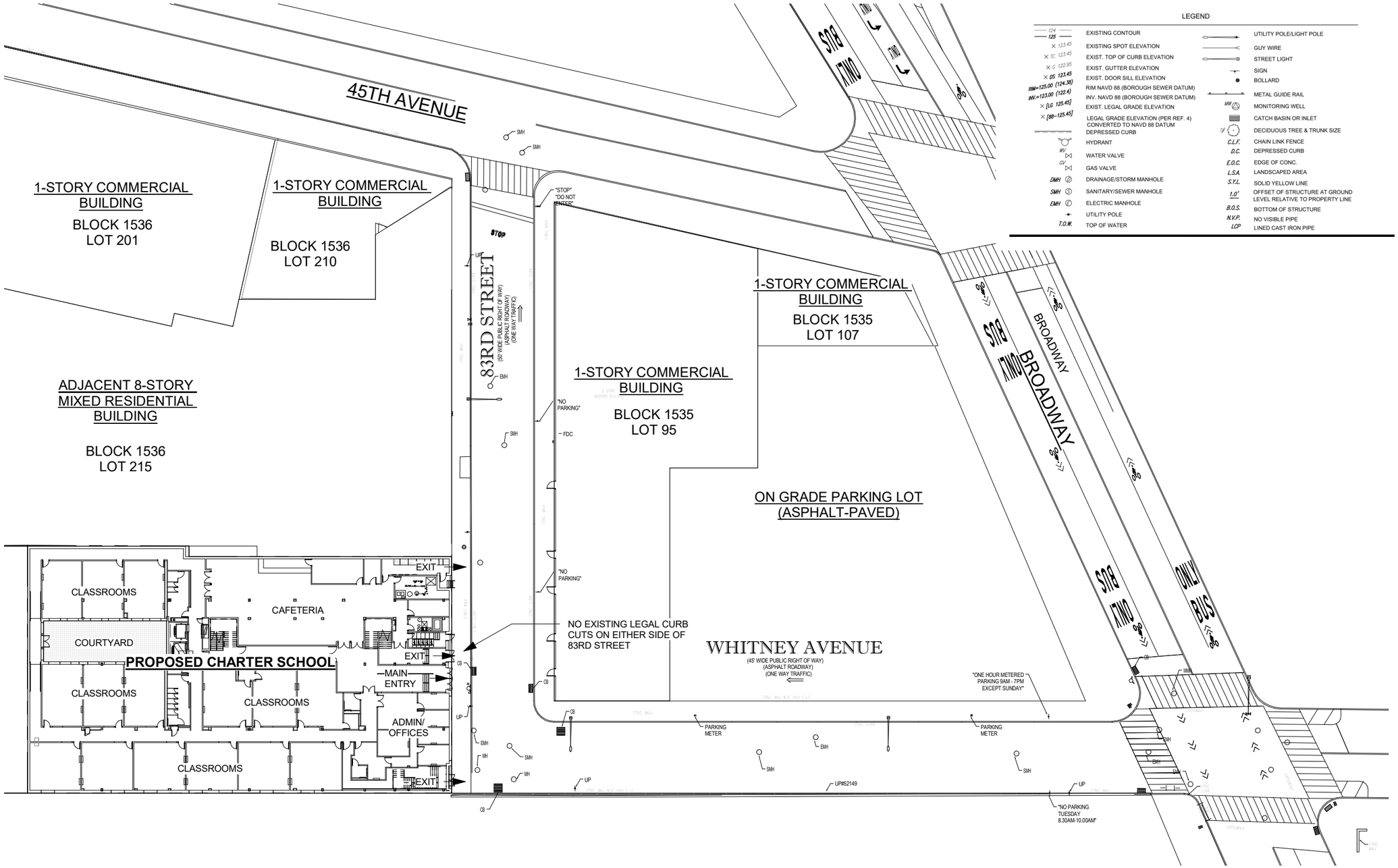
CHARTER SCHOOL
45-20 83RD STREET

REGISTERED ARCHITECT STEPHEN B. JACOBS 9723 STATE OF NEW YORK

BSA-2

06/08/20



LEGEND

124 / 125	EXISTING CONTOUR		UTILITY POLE/LIGHT POLE
× 123.45	EXISTING SPOT ELEVATION		GUY WIRE
× TC 123.45	EXIST. TOP OF CURB ELEVATION		STREET LIGHT
× G 122.95	EXIST. GUTTER ELEVATION		SIGN
× DS 123.45	EXIST. DOOR SILL ELEVATION		BOLLARD
RIM=125.00 (124.38)	RIM NAVD 88 (BOROUGH SEWER DATUM)		METAL GUIDE RAIL
INV.=123.00 (122.4)	INV. NAVD 88 (BOROUGH SEWER DATUM)	MW	MONITORING WELL
× [LG 125.45]	EXIST. LEGAL GRADE ELEVATION		CATCH BASIN OR INLET
× [88-125.45]	LEGAL GRADE ELEVATION (PER REF. 4) CONVERTED TO NAVD 88 DATUM	Tf	DECIDUOUS TREE & TRUNK SIZE
	DEPRESSED CURB	C.L.F.	CHAIN LINK FENCE
	HYDRANT	D.C.	DEPRESSED CURB
WV	WATER VALVE	E.O.C.	EDGE OF CONC.
GV	GAS VALVE	L.S.A.	LANDSCAPED AREA
DMH	DRAINAGE/STORM MANHOLE	S.Y.L.	SOLID YELLOW LINE
SMH	SANITARY/SEWER MANHOLE	1.0'	OFFSET OF STRUCTURE AT GROUND LEVEL RELATIVE TO PROPERTY LINE
EMH	ELECTRIC MANHOLE	B.O.S.	BOTTOM OF STRUCTURE
	UTILITY POLE	N.V.P.	NO VISIBLE PIPE
T.O.W.	TOP OF WATER	LCP	LINED CAST IRON PIPE

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1 BSA-EXISTING SITE PLAN
1" = 50'-0"

0' 25' 50' 100' 200'

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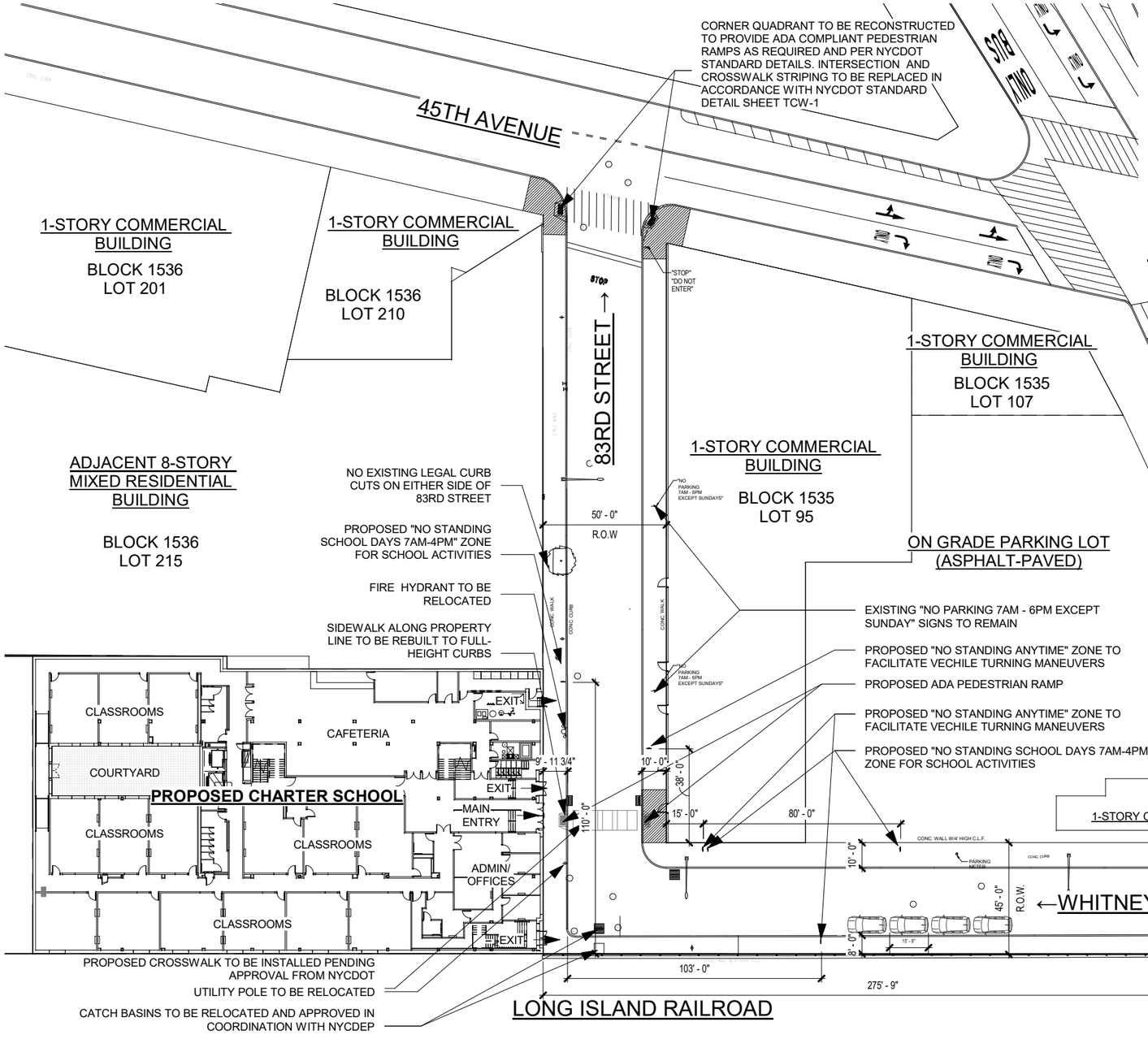
CHARTER SCHOOL
45-20 83RD STREET

BSA-3

06/08/20



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LEGEND

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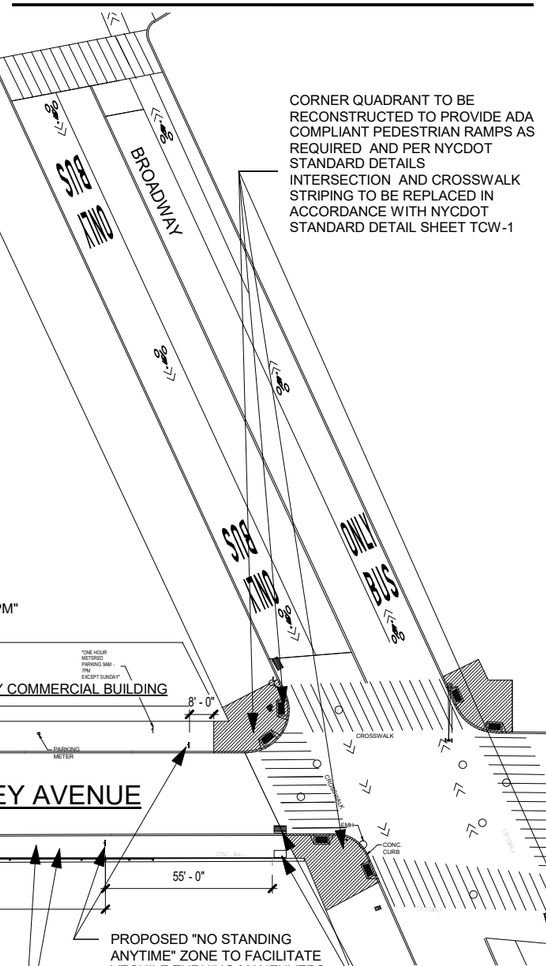

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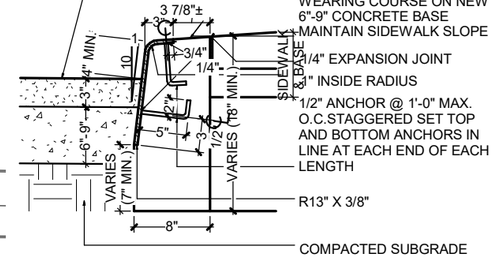

2 STEEL FACED CURB DETAIL.
3/4" = 1'-0"

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BSA-4

06/08/20

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CHARTER SCHOOL
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BSA-5

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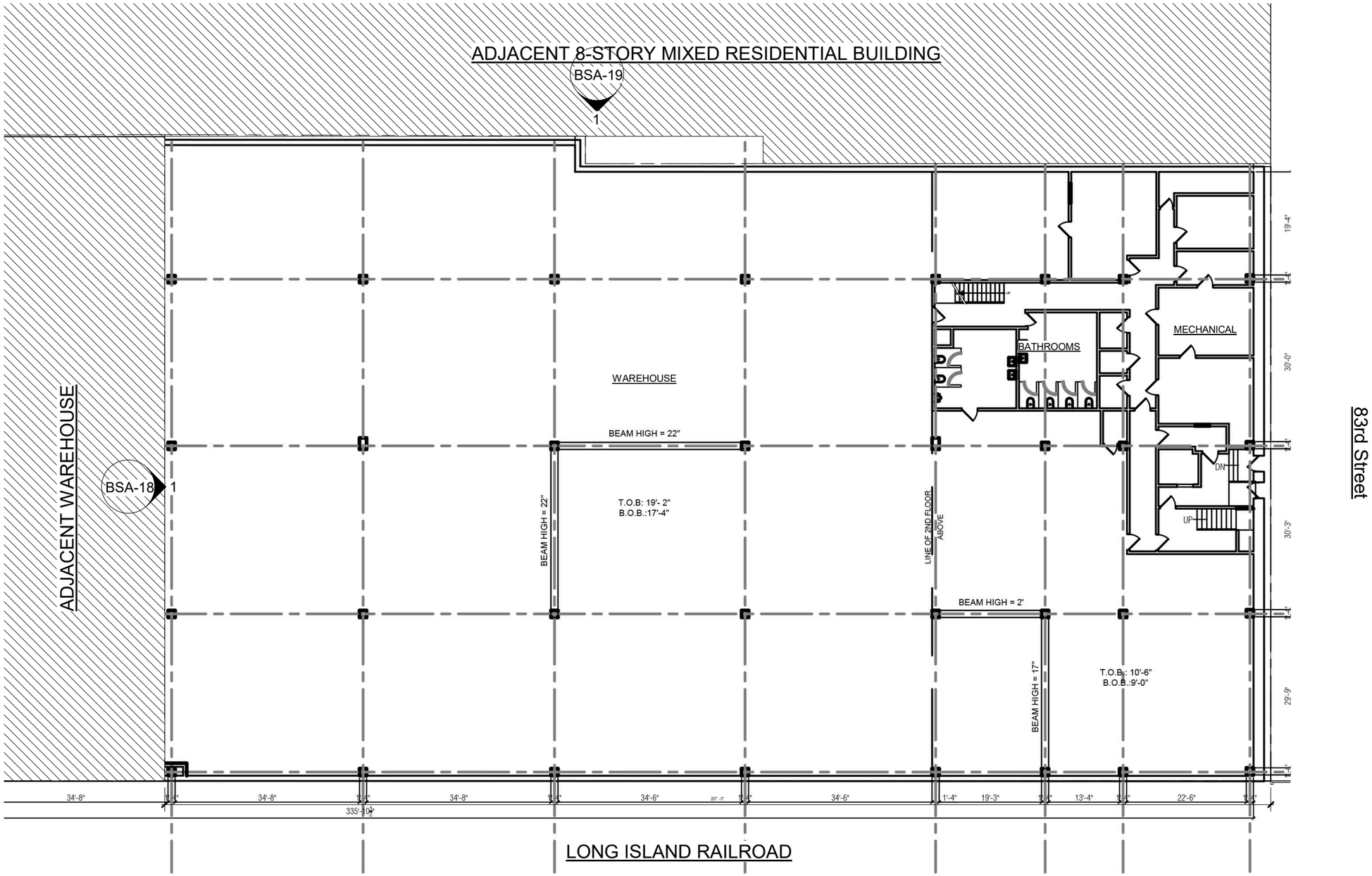

1 BSA- EXISTING 1ST FLR
1" = 20'-0"

0' 10' 20' 40' 80'

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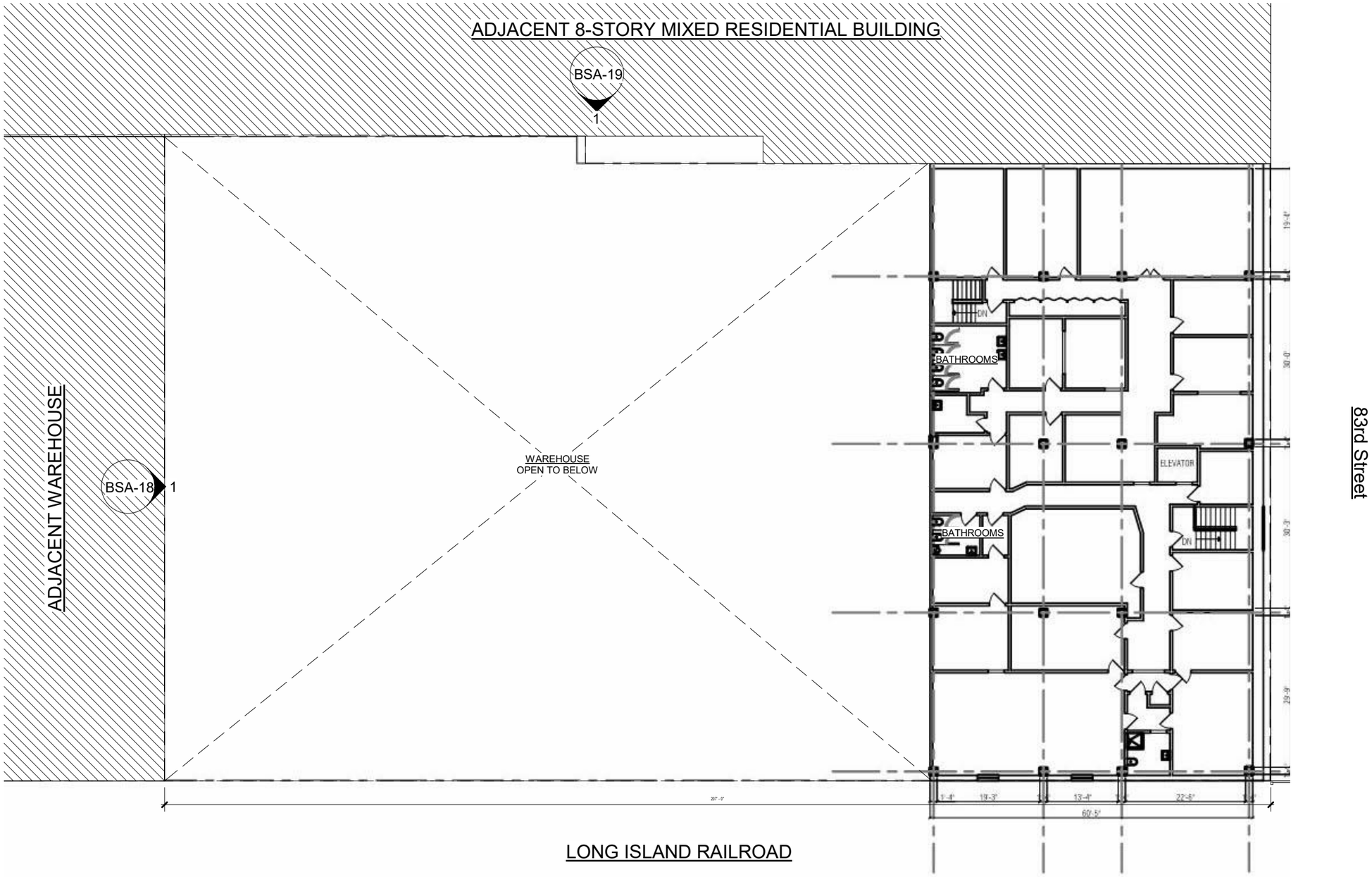
CHARTER SCHOOL
45-20 83RD STREET

BSA-6

06/08/20



1 BSA- EXISTING 1ST FLR MEZZ
1" = 20'-0"

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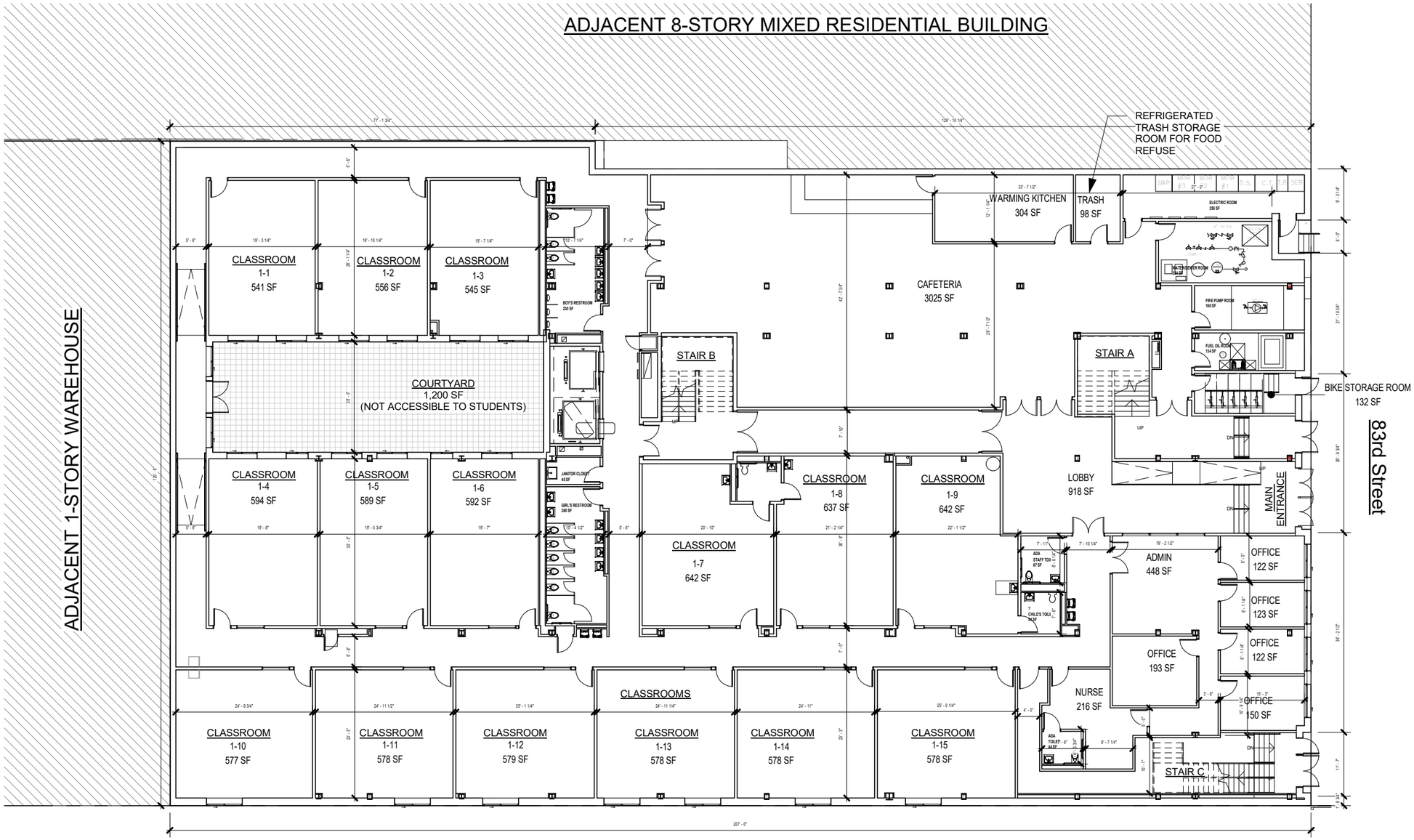

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OCCUPANT LOAD CALCULATIONS - 1ST FLOOR

OCCUPANCY	ROOM NUMBER	AREA	MAX FLOOR AREA PER OCCUPANT	OCCUPANT LOAD (PROPOSED)
		56 SF		
ASSEMBLY "A-3"	CAFETERIA	3025 SF	15 SF	211
CLASSROOM	1-1	541 SF	20 SF	29
CLASSROOM	1-2	556 SF	20 SF	29
CLASSROOM	1-3	545 SF	20 SF	29
CLASSROOM	1-4	594 SF	20 SF	29
CLASSROOM	1-5	589 SF	20 SF	29
CLASSROOM	1-6	592 SF	20 SF	29
CLASSROOM	1-7	642 SF	30 SF	29
CLASSROOM	1-8	637 SF	30 SF	29
CLASSROOM	1-9	642 SF	30 SF	29
CLASSROOM	1-10	577 SF	20 SF	29
CLASSROOM	1-11	578 SF	20 SF	29
CLASSROOM	1-12	579 SF	20 SF	29
CLASSROOM	1-13	578 SF	20 SF	29
CLASSROOM	1-14	578 SF	20 SF	29
CLASSROOM	1-15	578 SF	20 SF	29
CLOSET	JANITOR	45 SF	100 SF	0
KITCHEN	WARMING KITCHEN	304 SF	200 SF	2
LOBBY	LOBBY	918 SF	100 SF	1
MECHANICAL		254 SF	100 SF	0
MECHANICAL		255 SF	100 SF	0
MECHANICAL		134 SF	100 SF	0
MECHANICAL		160 SF	100 SF	0
MECHANICAL	TRASH	98 SF	100 SF	0
OFFICE	ADMIN	448 SF	100 SF	4
OFFICE	NURSE	216 SF	100 SF	2
OFFICE	OFFICE	193 SF	100 SF	1
OFFICE	OFFICE	150 SF	100 SF	1
OFFICE	OFFICE	122 SF	100 SF	1
OFFICE	OFFICE	123 SF	100 SF	1
OFFICE	OFFICE	122 SF	100 SF	1
STORAGE	BIKE STORAGE ROOM	132 SF	300 SF	0
TOTAL OCCUPANTS (TYPICAL FLOOR) =				660

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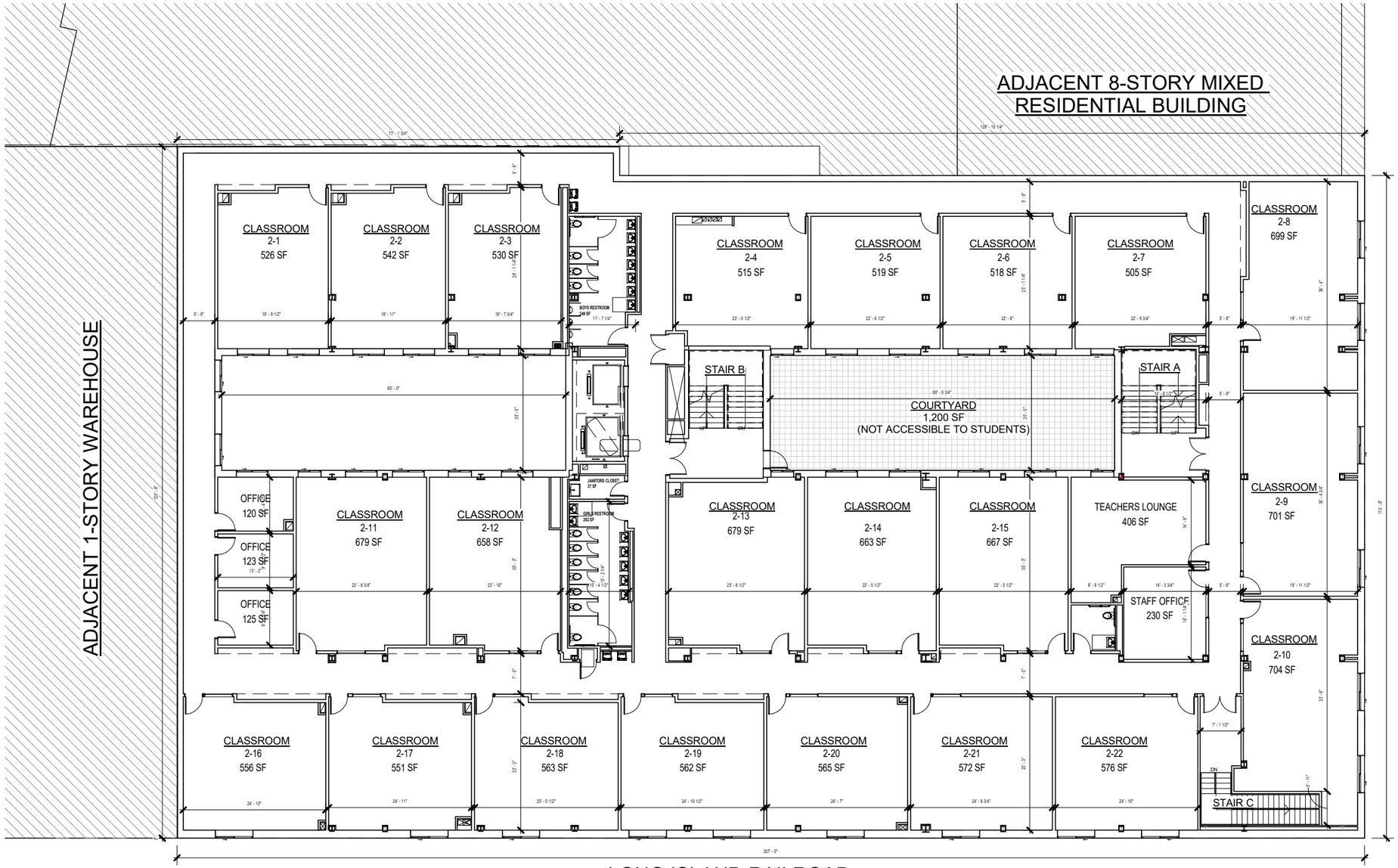

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OCCUPANT LOAD CALCULATIONS - 2ND FLOOR

OCCUPANCY	ROOM NUMBER	AREA	MAX FLOOR AREA PER OCCUPANT	OCCUPANT LOAD (PROPOSED)
CLASSROOM	2-1	526 SF		29
CLASSROOM	2-2	542 SF		29
CLASSROOM	2-3	530 SF		29
CLASSROOM	2-4	515 SF		29
CLASSROOM	2-5	519 SF		29
CLASSROOM	2-6	518 SF		29
CLASSROOM	2-7	505 SF		29
CLASSROOM	2-8	699 SF		29
CLASSROOM	2-9	701 SF		29
CLASSROOM	2-10	704 SF		29
CLASSROOM	2-11	679 SF		29
CLASSROOM	2-12	658 SF		29
CLASSROOM	2-13	679 SF		29
CLASSROOM	2-14	663 SF		29
CLASSROOM	2-15	667 SF		29
CLASSROOM	2-16	556 SF		29
CLASSROOM	2-17	551 SF		29
CLASSROOM	2-18	563 SF		29
CLASSROOM	2-19	562 SF		29
CLASSROOM	2-20	565 SF		29
CLASSROOM	2-21	572 SF		29
CLASSROOM	2-22	576 SF		29
CLOSET	JANITOR	37 SF		0
OFFICE	OFFICE	120 SF		1
OFFICE	OFFICE	123 SF		1
OFFICE	OFFICE	125 SF		1
OFFICE	STAFF OFFICE	230 SF		2
OFFICE	TEACHERS LOUNGE	406 SF		3
TOTAL OCCUPANTS (TYPICAL FLOOR) =				646

05	BSA RESUBMISSION	06/08/2020
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03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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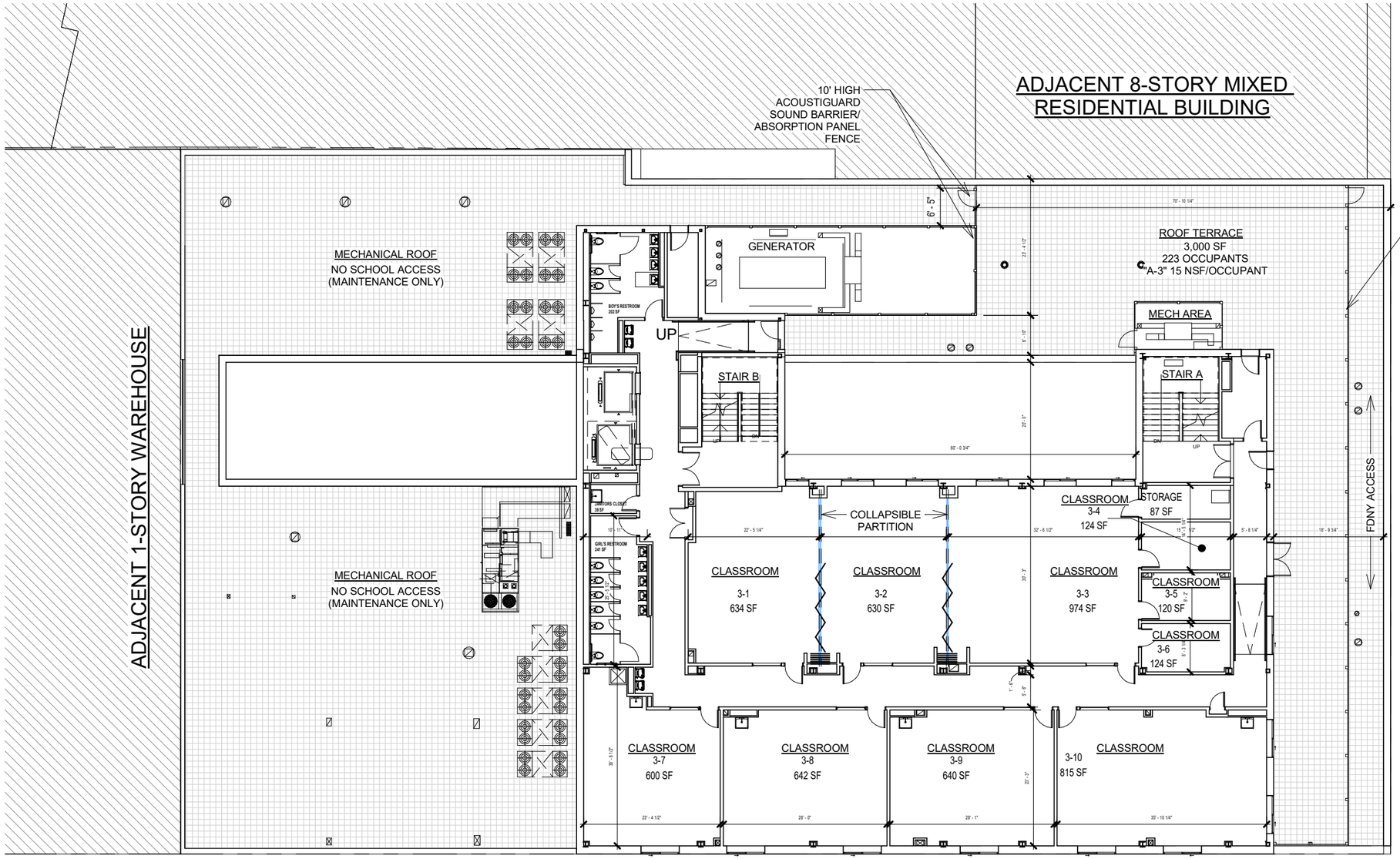
CHARTER SCHOOL
45-20 83RD STREET

BSA-9

06/08/20



NOTE:
INTERIOR LAYOUT SHOWN SHALL SUBSTANTIALLY CONFORM TO DRAWINGS FILED AT BSA, AND ALL EXITS SHALL BE APPROVED BY DOB.

MAXIMUM OCCUPANT LOAD PER FLOOR AND SPACE SHALL BE APPROVED BY DOB.

NOTE:
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A 10' HIGH ACOUSTIGUARD SOUND BARRIER/ABSORPTION PANEL FENCE WITH A NOISE REDUCTION COEFFICIENT RATING (NRC) OF 1.0 WILL BE INSTALLED ALONG THE WESTERN PORTION OF THE THIRD-FLOOR TERRACE.

OCCUPANT LOAD CALCULATIONS - 3RD FLOOR

OCCUPANCY	ROOM NUMBER	AREA	MAX FLOOR AREA PER OCCUPANT	OCCUPANT LOAD (PROPOSED)
		97 SF		
ASSEMBLY "A-3"	ROOF TERRACE	3350 SF	15 SF	223
CLASSROOM	3-1	634 SF	20 SF	29
CLASSROOM	3-2	630 SF	20 SF	29
CLASSROOM	3-3	974 SF	20 SF	74
CLASSROOM	3-4	124 SF	20 SF	6
CLASSROOM	3-5	120 SF	20 SF	6
CLASSROOM	3-6	124 SF	20 SF	6
CLASSROOM	3-7	600 SF	20 SF	29
CLASSROOM	3-8	642 SF	20 SF	29
CLASSROOM	3-9	640 SF	20 SF	29
CLASSROOM	3-10	815 SF	20 SF	29
CLOSET	JANITOR	39 SF	100 SF	0
MECHANICAL	ATS ROOM	77 SF	300 SF	0
STORAGE	STORAGE	87 SF	300 SF	0
TOTAL OCCUPANTS (TYPICAL FLOOR) =				489

1 BSA-3RD FLR
1" = 20'-0"

0' 10' 20' 40' 80'

05	BSA RESUBMISSION	06/08/2020
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01	BSA APPLICATION	7/1/2019

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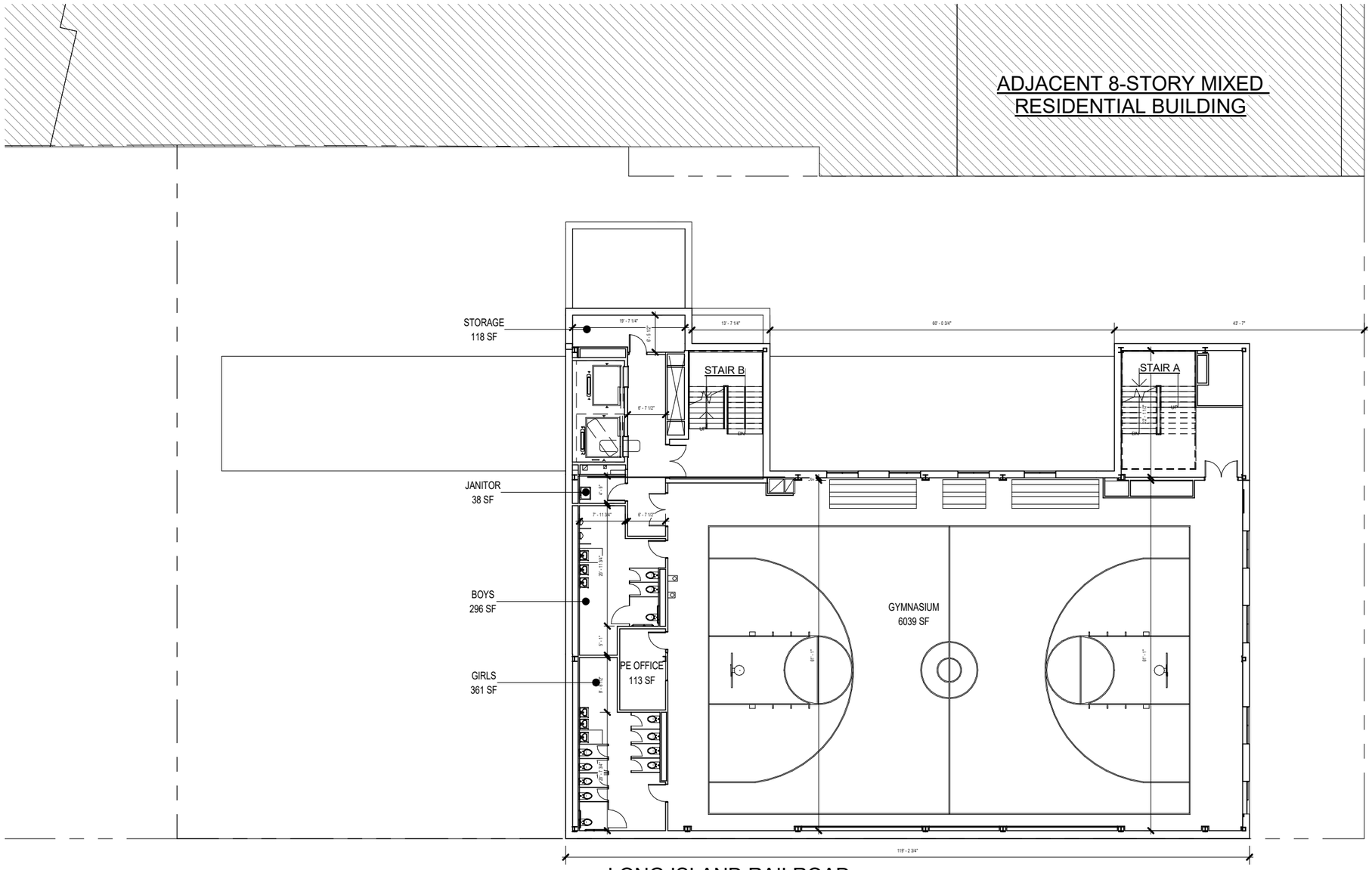
CHARTER SCHOOL
45-20 83RD STREET

BSA-10

06/08/20



NOTE:
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MAXIMUM OCCUPANT LOAD PER FLOOR AND SPACE SHALL BE APPROVED BY DOB.

NOTE:
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OCCUPANT LOAD CALCULATIONS - 4TH FLOOR

OCCUPANCY	ROOM NUMBER	AREA	MAX FLOOR AREA PER OCCUPANT	OCCUPANT LOAD (PROPOSED)
ASSEMBLY "A-3"	GYMNASIUM	6039 SF	15 SF	408
ASSEMBLY "A-3"	PE OFFICE	113 SF	100 SF	1
CLOSET	JANITOR	38 SF	100 SF	0
LOCKER ROOM	BOYS	296 SF	50 SF	0
LOCKER ROOM	GIRLS	361 SF	50 SF	0
STORAGE	STORAGE	118 SF	300 SF	0
TOTAL OCCUPANTS (TYPICAL FLOOR) =				409

1 BSA-4TH FLR
1" = 20'-0"

0' 10' 20' 40' 80'

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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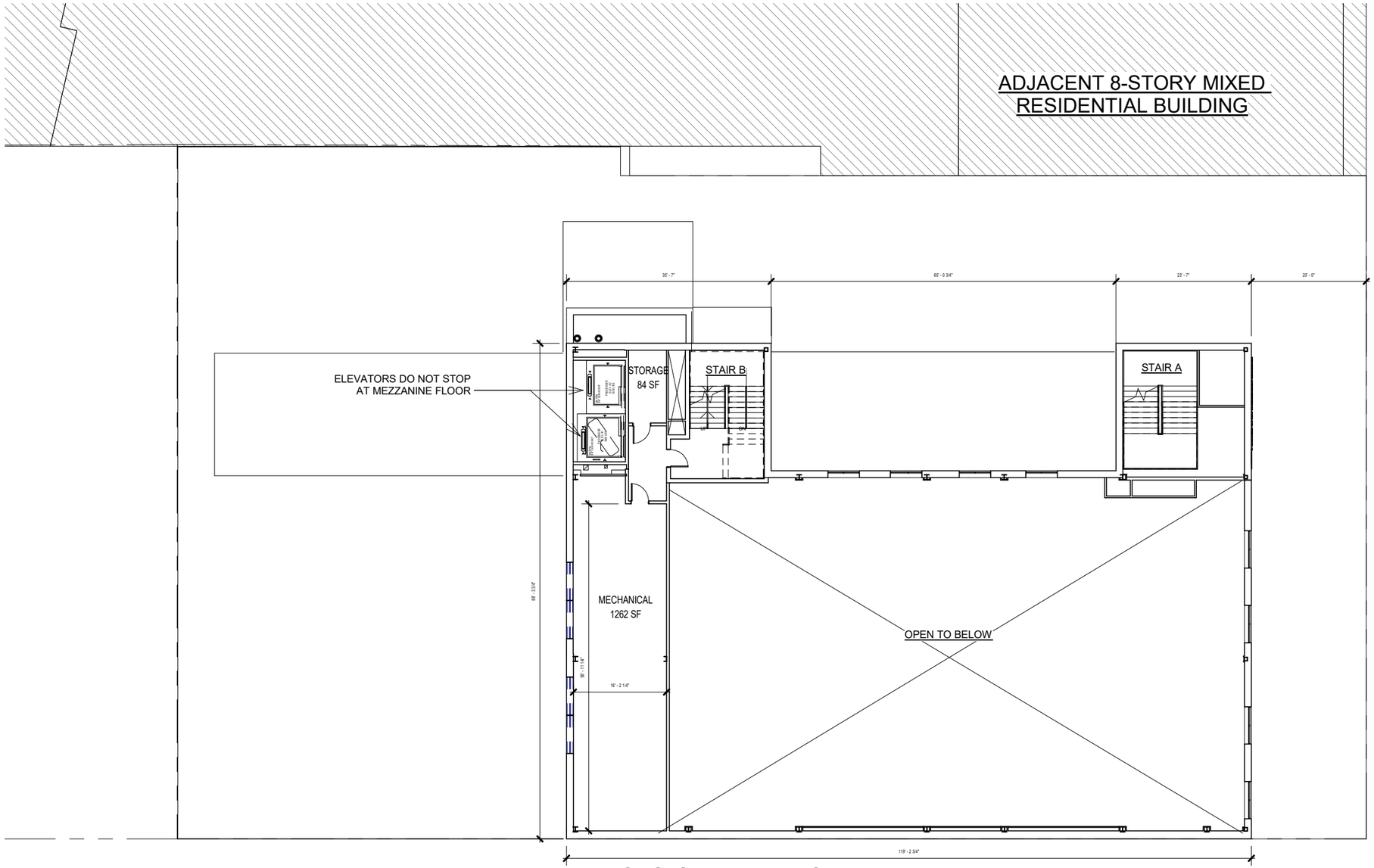
CHARTER SCHOOL
45-20 83RD STREET

BSA-11

06/08/20



NOTE:
INTERIOR LAYOUT SHOWN SHALL SUBSTANTIALLY CONFORM TO DRAWINGS FILED AT BSA, AND ALL EXITS SHALL BE APPROVED BY DOB.

MAXIMUM OCCUPANT LOAD PER FLOOR AND SPACE SHALL BE APPROVED BY DOB.

NOTE:
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ALL PARTITIONS AND EXITS SHALL BE APPROVED BY DOB.

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OCCUPANT LOAD CALCULATIONS - MEZZANINE FLOOR

OCCUPANCY	ROOM NUMBER	AREA	MAX FLOOR AREA PER OCCUPANT	OCCUPANT LOAD (PROPOSED)
MECHANICAL	MECHANICAL	1262 SF	300 SF	3
STORAGE	STORAGE	84 SF	100 SF	0
TOTAL OCCUPANTS (TYPICAL FLOOR) =				3

1 BSA-MEZZ FLR
1" = 20'-0"

0' 10' 20' 40' 80'

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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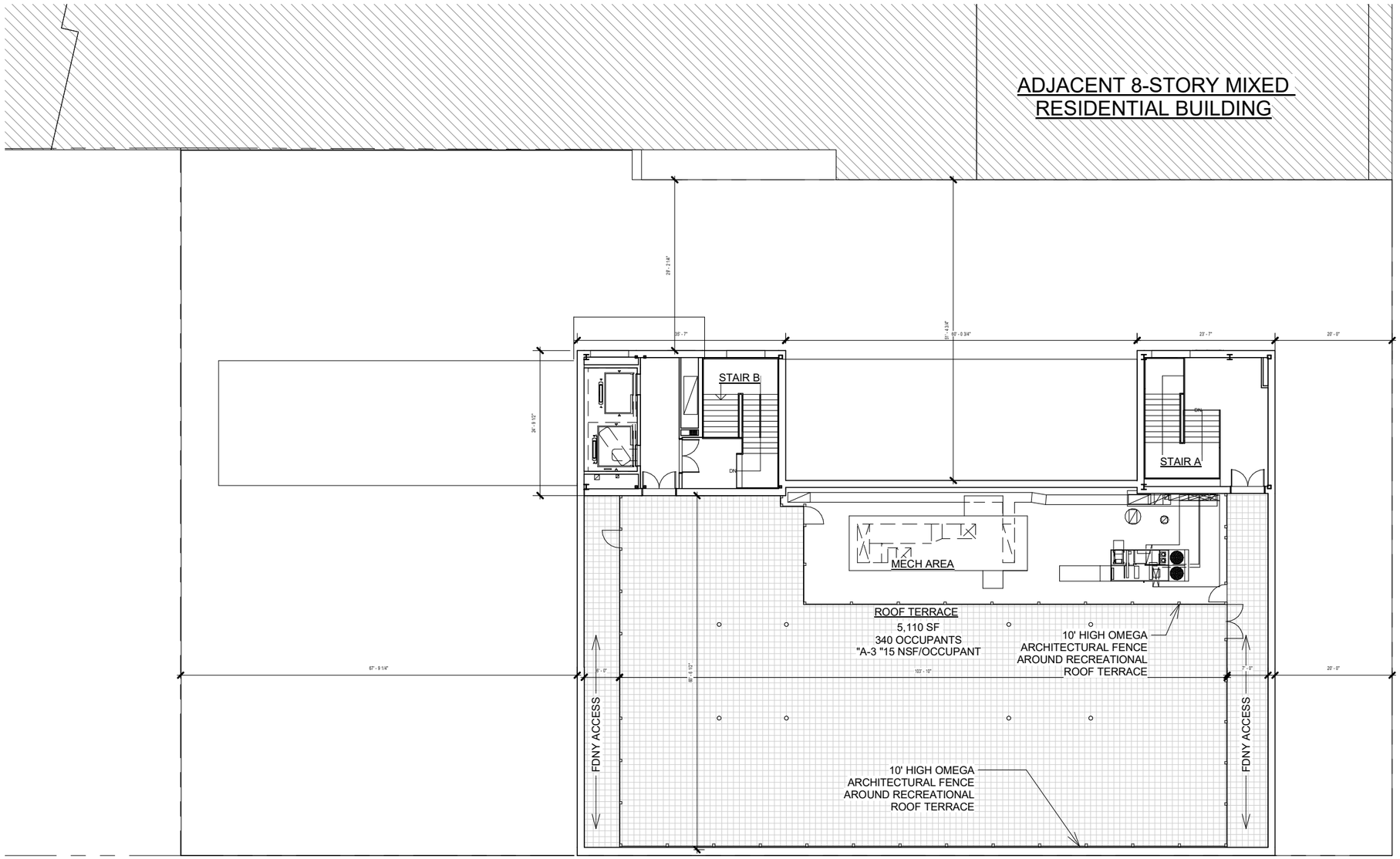
CHARTER SCHOOL
45-20 83RD STREET

BSA-12

06/08/20



NOTE:
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MAXIMUM OCCUPANT LOAD PER FLOOR AND SPACE SHALL BE APPROVED BY DOB.

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A 10' HIGH ACOUSTIGUARD SOUND BARRIER/ABSORPTION PANEL FENCE WITH A NOISE REDUCTION COEFFICIENT RATING (NRC) OF 1.0 WILL BE INSTALLED ALONG THE WESTERN PORTION OF THE THIRD-FLOOR TERRACE.

OCCUPANT LOAD CALCULATIONS - ROOF FLOOR

OCCUPANCY	ROOM NUMBER	AREA	MAX FLOOR AREA PER OCCUPANT	OCCUPANT LOAD (PROPOSED)
ASSEMBLY "A-3"	ROOF TERRACE	5110 SF	15 SF	340
TOTAL OCCUPANTS (TYPICAL FLOOR) =				340

1 BSA-ROOF PLAN
1" = 20'-0"

0' 10' 20' 40' 80'

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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CHARTER SCHOOL
45-20 83RD STREET

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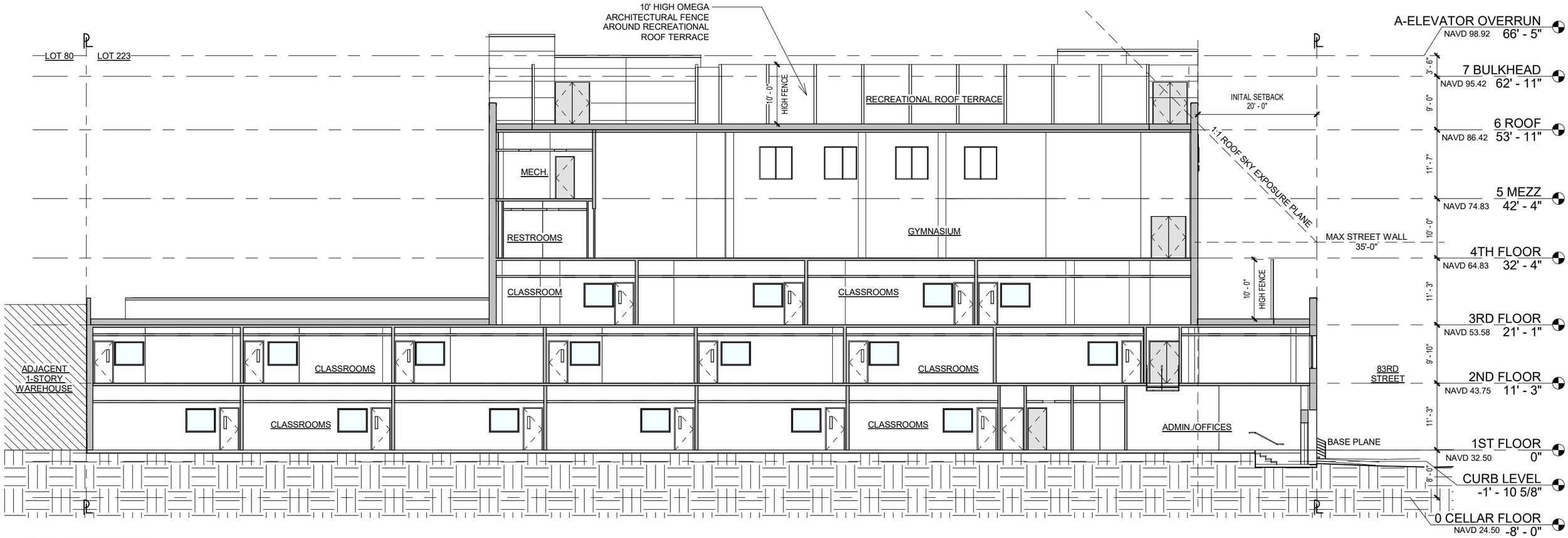
BSA-13

06/08/20



1 BSA-SECTION A
1/16" = 1'-0"

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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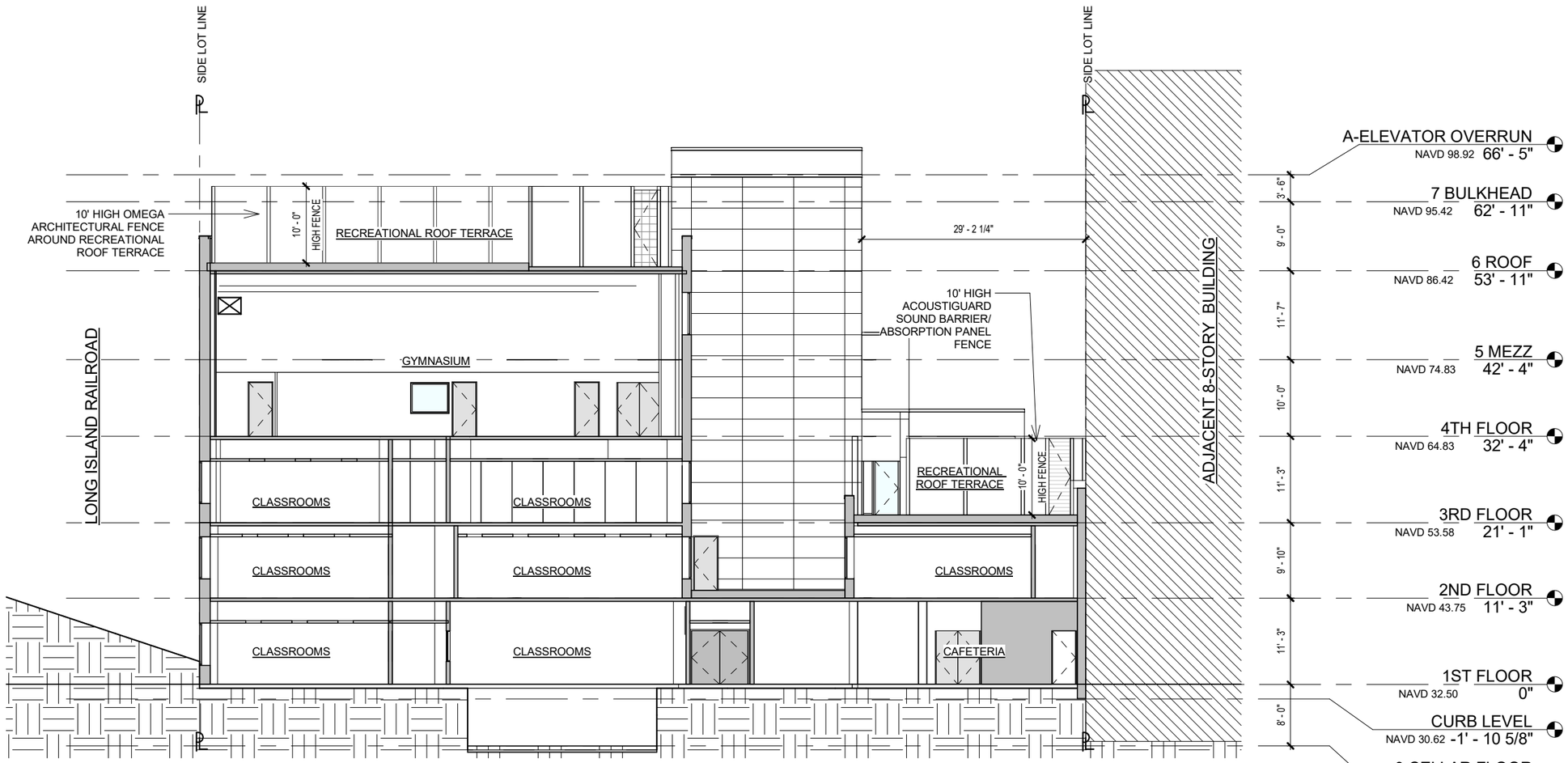
CHARTER SCHOOL
45-20 83RD STREET

BSA-14

06/08/20



1 BSA-SECTION B
1/16" = 1'-0"

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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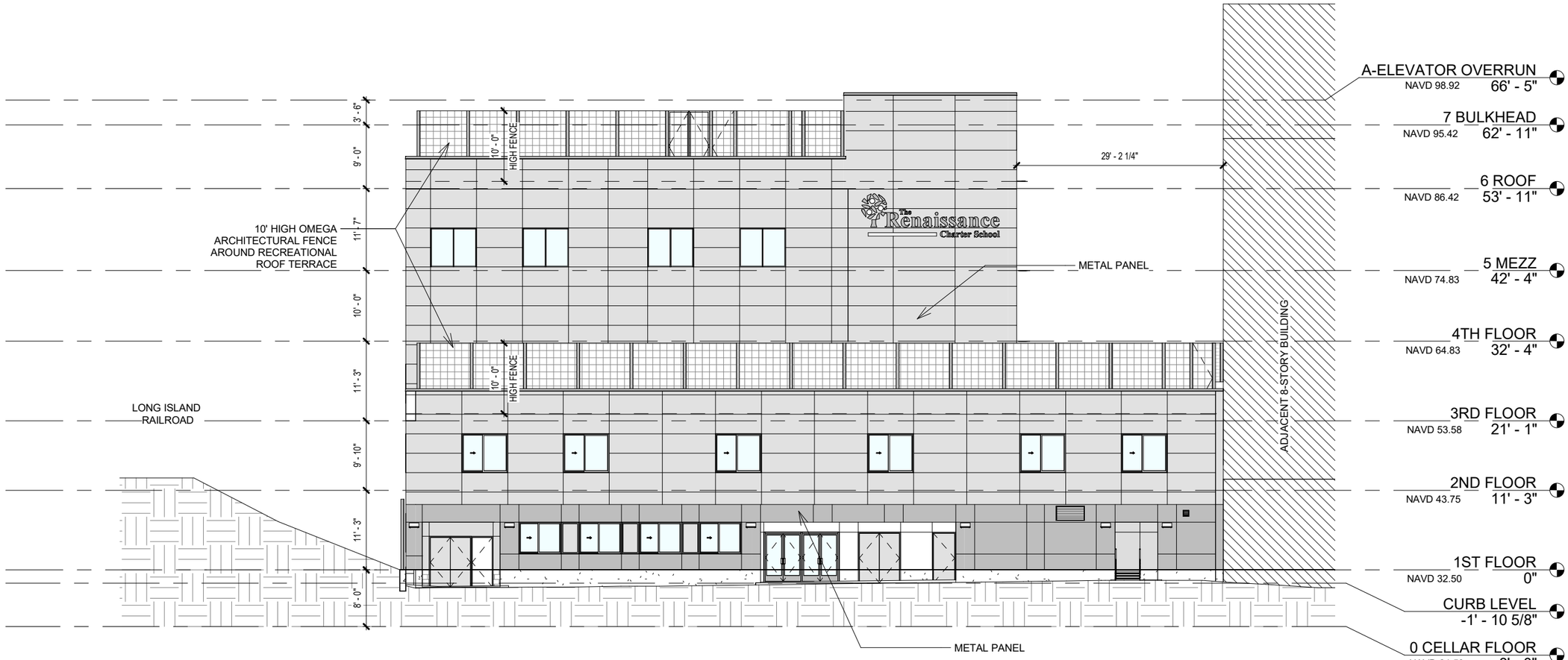
CHARTER SCHOOL
45-20 83RD STREET

BSA-15

06/08/20



1 BSA-South West Elevation
1/16" = 1'-0"

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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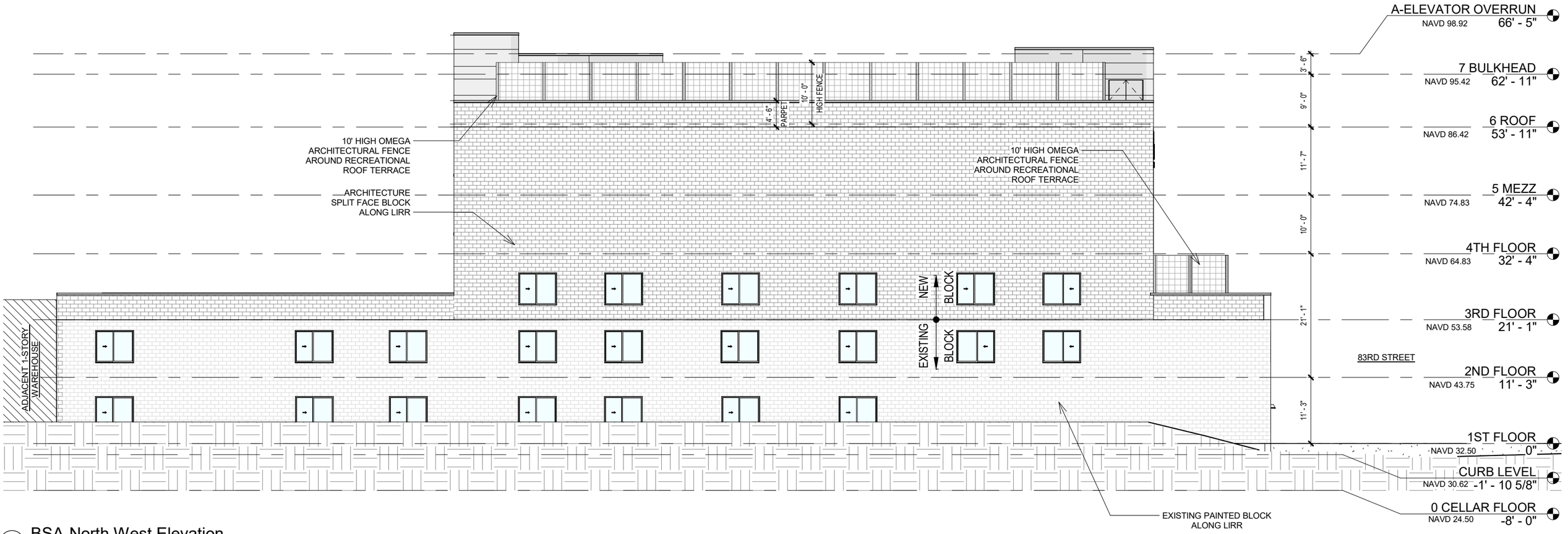
BSA-16

06/08/20



1 BSA-North West Elevation
1/16" = 1'-0"

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
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45-20 83RD STREET

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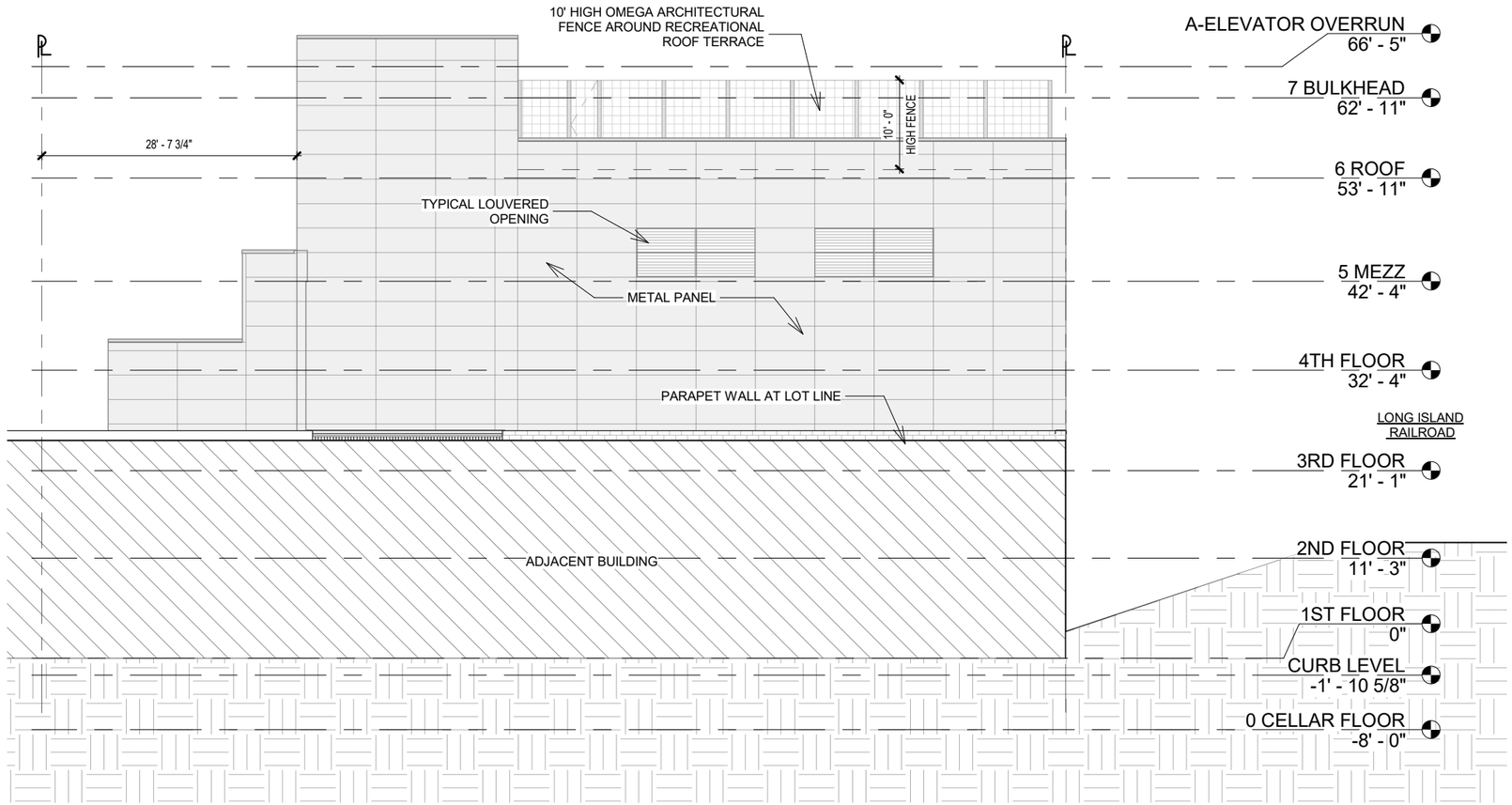
BSA-17

06/08/20



1 BSA-North East Elevation
1/16" = 1'-0"

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
01	BSA APPLICATION	7/1/2019

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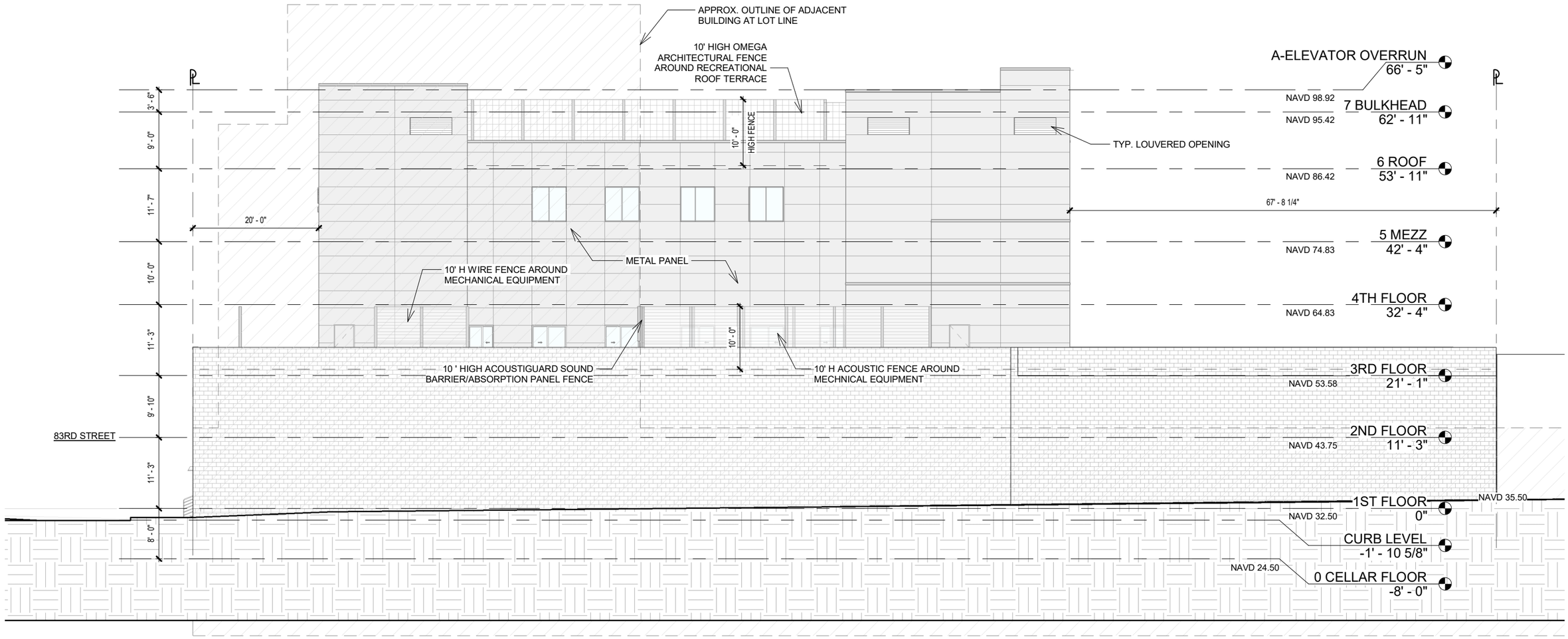
CHARTER SCHOOL
45-20 83RD STREET

BSA-18

06/08/20



1 BSA-South East Elevation
1/16" = 1'-0"

05	BSA RESUBMISSION	06/08/2020
04	BSA RESUBMISSION	01/10/2020
03	BSA RESUBMISSION	10/15/2019
02	BSA RESUBMISSION	9/19/2019
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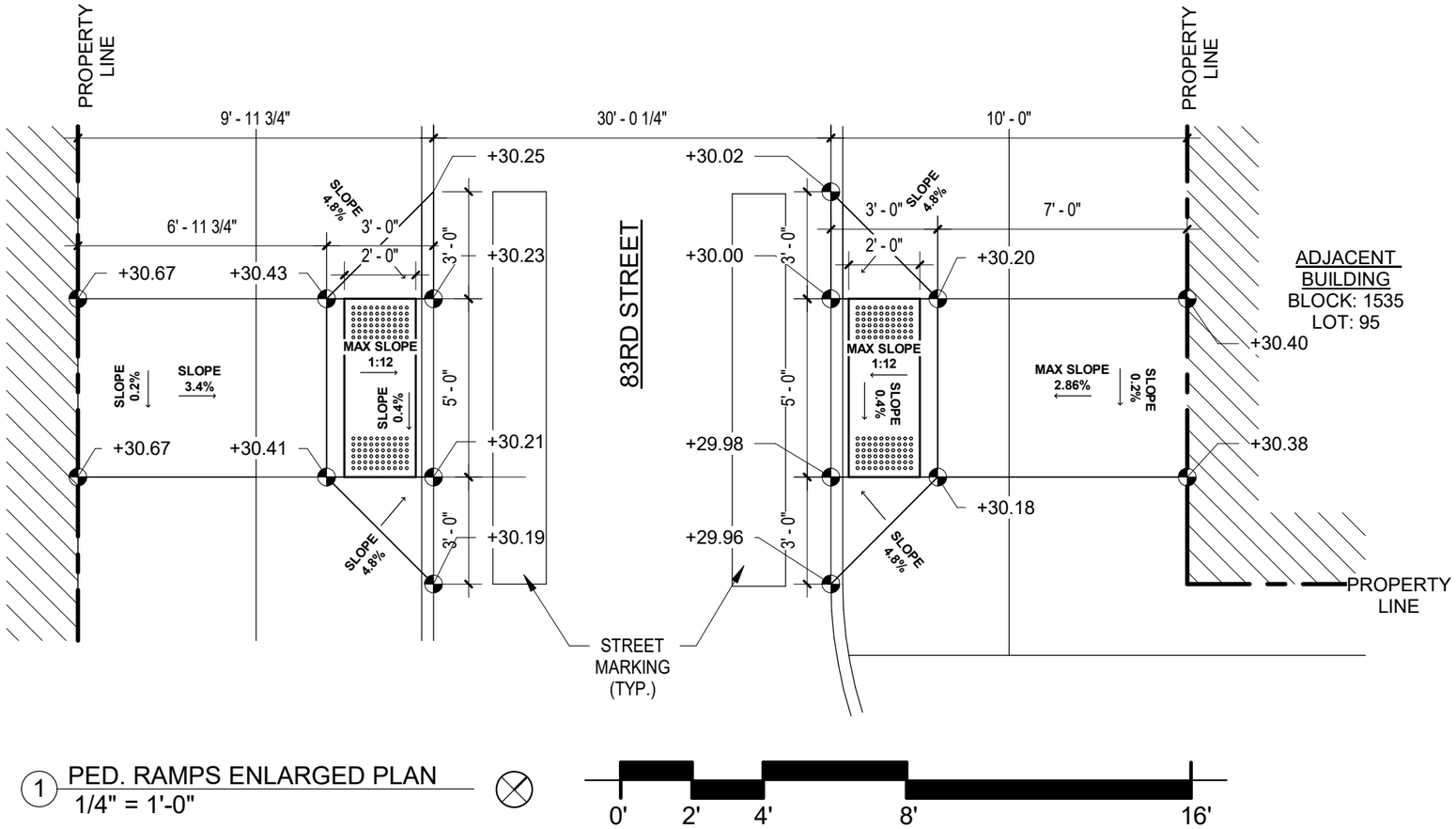
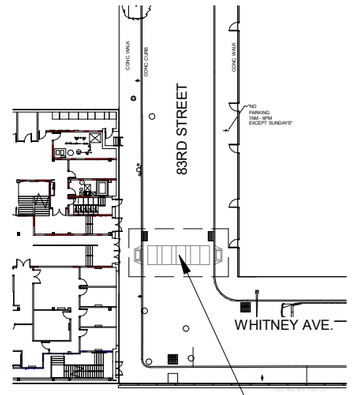
CHARTER SCHOOL
45-20 83RD STREET

BSA-19

06/08/20



1 PED. RAMPS ENLARGED PLAN
1/4" = 1'-0"



2 KEY PLAN
1/64" = 1'-0"

Notes:

- ALL SPOT ELEVATIONS ARE BASED ON NAVD '88.
- ALL PROPOSED CONDITIONS SHALL MEET REQUIREMENTS OF NYC DOT RULES AND STANDARDS, NYC CONSTRUCTION CODES, AND ADA DESIGN GUIDELINES OF 2010 INCLUDING 2009-ANSI A.117.1.
- DETECTABLE WARNING SURFACES SHALL CONFORM TO NYC DOT STANDARD 4.13 DE.

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CHARTER SCHOOL
45-20 83RD STREET

BSA-20

06/08/20

APPENDIX

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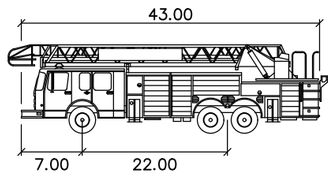


Aerial Fire Truck

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3

ADJACENT 8-STORY
MIXED RESIDENTIAL
BUILDING

BLOCK 1536
LOT 215

83RD STREET

1-STORY COMMERCIAL
BUILDING

BLOCK 1535
LOT 95

ON GRADE PARKING LOT
(ASPHALT-PAVED)

8' PARKING LANE (TYP.)

AREA OF IMPACT

PROPOSED CHARTER SCHOOL

WHITNEY AVENUE

8' HIGH WOOD CONSTRUCTION FENCE

CONC. WALK

CONC. CURB

Aerial Fire Truck
NCHRP REPORT 659 (US)

CONC. WALL W/4' HIGH C.L.F.

8' PARKING LANE (TYP.)

19'
(TYP.)

7' (TYP.)

LONG ISLAND RAILROAD

(NO ACCESS)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)

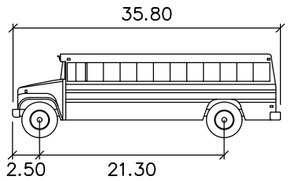
BLOCK 1536
LOT 85

AUTO-TURN ANALYSIS

83rd Street & Whitney Avenue, Flushing, NY
GEDEON GRC CONSULTING JUNE 2019

DRAFT

SCALE 1" = 30'



S–BUS–36

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 37.6

ADJACENT 8-STORY
MIXED RESIDENTIAL
BUILDING

BLOCK 1536
LOT 215

83RD STREET

1-STORY COMMERCIAL
BUILDING

BLOCK 1535
LOT 95

ON GRADE PARKING LOT
(ASPHALT-PAVED)

8' PARKING LANE (TYP.)

AREA OF IMPACT

PROPOSED CHARTER SCHOOL

8' HIGH WOOD CONSTRUCTION FENCE

CONC. WALK

CONC. CURB

S–BUS–36
AASHTO 2011 (US)

WHITNEY AVENUE

CONC. WALL W/4' HIGH C.L.F.

CONC. WALK

S–BUS–36
AASHTO 2011 (US)

CONC. WALL W/4' HIGH C.L.F.

8' PARKING LANE (TYP.)

19'
(TYP.)

7' (TYP.)

LONG ISLAND RAILROAD

(NO ACCESS)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)

BLOCK 1536
LOT 85

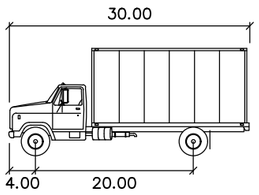
RAILROAD TRACK

AUTO-TURN ANALYSIS

83rd Street & Whitney Avenue, Flushing, NY
GEDEON GRC CONSULTING JUNE 2019

DRAFT

SCALE 1" = 30'



SU–30

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8

ADJACENT 8-STORY
MIXED RESIDENTIAL
BUILDING

BLOCK 1536
LOT 215

83RD STREET

1-STORY COMMERCIAL
BUILDING

BLOCK 1535
LOT 95

ON GRADE PARKING LOT
(ASPHALT-PAVED)

8' PARKING LANE (TYP.)

AREA OF IMPACT

PROPOSED CHARTER SCHOOL

WHITNEY AVENUE

8' HIGH WOOD CONSTRUCTION FENCE

CONC. WALK

CONC. CURB

CONC. WALL W/4' HIGH C.L.F.

SU–30
AASHTO 2011 (US)

8' PARKING LANE (TYP.)

19'
(TYP.)

7' (TYP.)

BLOCK 1536
LOT 85

LONG ISLAND RAILROAD

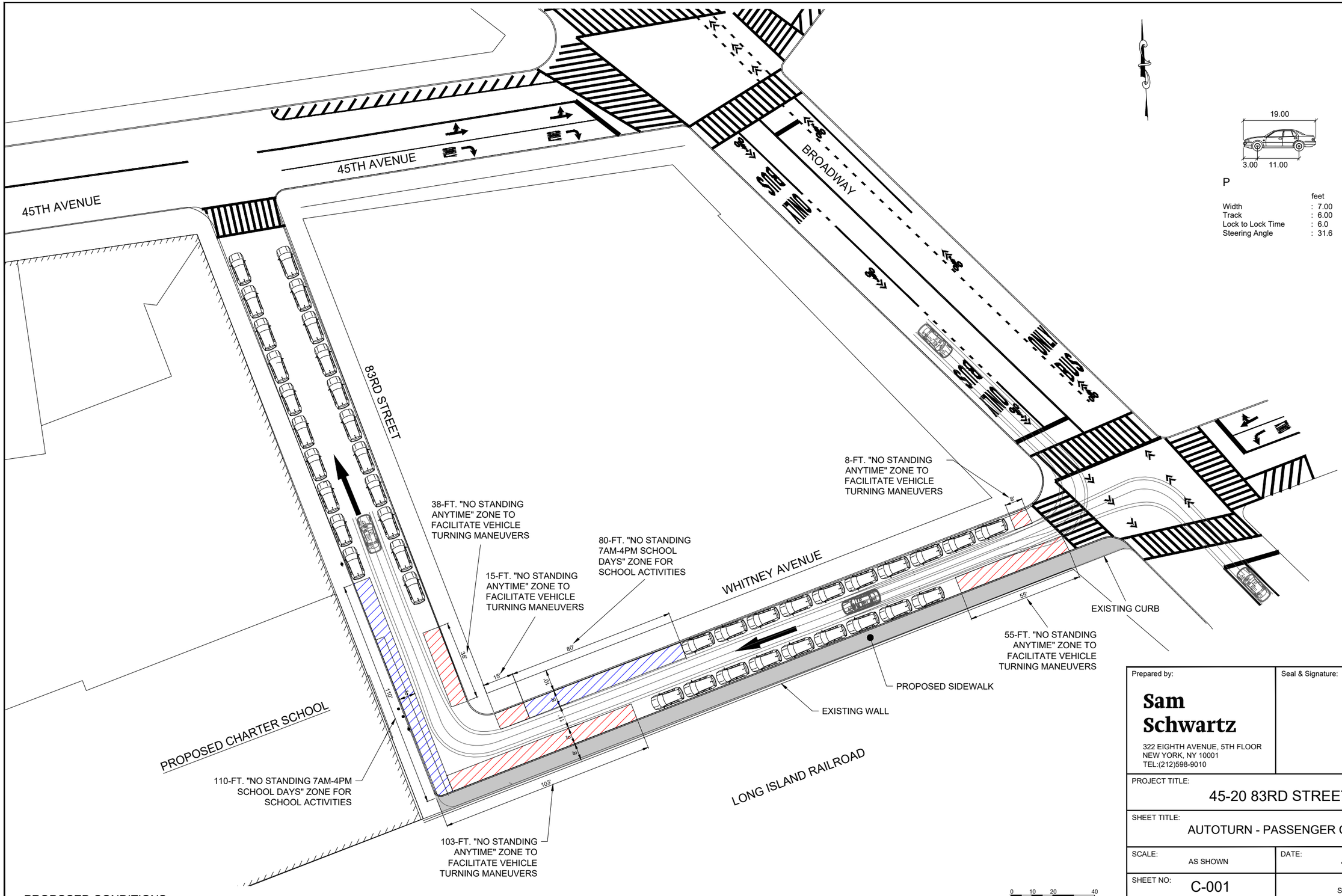
(NO ACCESS)
(ASPHALT ROADWAY)
(TWO WAY TRAFFIC)

AUTO-TURN ANALYSIS

83rd Street & Whitney Avenue, Flushing, NY
GEDEON GRC CONSULTING JUNE 2019

DRAFT

SCALE 1" = 30'



PROPOSED CONDITIONS

DRAWING TITLE

Prepared by:

Sam Schwartz

322 EIGHTH AVENUE, 5TH FLOOR
NEW YORK, NY 10001
TEL:(212)598-9010

Seal & Signature:

PROJECT TITLE: 45-20 83RD STREET

SHEET TITLE: AUTOTURN - PASSENGER CAR

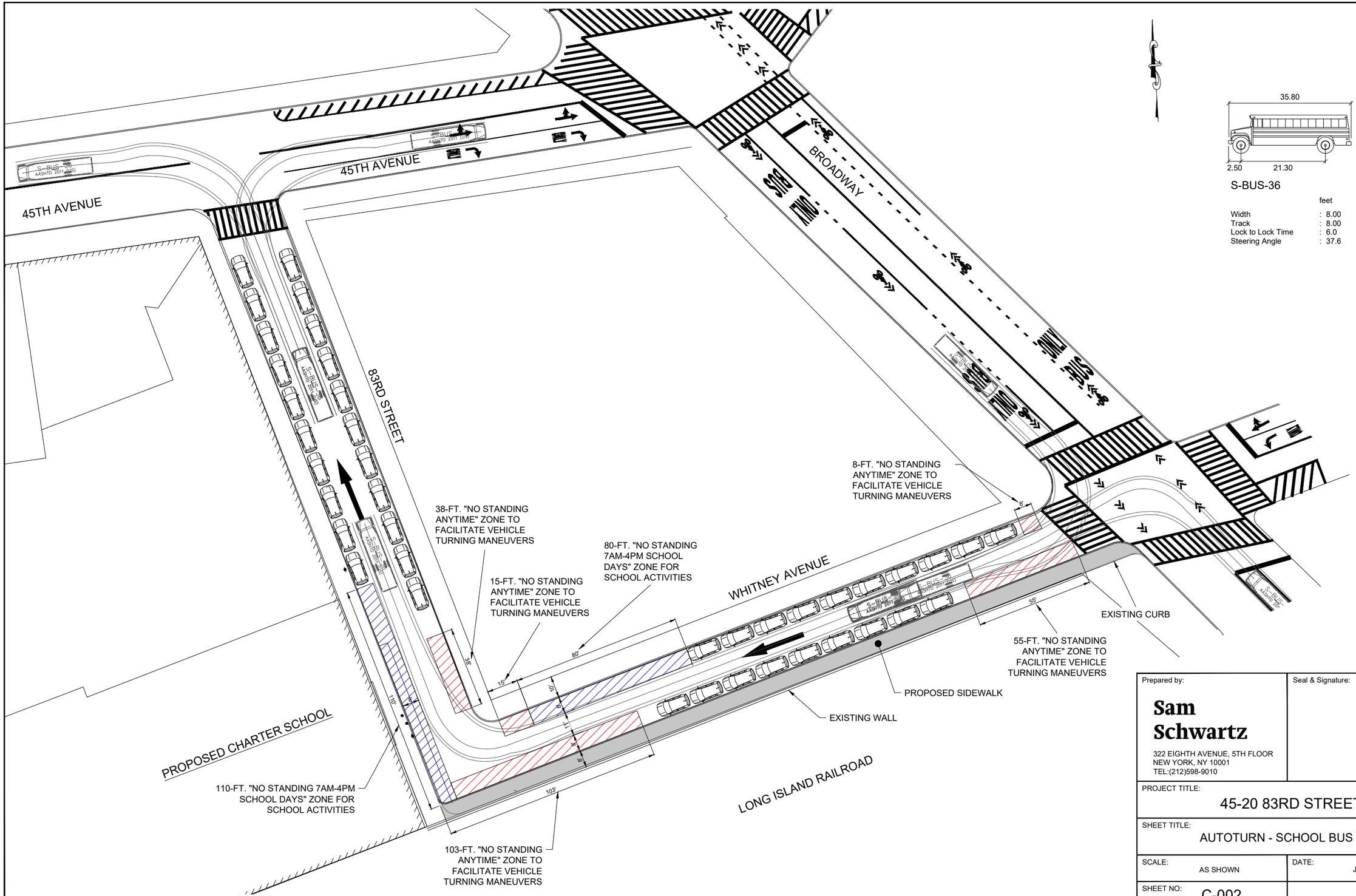
SCALE: AS SHOWN

DATE: June 8, 2020

SHEET NO: C-001

SHEET 01 OF 06

DOB REF. NO:



PROPOSED CONDITIONS

DRAWING TITLE

Prepared by:

Sam Schwartz

322 EIGHTH AVENUE, 5TH FLOOR
NEW YORK, NY 10001
TEL:(212)598-9010

Seal & Signature:

PROJECT TITLE: 45-20 83RD STREET

SHEET TITLE: AUTOTURN - SCHOOL BUS

SCALE: AS SHOWN

DATE: June 8, 2020

SHEET NO: C-002

SHEET 02 OF 06

DOB REF. NO:

45TH AVENUE

45TH AVENUE

83RD STREET

BROADWAY

WHITNEY AVENUE

LONG ISLAND RAILROAD

PROPOSED CHARTER SCHOOL

38-FT. "NO STANDING ANYTIME" ZONE TO FACILITATE VEHICLE TURNING MANEUVERS

15-FT. "NO STANDING ANYTIME" ZONE TO FACILITATE VEHICLE TURNING MANEUVERS

80-FT. "NO STANDING 7AM-4PM SCHOOL DAYS" ZONE FOR SCHOOL ACTIVITIES

110-FT. "NO STANDING 7AM-4PM SCHOOL DAYS" ZONE FOR SCHOOL ACTIVITIES

103-FT. "NO STANDING ANYTIME" ZONE TO FACILITATE VEHICLE TURNING MANEUVERS

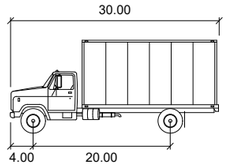
8-FT. "NO STANDING ANYTIME" ZONE TO FACILITATE VEHICLE TURNING MANEUVERS

55-FT. "NO STANDING ANYTIME" ZONE TO FACILITATE VEHICLE TURNING MANEUVERS

EXISTING CURB

PROPOSED SIDEWALK

EXISTING WALL



SU-30

	feet
Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8

PROPOSED CONDITIONS

0 10 20 40
SCALE: 1" = 20'

Prepared by:

Sam Schwartz

322 EIGHTH AVENUE, 5TH FLOOR
NEW YORK, NY 10001
TEL:(212)598-9010

Seal & Signature:

PROJECT TITLE:
45-20 83RD STREET

SHEET TITLE:
AUTOTURN - SU-30

SCALE: AS SHOWN

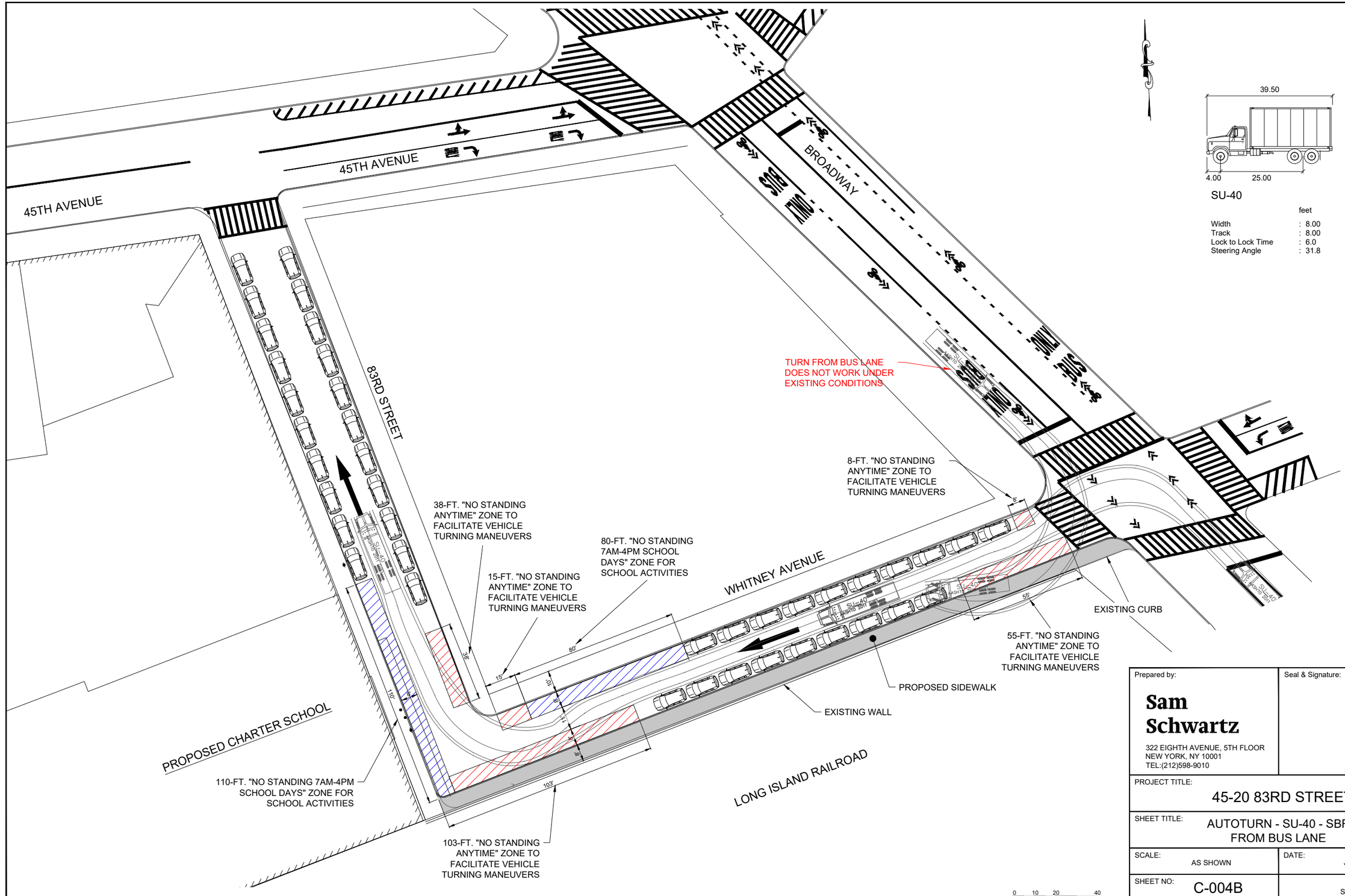
DATE: June 8, 2020

SHEET NO: C-003

SHEET 03 OF 06

DOB REF. NO:

DRAWING TITLE



PROPOSED CONDITIONS

DRAWING TITLE

Prepared by:

Sam Schwartz

322 EIGHTH AVENUE, 5TH FLOOR
NEW YORK, NY 10001
TEL:(212)598-9010

Seal & Signature:

PROJECT TITLE: 45-20 83RD STREET

SHEET TITLE: AUTOTURN - SU-40 - SBR FROM BUS LANE

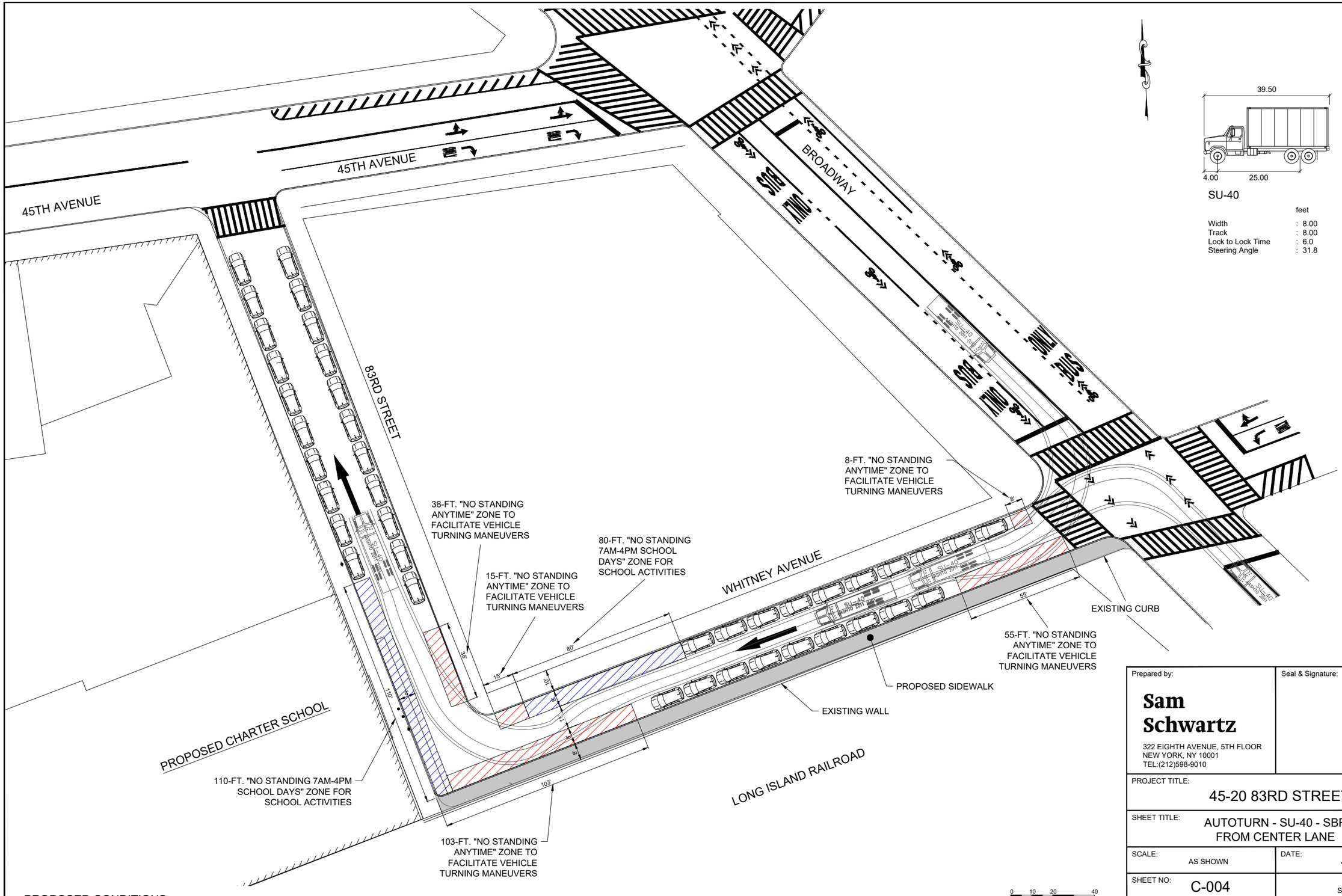
SCALE: AS SHOWN

DATE: June 8, 2020

SHEET NO: C-004B

SHEET 04 OF 06

DOB REF. NO:



PROPOSED CONDITIONS

DRAWING TITLE

Prepared by:

Sam Schwartz

322 EIGHTH AVENUE, 5TH FLOOR
NEW YORK, NY 10001
TEL:(212)598-9010

Seal & Signature:

PROJECT TITLE: 45-20 83RD STREET

SHEET TITLE: AUTOTURN - SU-40 - SBR FROM CENTER LANE

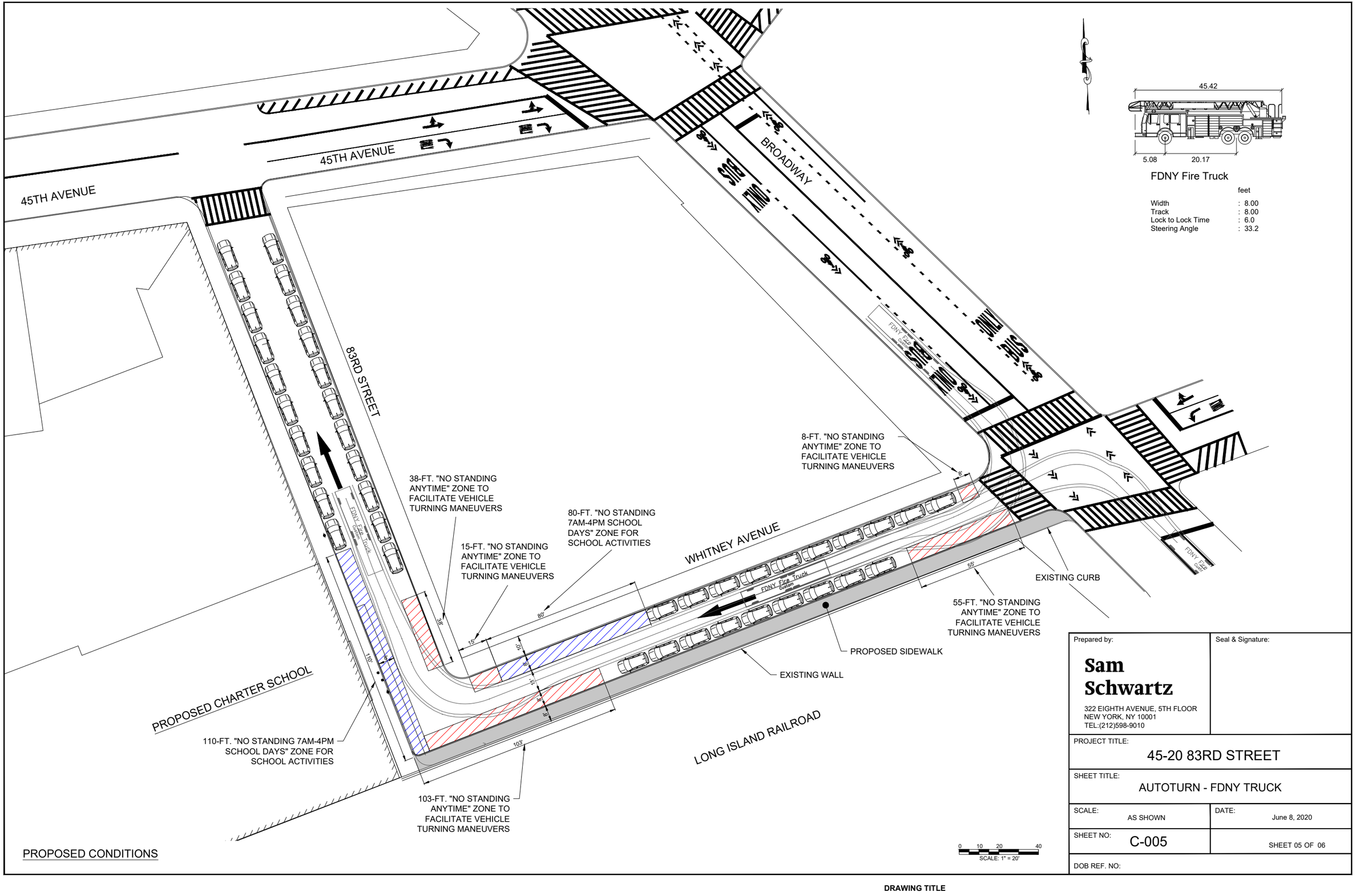
SCALE: AS SHOWN

DATE: June 8, 2020

SHEET NO: C-004

SHEET 04 OF 06

DOB REF. NO:



PROPOSED CONDITIONS

DRAWING TITLE

Prepared by:

Sam Schwartz

322 EIGHTH AVENUE, 5TH FLOOR
NEW YORK, NY 10001
TEL:(212)598-9010

Seal & Signature:

PROJECT TITLE: 45-20 83RD STREET

SHEET TITLE: AUTOTURN - FDNY TRUCK

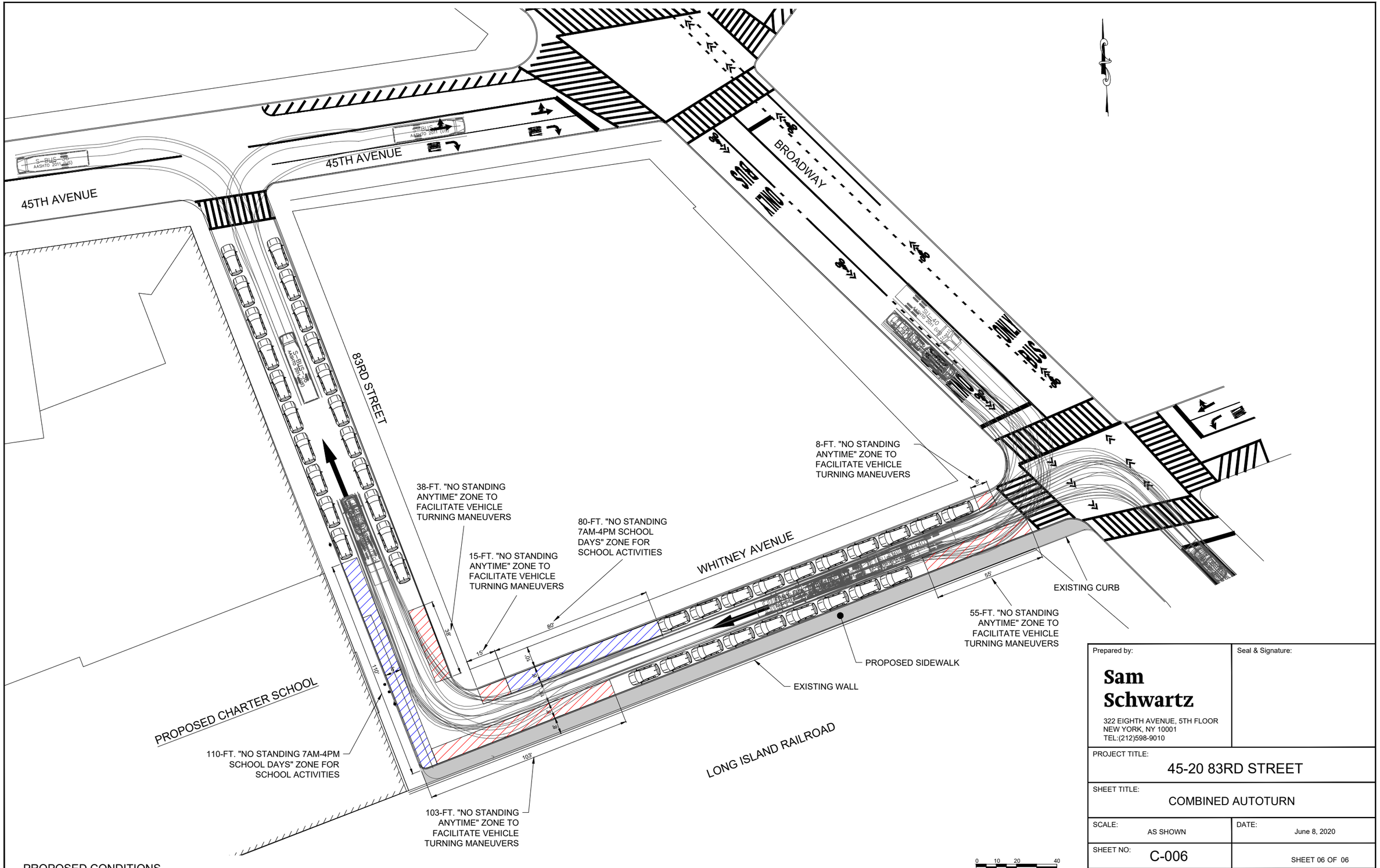
SCALE: AS SHOWN

DATE: June 8, 2020

SHEET NO: C-005

SHEET 05 OF 06

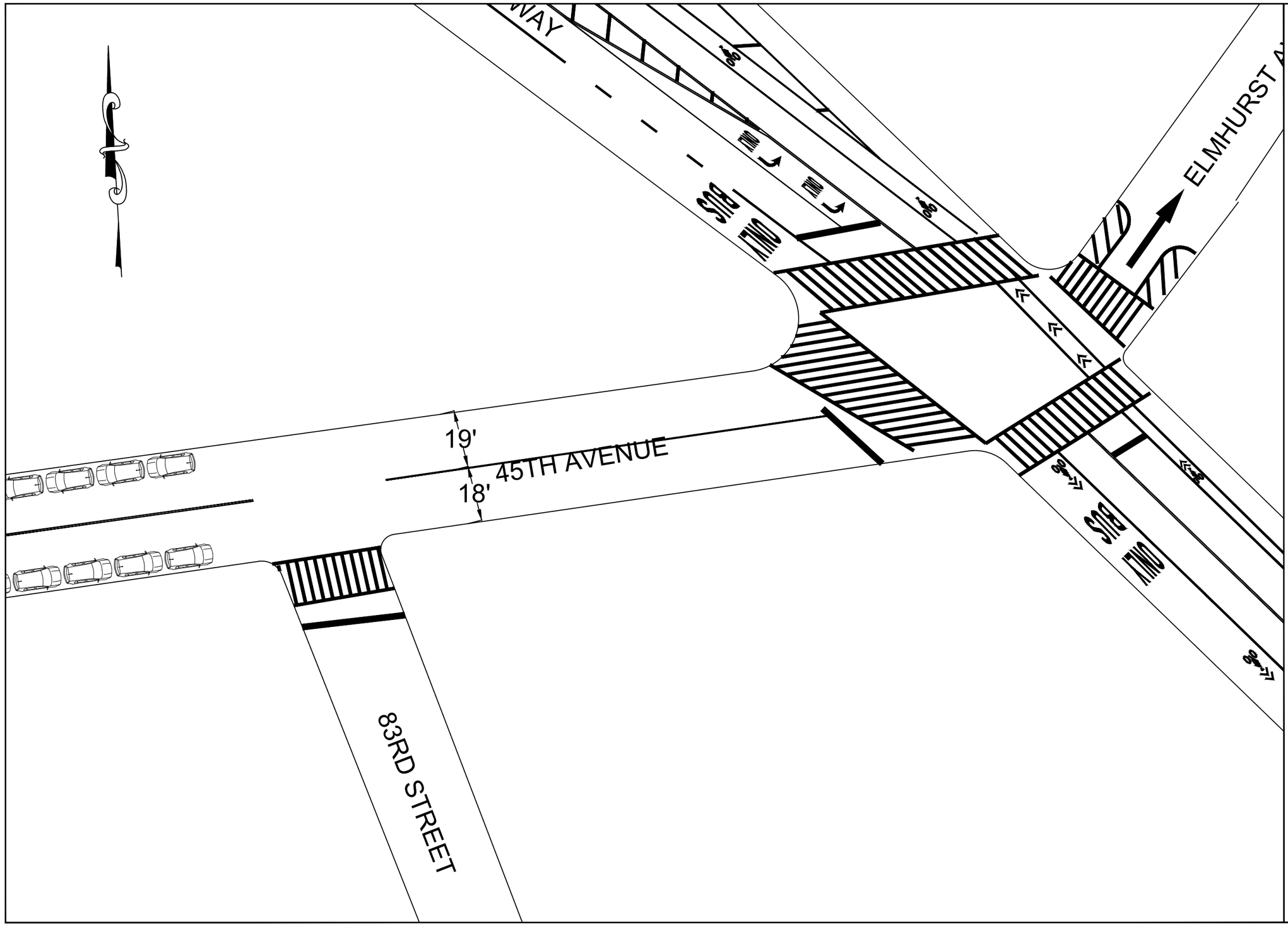
DOB REF. NO:



PROPOSED CONDITIONS

DRAWING TITLE

Prepared by: **Sam Schwartz** 322 EIGHTH AVENUE, 5TH FLOOR NEW YORK, NY 10001 TEL.:(212)598-9010	Seal & Signature:
PROJECT TITLE: 45-20 83RD STREET	
SHEET TITLE: COMBINED AUTOTURN	
SCALE: AS SHOWN	DATE: June 8, 2020
SHEET NO: C-006	SHEET 06 OF 06
DOB REF. NO:	



CLIENT:

aaaa
339 East 28th Street
New York, NY 10016

PREPARED BY:

Sam Schwartz
Transportation Consultants
322 EIGHTH AVENUE
5TH FLOOR
NEW YORK, NY 10001

SEAL:

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

45-20 83rd St EAS Traffic Study

LOCATED AT: **BOROUGH OF QUEENS**
CITY AND STATE OF NEW YORK

TAX DESIGNATION:

BLOCK/LOT:

SITE MAP:

DRAWING TITLE:

Intersection of 45th Ave and 83rd St

No-Action Conditons

DRAWN BY: **SL**

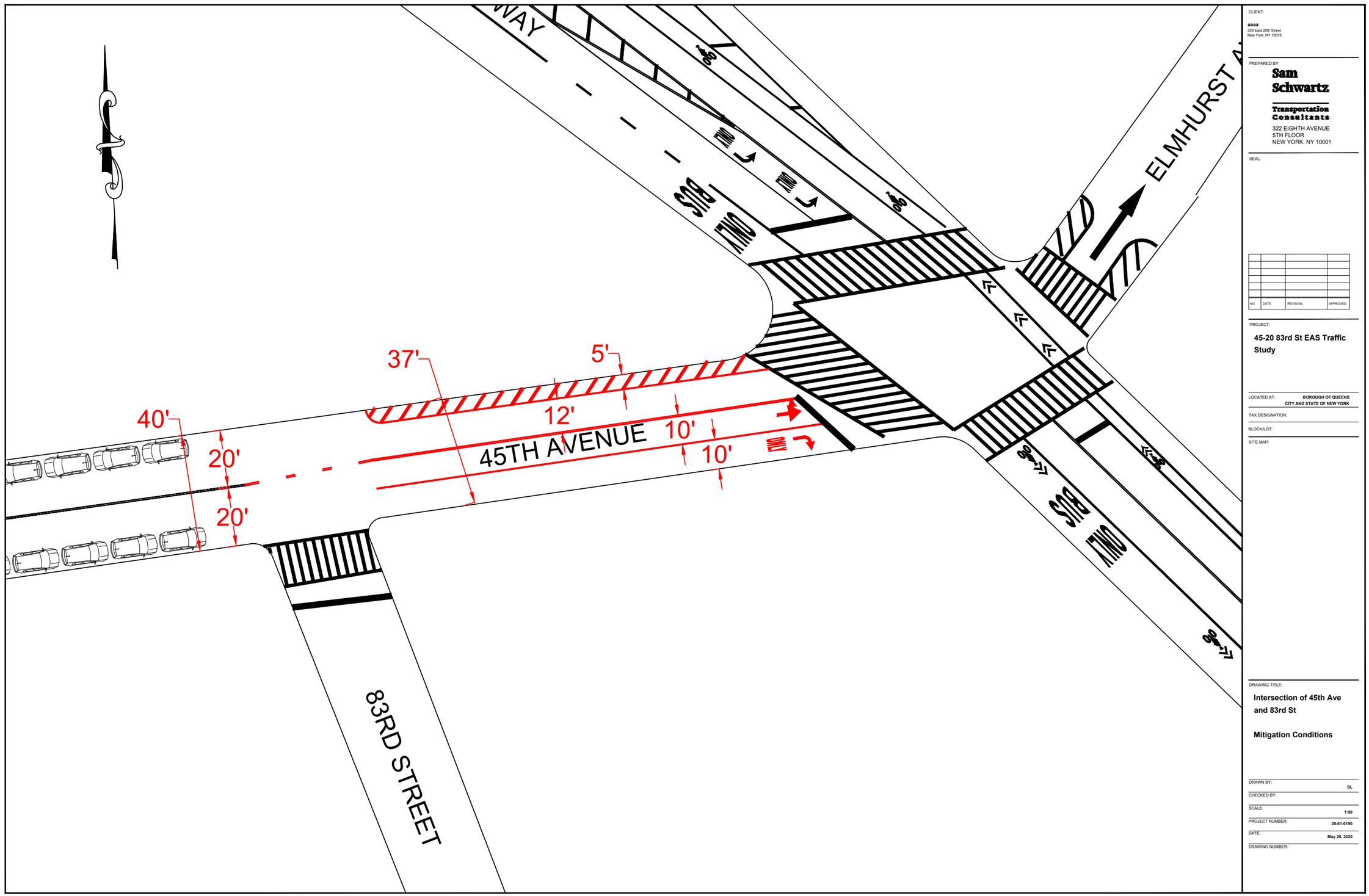
CHECKED BY:

SCALE: **1:50**

PROJECT NUMBER: **20-01-0190**

DATE: **May 29, 2020**

DRAWING NUMBER:



CLIENT:

aaaa
339 East 28th Street
New York, NY 10016

PREPARED BY:

Sam Schwartz
Transportation Consultants
322 EIGHTH AVENUE
5TH FLOOR
NEW YORK, NY 10001

SEAL:

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

45-20 83rd St EAS Traffic Study

LOCATED AT: **BOROUGH OF QUEENS CITY AND STATE OF NEW YORK**

TAX DESIGNATION:

BLOCK/LOT:

SITE MAP:

DRAWING TITLE:

Intersection of 45th Ave and 83rd St

Mitigation Conditions

DRAWN BY: **SL**

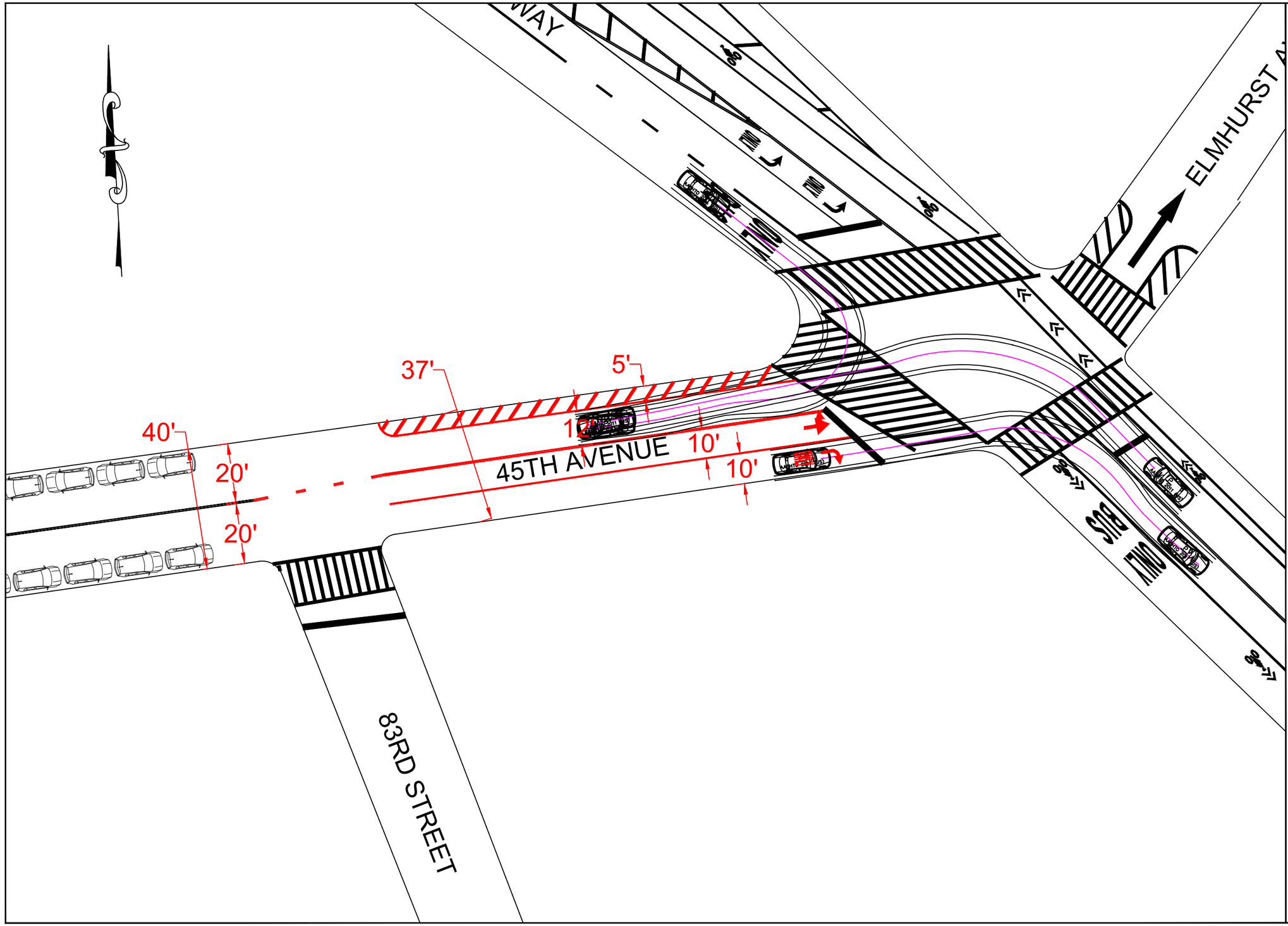
CHECKED BY:

SCALE: **1:50**

PROJECT NUMBER: **20-01-0190**

DATE: **May 29, 2020**

DRAWING NUMBER:



CLIENT:

aaaa
339 East 28th Street
New York, NY 10016

PREPARED BY:

Sam Schwartz
Transportation Consultants
322 EIGHTH AVENUE
5TH FLOOR
NEW YORK, NY 10001

SEAL:

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

45-20 83rd St EAS Traffic Study

LOCATED AT: **BOROUGH OF QUEENS CITY AND STATE OF NEW YORK**

TAX DESIGNATION:

BLOCK/LOT:

SITE MAP:

DRAWING TITLE:

Intersection of 45th Ave and 83rd St

Car

DRAWN BY: **SL**

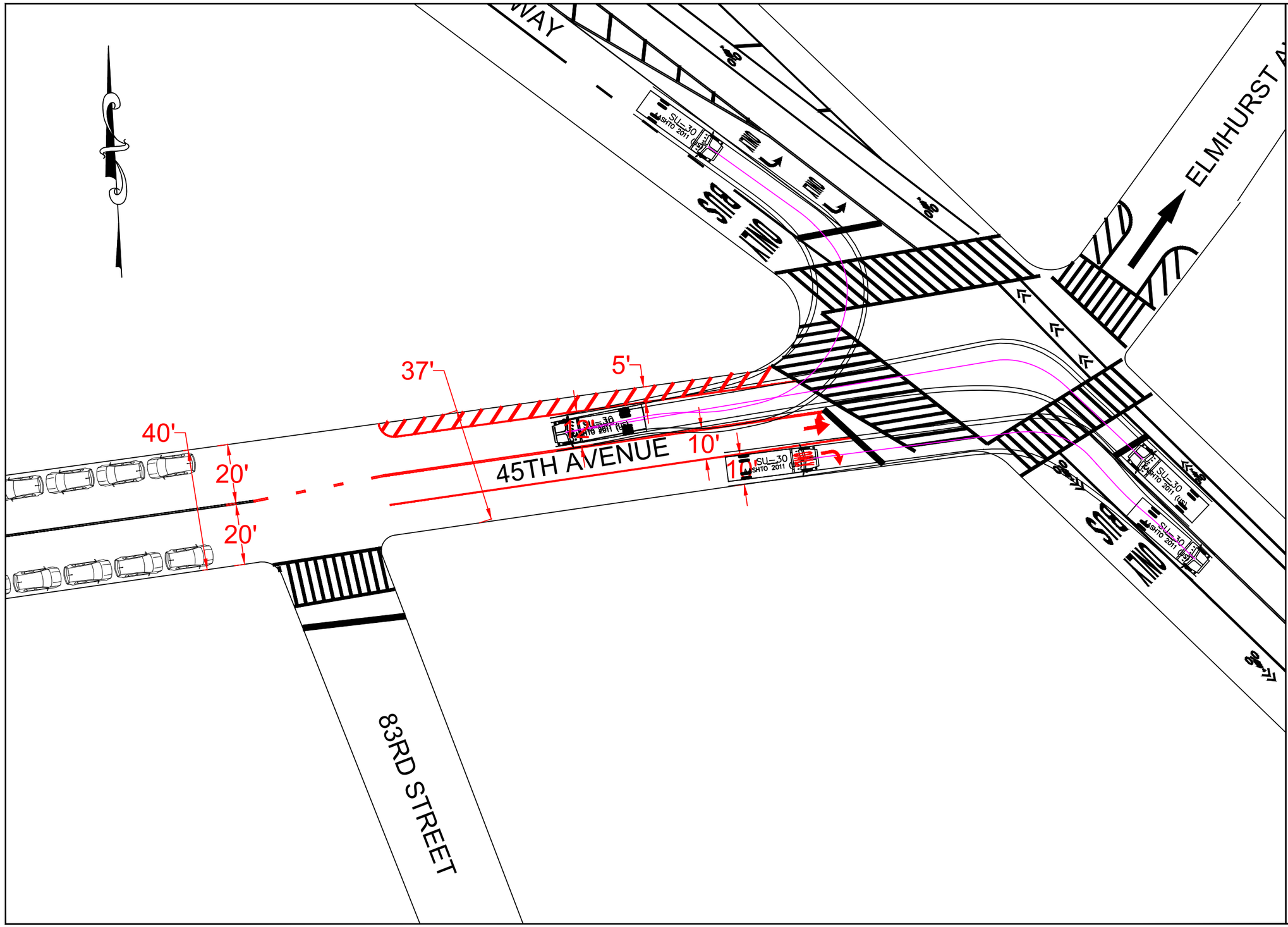
CHECKED BY:

SCALE: **1:50**

PROJECT NUMBER: **20-01-0190**

DATE: **May 29, 2020**

DRAWING NUMBER:



CLIENT:

aaaa
339 East 28th Street
New York, NY 10016

PREPARED BY:

Sam Schwartz
Transportation Consultants
322 EIGHTH AVENUE
5TH FLOOR
NEW YORK, NY 10001

SEAL:

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

45-20 83rd St EAS Traffic Study

LOCATED AT: **BOROUGH OF QUEENS CITY AND STATE OF NEW YORK**

TAX DESIGNATION:

BLOCK/LOT:

SITE MAP:

DRAWING TITLE:

Intersection of 45th Ave and 83rd St

SU-30

DRAWN BY: **SL**

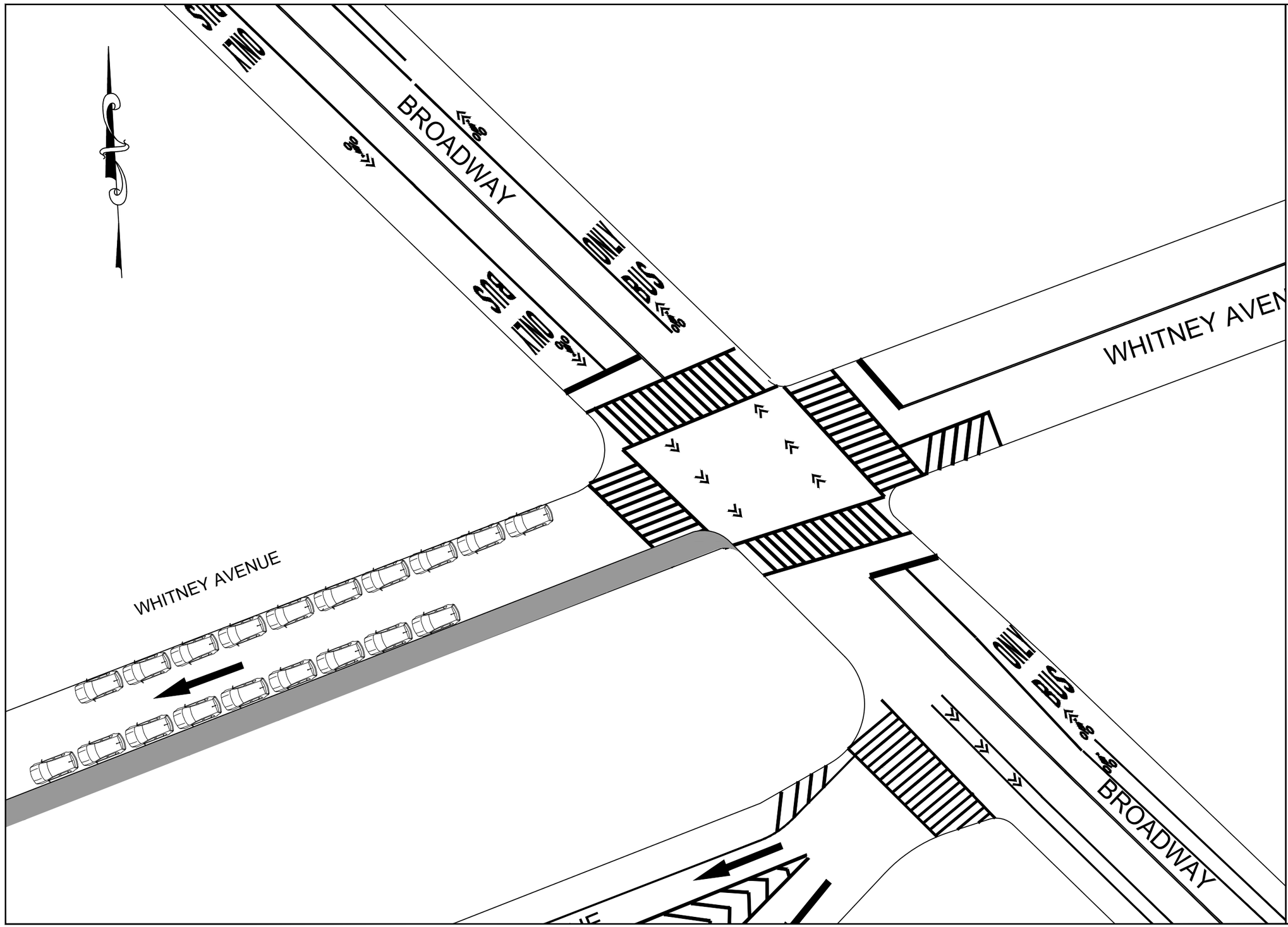
CHECKED BY:

SCALE: **1:50**

PROJECT NUMBER: **20-01-0190**

DATE: **May 29, 2020**

DRAWING NUMBER:



CLIENT:

aaaa
339 East 28th Street
New York, NY 10016

PREPARED BY:

Sam Schwartz

Transportation Consultants

322 EIGHTH AVENUE
5TH FLOOR
NEW YORK, NY 10001

SEAL:

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

45-20 83rd St EAS Traffic Study

LOCATED AT: **BOROUGH OF QUEENS**
CITY AND STATE OF NEW YORK

TAX DESIGNATION:

BLOCK/LOT:

SITE MAP:

DRAWING TITLE:

Intersection of 45th Ave and 83rd St

Existing Condtions

DRAWN BY: **SL**

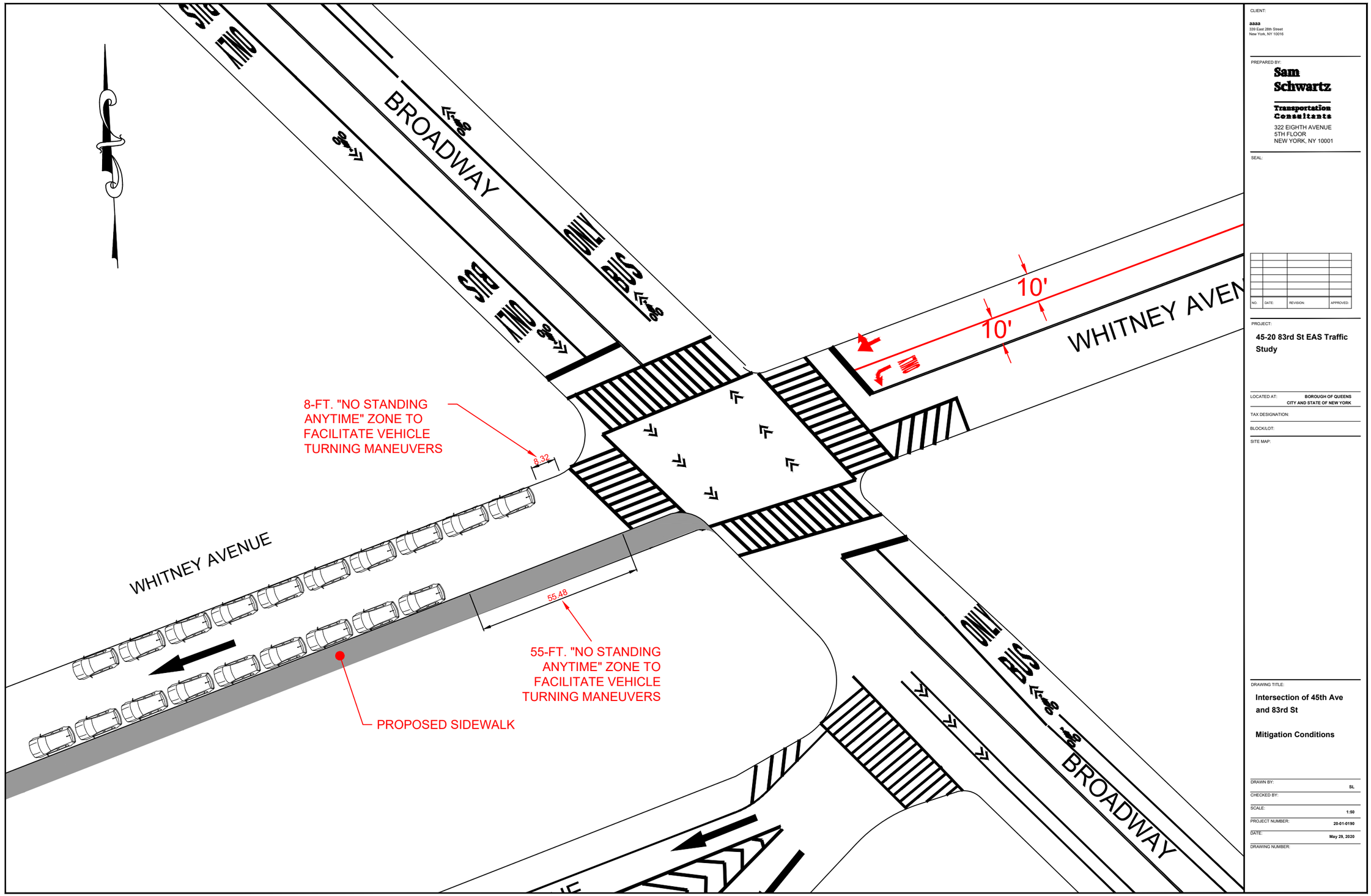
CHECKED BY:

SCALE: **1:50**

PROJECT NUMBER: **20-01-0190**

DATE: **May 29, 2020**

DRAWING NUMBER:



CLIENT:

aaaa
339 East 28th Street
New York, NY 10016

PREPARED BY:

Sam Schwartz
Transportation Consultants
322 EIGHTH AVENUE
5TH FLOOR
NEW YORK, NY 10001

SEAL:

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

45-20 83rd St EAS Traffic Study

LOCATED AT: **BOROUGH OF QUEENS CITY AND STATE OF NEW YORK**

TAX DESIGNATION:

BLOCK/LOT:

SITE MAP:

DRAWING TITLE:

Intersection of 45th Ave and 83rd St

Mitigation Conditions

DRAWN BY: **SL**

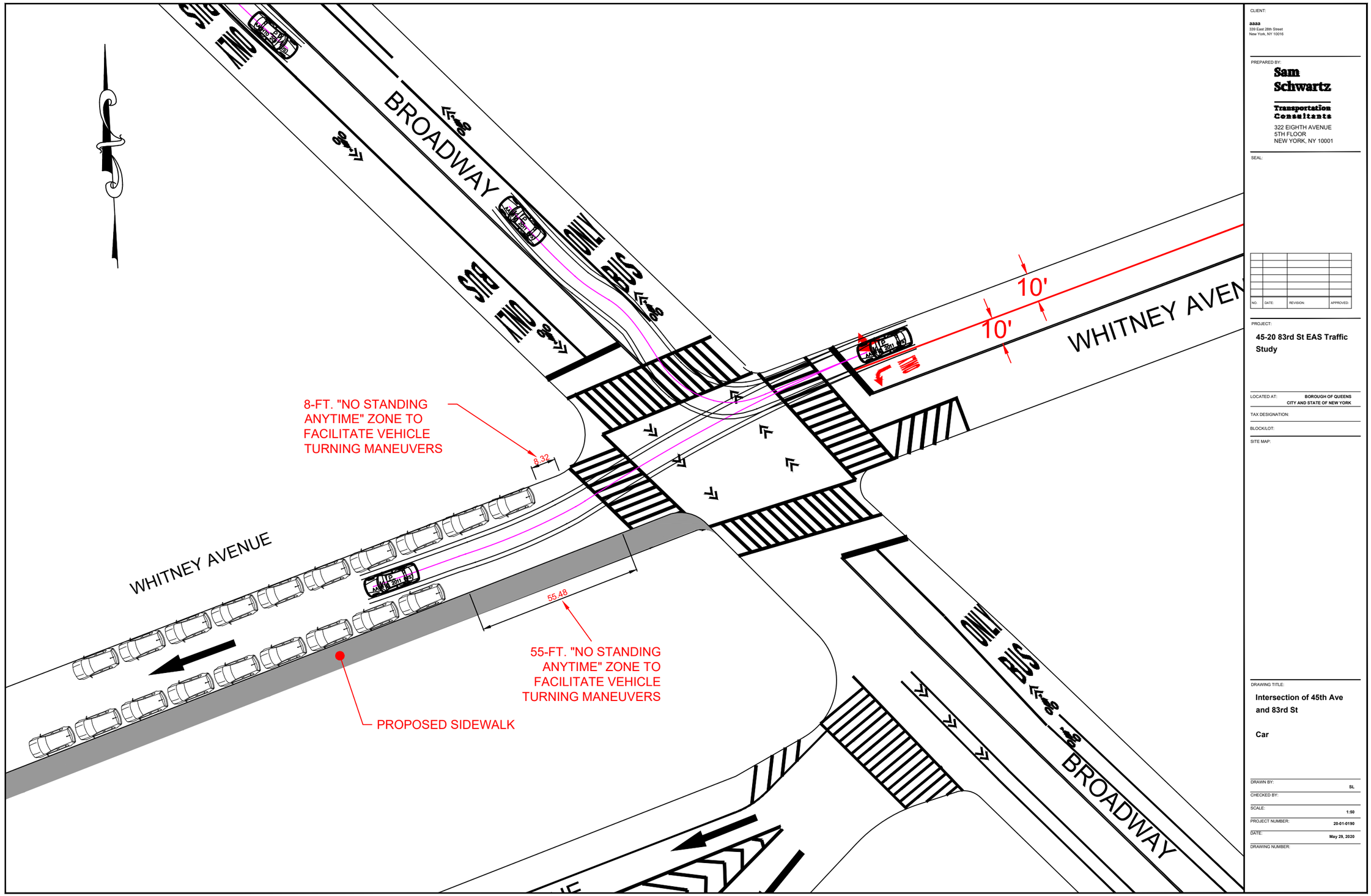
CHECKED BY:

SCALE: **1:50**

PROJECT NUMBER: **20-01-0190**

DATE: **May 29, 2020**

DRAWING NUMBER:



CLIENT:

aaaa
339 East 28th Street
New York, NY 10016

PREPARED BY:

Sam Schwartz
Transportation Consultants
322 EIGHTH AVENUE
5TH FLOOR
NEW YORK, NY 10001

SEAL:

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

45-20 83rd St EAS Traffic Study

LOCATED AT: **BOROUGH OF QUEENS CITY AND STATE OF NEW YORK**

TAX DESIGNATION:

BLOCK/LOT:

SITE MAP:

DRAWING TITLE:

Intersection of 45th Ave and 83rd St

Car

DRAWN BY: **SL**

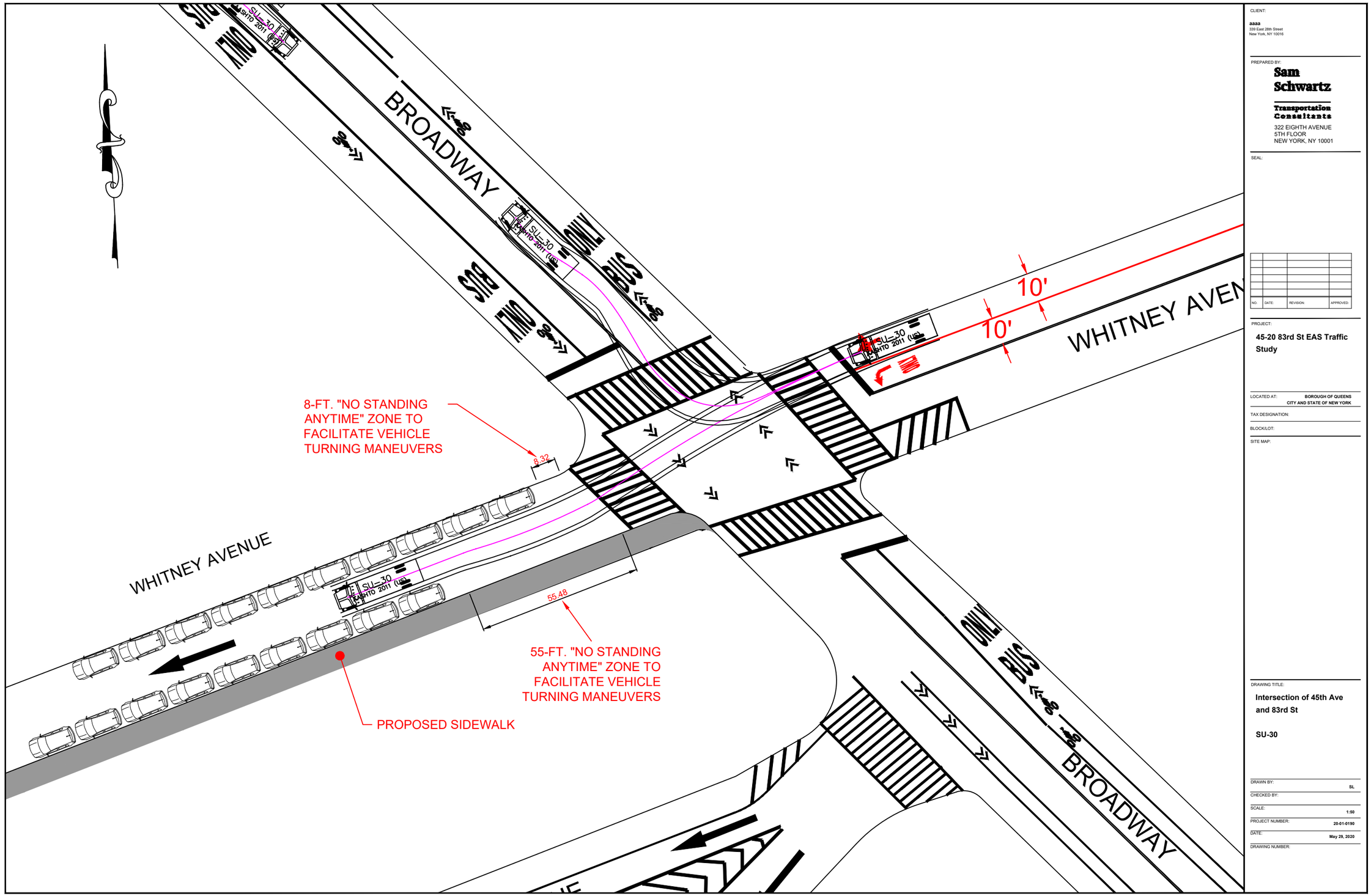
CHECKED BY:

SCALE: **1:50**

PROJECT NUMBER: **20-01-0190**

DATE: **May 29, 2020**

DRAWING NUMBER:



CLIENT:

aaaa
339 East 28th Street
New York, NY 10016

PREPARED BY:

Sam Schwartz

Transportation Consultants

322 EIGHTH AVENUE
5TH FLOOR
NEW YORK, NY 10001

SEAL:

NO.	DATE:	REVISION:	APPROVED:

PROJECT:

45-20 83rd St EAS Traffic Study

LOCATED AT: **BOROUGH OF QUEENS CITY AND STATE OF NEW YORK**

TAX DESIGNATION:

BLOCK/LOT:

SITE MAP:

DRAWING TITLE:

Intersection of 45th Ave and 83rd St

SU-30

DRAWN BY: **SL**

CHECKED BY:

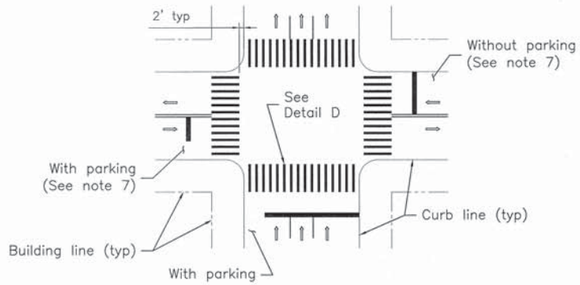
SCALE: **1:50**

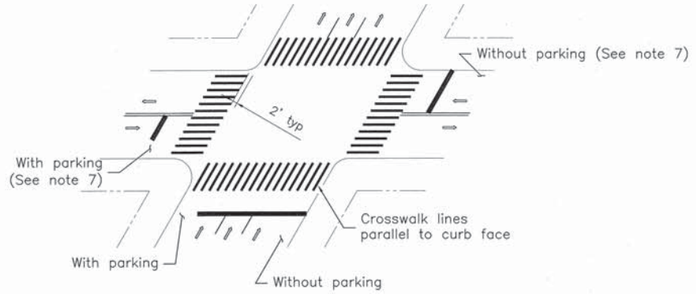
PROJECT NUMBER: **20-01-0190**

DATE: **May 29, 2020**

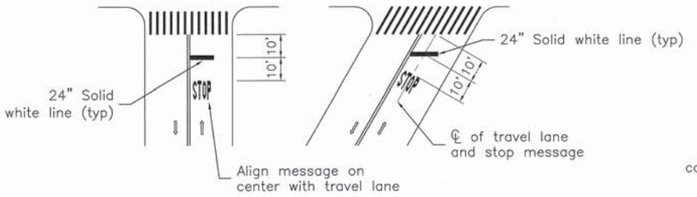
DRAWING NUMBER:

Typical Crosswalks & Stop Bars

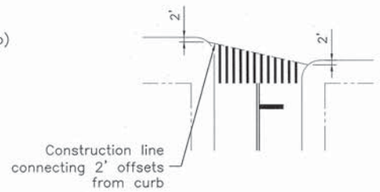




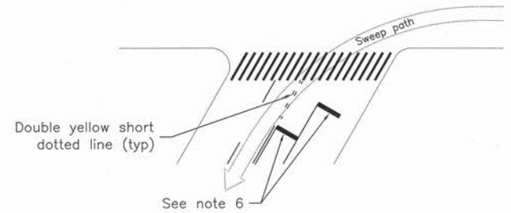
Detail A: Typical Stop Bar & Stop Message Placement



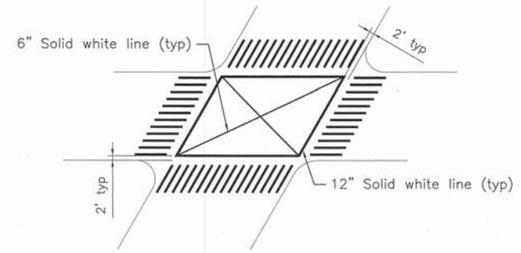
Detail C: Trapezoidal Crosswalks at Offset Curblines



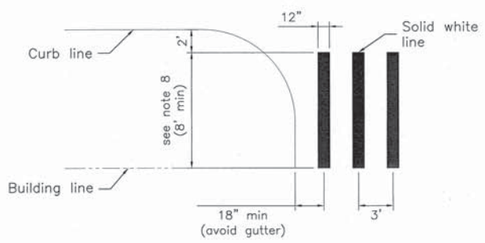
Detail B: Optional Staggered Stop Bar for Constrained Turns

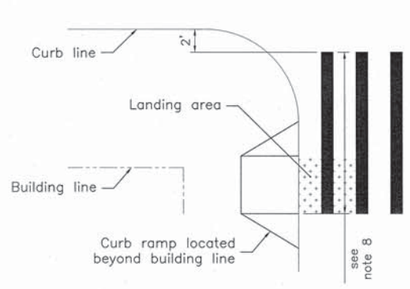


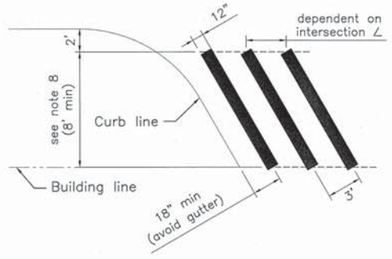
Detail E: Do Not Block Intersection Markings



Detail D: Crosswalk Stripe Spacing and Length







NOTES:

1. The front of crosswalk shall be set back 2' from the curb line unless otherwise specified by the engineer or for accessibility (see note 2).
2. At corners with apex pedestrian ramps, the landing area must fall within the crosswalks, in some cases requiring widening of the crosswalk(s) or marking an extension at the corner.
3. Crosswalks shall be installed at any signalized, stop-controlled, or yield-controlled leg of an intersection, unless otherwise specified.
4. Stop bars shall be installed in any signalized or stop controlled travel lane entering the intersection.
5. All stop bars shall be 10' offset from the back of the crosswalk, parallel to the back of crosswalk, unless otherwise specified.
6. Stop bars may be staggered or setback to accommodate large vehicle turns.
7. Presence or absence of curbside parking shown for illustrative purposes only. Stop bars should extend to curb on streets without curbside parking. Stop bars should extend to parking lane stripe on streets with striped curbside parking. Stop bars should extend to 8' from curb, or as determined by engineer, on streets with unstriped curbside parking.
8. Unless otherwise specified by the engineer on a plan or order, the back of crosswalk shall extend to whichever is greatest of the following: the building line (back of sidewalk if adjacent parcel is undeveloped), the full extent of the corresponding curb ramp's landing area, or a minimum width of 8'.

NEW YORK CITY DOT

CITY OF NEW YORK . DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PLANNING AND MANAGEMENT (TP&M)
28-11 Queens Plaza North . L.I.C., N.Y. 11101

TYPICAL PAVEMENT MARKINGS

CROSSWALKS & STOP BARS

ROGER KEVIN WEED — STATE OF NEW YORK — 081 — LICENSED PROFESSIONAL ENGINEER

Drawn by	D. NELSON
Checked by	S. BARKHO
Borough	ALL
Scale	NOT TO SCALE
Effective Date	12/15/2017

SHEET 1 OF 18
DRAWING NO. TCW-1

Appendix B: 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: BOARD OF STANDARDS AND APPEALS / LA-CEQR-Q
Project:
Date received: 12/7/2018

Properties with no Architectural or Archaeological significance:

1) ADDRESS: 45-20 83 STREET, BBL: 4015360223

2) ADDRESS: 45-20 83 STREET, BBL: 4015360080,

Gina Santucci 12/17/2018

SIGNATURE DATE
Gina Santucci, Environmental Review Coordinator

File Name: 33863_FSO_DNP_12172018.doc

Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

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

February 7, 2020

Tracie Behnke
Director, Environmental Projects
New York City Board of Standards and Appeals
250 Broadway, 29th Floor
New York, NY 10007

Re: 45-20 83rd Street
Block 1536, Lots 80 and 223
CEQR # 20BSA002Q

Dear Ms. Behnke:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the January 2020 Site Investigation Report (Phase II) and Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) prepared by Hydrotech Environmental on behalf of The Renaissance Charter School 2 (applicant) for the above referenced project. It is our understanding that the applicant is seeking a Special Permit from the New York City Board of Standards and Appeals (BSA) pursuant to Section 73-19 of the Zoning Resolution of the City of New York (ZR) to convert and enlarge an existing 41,320 square foot (sf) one-story plus partial mezzanine warehouse building for occupancy by a Use Group (UG) 3, Kindergarten through 6th grade charter school with no residential accommodations. The Proposed Action would occur in two phases. The Phase 1 Development would include partitioning and renovating 9,974 sf of the western portion of the existing building as a temporary charter school space and the Phase 2 Development would involve the renovation and expansion of the remaining eastern portion of the existing building, which would contain a total of 66,521 gross square feet of floor area. The project site is located within the Elmhurst neighborhood of Queens Community District 4. The proposed UG 3 School is contrary to the underlying M1-1 zoning district use provisions, as set forth in ZR Section 42-10.

During the August 2019 fieldwork, 10 soil borings were advanced to a depth of 10 feet below grade surface (bgs). Soil samples were collected at depth intervals from 0 to 2 feet below grade and from 8 to 10 feet below grade from each soil boring. A third soil sample was collected from SP-7 from the 4 to 6-foot interval and from SP-8 from the 6 to 8-foot interval. Four groundwater samples were collected from temporary monitoring wells. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs) by United States Environmental Protection Agency (EPA) Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, pesticides by EPA Method 8081, polychlorinated biphenyls (PCBs) by EPA Method 8082, and Target Analyte List (TAL) metals by EPA Method 6020 (filtered and unfiltered for

groundwater samples). Three soil vapor samples, four sub-slab soil vapor samples, two indoor air samples and one outdoor air sample were collected and analyzed for VOCs by EPA Method TO-15.

The soil analytical results revealed that PCBs were either non-detect (ND) or below their New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs). One VOC (acetone), one SVOC (indeno(1,2,3-cd)pyrene), several pesticides (4,4'-DDD, 4,4'-DDE and 4,4'-DDT) and several metals (lead, selenium, zinc, mercury, chromium, arsenic, copper and barium) were detected above their NYSDEC Unrestricted Use SCOs and/or Restricted Residential Use SCOs.

The groundwater analytical results revealed that pesticides and PCBs were either ND or below their NYCDEC Class GA Ambient Water Quality Standards (AWQS). Several VOCs (1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethyl benzene, isopropylbenzene, naphthalene, n-butylbenzene, n-propylbenzene, o-xylene, p- & m- xylenes, p-isopropyltoluene, sec-butylbenzene, toluene and total xylenes), several SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene and naphthalene), one pesticide (toxaphene) and several metals (manganese, sodium, barium, chromium, magnesium and lead) were detected above their respective AWQS.

The soil vapor analytical results revealed that several VOCs (1,1,1-trichloroethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-butanone, 4-methyl-2-pentanone, acetone, benzene, carbon disulfide, carbon tetrachloride, chloroform, cyclohexane, dichlorodifluoromethane, ethyl benzene, isopropanol, methylene chloride, n-heptane, n-hexane, o-xylene, p- & m- xylenes, p-ethyltoluene, propylene, styrene, tetrachloroethylene (PCE), tetrahydrofuran, toluene, trichloroethylene (TCE) and trichlorofluoromethane) were detected. PCE and TCE were detected above their Air Guideline Values in the New York State Department of Health (NYSDOH) October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

The indoor air analytical results revealed that several VOCs (1,1,2-trichloro-1,2,2-trifluoroethane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 2-butanone, 4-methyl-2-pentanone, acetone, benzene, carbon tetrachloride, chloroform, chloromethane, cyclohexane, dichlorodifluoromethane, ethyl acetate, ethyl benzene, isopropanol, methyl methacrylate, methylene chloride, n-heptane, n-hexane, o-xylene, p- & m- xylenes, p-ethyltoluene, styrene, PCE, toluene, TCE, and trichlorofluoromethane) were detected. The soil vapor/indoor air matrix for the detected concentrations of TCE in the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York recommends "mitigate".

The outdoor air analytical results revealed that several VOCs (1,2,4-trimethylbenzene, 2-butanone, acetone, benzene, carbon tetrachloride, chloromethane, cyclohexane, dichlorodifluoromethane, isopropanol, methyl methacrylate, methylene chloride, n-heptane, n-hexane, o-xylene, p- & m- xylenes, p-ethyltoluene, PCE, toluene, TCE, and trichlorofluoromethane) were detected.

The January 2020 RAP proposes the remediation of NYSDEC Spill # 1906766; the excavation, transportation and off-site disposal of soil in accordance with all applicable federal, state and local regulations; stockpiled soil will be covered with polyethylene sheeting; dust control; air monitoring; installation of a vapor barrier system consisting of 20-mil SilverBlack SR vapor barrier beneath the foundation slab of the new development (during Phase 2 only); and installation of an active sub-slab depressurization system (SSDS) during Phase 1 and 2. The January 2020 CHASP addresses worker and community health and safety during construction.

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

- DEP finds the January 2020 RAP and CHASP for the proposed project acceptable. BSA should instruct the applicant that at the completion of the project, a Professional Engineer (P.E.) certified Remedial Closure Report should be submitted for DEP review and approval for the proposed project. The P.E. certified Remedial Closure Report should indicate that all remedial requirements have been properly implemented (i.e., installation of vapor barrier; transportation/disposal manifests for removal and disposal of soil in accordance with NYSDEC regulations; installation of SSDS, etc.).

Future correspondence and submittals related to this project should include the following CEQR # **20BSA002Q**. 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

Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
Flushing, NY 11373

May 27, 2020

Tracie Behnke
Project Manager
NYC Board of Standards and Appeals
250 Broadway, 29th Floor
New York, New York 10007

Re: 45-20 83rd Street
Block 1536, Lots 223 and 80
CEQR # 20-BSA-002Q

Dear Ms. Behnke:

The New York City Department of Environmental Protection, Bureau of Environmental Planning and Analysis (DEP) has reviewed the Air Quality and Noise chapters of the March 19, 2020 Environmental Assessment Statement (EAS) and support materials prepared by Equity Environmental Engineering on behalf of The Renaissance Charter School 2 (the applicant) for the above referenced project. It is our understanding that the applicant is seeking approval of a Special Permit from the New York City Board of Standards and Appeals (BSA) to allow development of a new Use Group 3 (charter school) to occupy the eastern portion of an existing one-story warehouse within an existing M1-1 district. The proposed 4-story plus mezzanine school building will include 63,264 sf, increased in height to approximately 54 feet and include two rooftop terraces for recreation use. The project site is located at 45-20 83rd Street in the Elmhurst neighborhood of the Queens Community District 4.

Per BSA request (20BSA002Q-12- 23042020110405 and 20BSA002Q-13-23042020110435), we have reviewed mentioned above materials and have the following comments:

Air Quality:

Based on mobile source analyses performed, as it pertains to project-generated traffic screening; the vehicular trip-ends generated by the proposed project falls below the CO screening threshold of 170 vehicles per-hour, per intersection during all peak hours. $PM_{2.5}$ screening for a total of three (3) yellow school buses under HDDV class will cause no significant impacts related to the proposed project. Based on stationary source screening performed, the proposed project will be heated and cooled by electrically powered VRF (Variable Refrigerant Flow) and ERV (Energy Recovery Ventilation) HVAC systems and will not have any emissions.

The proposed project has two industrial sources within 400 feet; one, formerly paper and print processing, now vacant. The second site is formerly a dry cleaning facility. A field investigation was conducted to ensure that there would be no potential non-permitted industrial source emissions. The results of the air quality assessment performed according to City Environmental Quality Review Technical Manual have

concluded that the project will not result in any potential for significant adverse impacts related to air quality.

Noise:

Based on the results of mobile source analyses performed, project-generated vehicular traffic will not double on roadways and will therefore not increase vehicular noise. Noise measurements, at the rooftop level of the warehouse building within direct line-of-sight of the LIRR, shows no noise attenuation was required. (Note that the initial noise measurements were invalid due to high wind conditions. Therefore, the assessment was based on supplemental measurements.) The VRF (Variable Refrigerant Flow) and ERV (Energy Recovery Ventilation) HVAC system for the proposed project will comply with the NYC Noise Codes and will not result in any new stationary source of noise.

The stationary analysis of the proposed outdoor recreational spaces (playgrounds in the third and Fourth floor terrace areas) determines that noise outdoor recreational spaces on the Proposed School Building will result in an L_{eq} of 72.9 dB (A), therefore a window-wall attenuation of 28 dB (A) will be required to achieve 45 dBA interior noise levels. The results of the noise assessment performed according to the City Environmental Quality Review Technical Manual have concluded that the project will not result in any potential for significant adverse impacts related to noise.

If you have any questions, you may contact Michelle Noralez-Brown at micbrown@dep.nyc.gov.

Sincerely,

Chung Chan

Chung Chan,
Director
Air Quality and Noise Review and Planning

NEW YORK CITY
Department of Transportation
POLLY TROTTENBERG, Commissioner

To: Tracie Behnke, Director
NYC Board of Standards and Appeals

From: Shakil Ahmed, Director
Office of Project Analysis/CEQR
Traffic Engineering and Planning

Re: 45-20 83rd Street, Queens
Environmental Assessment Statement (EAS)
CEQR No.: 20BSA002Q

Date: June 12, 2020

The Applicant, the Renaissance Charter School 2, is seeking a Special Permit from the Board of Standards and Appeals (BSA) to convert and enlarge an existing 41,320 square foot (sf) one-story plus partial mezzanine vacant warehouse building in M1-1 zoning district for occupancy by a Use Group (UG) 3 Kindergarten through 6th grade charter school. The remaining 9,850 sf western portion of the existing building, which is accessed from 47th Avenue, would be partitioned off and would remain designated as warehouse space. The project site is located at 45-20 83rd Street within the Elmhurst neighborhood of Queens Community District 4 and Community School District 24. The school will open in 2022, and full enrollment is anticipated in 2025.

The proposed action would involve the renovation and expansion of the eastern portion of the existing warehouse building into a UG 3 charter school. The proposed 4-story plus mezzanine school building would contain a total of 67,286 gross square feet of floor area and have a rooftop recreation space. The proposed school would have a total of 324 students in Kindergarten through 3rd grade and 46 staff in the 2022-2023 school year. Thereafter, grade enrollment would increase on a yearly basis with one grade level added each year for a total projected enrollment of 567 students in Kindergarten through 6th Grade and 88 staff in the 2025-2026 school year.

Following the 2014 CEQR Technical Manual Level 1 (Trip Generation) and Level 2 (Trip Assignment) screening assessments, a traffic and pedestrian levels of service (LOS) analysis was conducted for the weekday AM, midday and PM peak hours at four intersections, two sidewalks, one crosswalk and three corners. In addition, an off-street parking accumulation was also performed for ¼ mile radius.

The EAS identifies improvement measures involving geometric reconfiguration (including lane restriping, shifting centerlines, etc.); signal timing modifications, changes to parking regulations, etc. at the following locations:

- 45th Avenue and Broadway;
- Broadway and Whitney Avenue; and

NYC Department of Transportation
Division of Transportation Planning and Management
55 Water Street, 6th Floor, New York, NY 10041
T:212- 839-7710 F: 212-839-7777
www.nyc.dot.gov

- Whitney Avenue and 83rd Street.

In order to verify the need for the proposed improvement measures identified in the EAS, additional safety measures, and to determine the extent to which future volume projections presented in the EAS, the Applicant has committed to conducting a transportation monitoring program (TMP) which will include the following locations:

- 45th Avenue and Broadway;
- 45th Avenue and 82nd Street;
- 45th Avenue & 83rd Street;
- Broadway and Whitney Avenue; and
- Whitney Avenue and 83rd Street.

The TMP will include trip generation, modal split and origin/destination surveys; traffic and pedestrian data collection; LOS analyses utilizing Synchro including progression and queuing analyses; traffic control study, topographic survey if neccessary, and parking accumulation assessment, etc. The TMP will be performed six months after the first year of school occupancy and after full occupancy. Prior to undertaking any TMP the Applicant will prepare and submit a scope of work for NYC DOT review and approval. The Applicant will submit a report summarizing the finding of each TMP as well as all necessary materials, for NYC DOT's review and approval.

The Applicant will also request school crossing guards from the New York Police Department for the intersection of 83rd Street and 45th Avenue, and 83rd Street and Whitney Avenue during school arrival and dismissal peak hours. In the absence of crossing guards, school safety officers will be assigned at both locations at the applicant's expense.

The Applicant has also committed to coordinating the following improvements with NYC DOT prior to the opening of the school:

- Construct a new sidewalk on the south side of Whitney Avenue between 83rd Street and Broadway;
- Submit an application for the installation of an enhanced crosswalk across 83rd Street just north of Whitney Avenue with ADA compliant pedestrian ramps to facilitate school crossings. If approved by NYC DOT, the applicant will install the enhanced crosswalk prior to school opening;
- An appropriate traffic control will be studied and installed at 83rd Street and Whitney Avenue;
- Modification to curbside parking regulations to facilitate vehicle maneuvers and school pick-up and drop-off activities on 83rd Street and Whitney Avenue; and

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55 Water Street, 6th Floor, New York, NY 10041
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www.nyc.dot.gov

- Installation of ADA compliant pedestrian ramps at the southwest and southeast corners at 83rd Street and 45th Avenue, and all four corners of Broadway and Whitney Avenue.

The Applicant will submit NYC DOT all required materials needed to review and approve the above measures. The Applicant will be responsible for all costs associated with the crossing guards, design and instllation of the proposed project-related improvements, TMP, and any subsequent measures recommended by the TMP as per NYC DOT's direction. NYC DOT will continue to participate in the review process related to proposed geometric reconfiguration, reconstruction of sidewalk/pedestrian ramps, stop control, enhanced crosswalk and construction drawings. The Applicant should submit all relevant materials such as drawings/design as per AASHTO and NYC DOT specifications, LOS analyses, etc. for NYC DOT review and approval.

Should you have any questions or need additional information, please call me at (212) 839-7705 or Aziz Mian at (212) 839-7739.

c: A/C N. Rasheed, B/C N. Garcia, S. Barkho, N. Haiman, M. Lorenz, D. Nguyen, P. Xelas, J. Celentano, M. Samuelsen-Jaiswal, A. Mian, File
E:\TE&P\CEQR\Other\School Project Review\Queens\45-20 83rd St\Signoff 6.15.20

NYC Department of Transportation
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Environmental Protection

Vincent Sapienza, P.E.
Commissioner

Angela Licata
Deputy Commissioner of Sustainability

59-17 Junction Blvd.
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alicata@dep.nyc.gov

May 28, 2021

Diane McCarthy
Senior Team Leader
Environmental Assessment and Review Division
New York City Department of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Re: 45-20 83rd Street
Block 1536, Lots 79, 80, 223, p/o 75, p/o 85, p/o 7503
CEQR # 21DCP113Q

Dear Ms. McCarthy:

The New York City Department of Environmental Protection, Bureau of Sustainability (DEP) has reviewed the March 2021 Environmental Assessment Statement (EAS) prepared by Equity Environmental Engineering and the January 2020 Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) prepared by Hydrotech Environmental on behalf of Sunshine Elmhurst Real Estate LLC (applicant) for the above referenced project. It is our understanding that the applicant is seeking a zoning map amendment and a zoning text amendment from the New York City Department of City Planning (DCP) (Proposed Actions) of approximately 69,869 square feet (sf) comprising Block 1536, Lots 79, 80, 223, p/o 75, p/o 85, and p/o 7503 (Affected Area) located in the Elmhurst neighborhood of Queens Community District (CD) 4. The zoning map amendment would rezone the Affected Area from an M1-1 zoning district to an R7A zoning district. The zoning text amendment would affect Zoning Resolution Appendix F by modifying Queens CD 4 Map with a Mandatory Inclusionary Housing Area. The Proposed Actions would facilitate the development of 80-52 47th Avenue (former Block 1536, Lots 80 and 223 or reapportioned Lot 80) with a new 161,696 gross square feet (gsf) 9-story residential building, accessed from 47th Avenue. Pursuant to the Proposed Actions, approximately 9,850 square feet of the western portion of the existing warehouse building fronting 47th Avenue would be partitioned off and torn down for the development of the new residential building. The building will include 163 total dwelling units. 72 parking spaces would be provided at the cellar level in an enclosed garage. The Proposed Action would also bring the 67,286 gsf Use Group (UG) 3 charter school building to be developed on Block 1536, Lot 223 (45-20 83rd Street) into conformance as-of-right. The UG 3 school building was approved on June 29, 2020 pursuant to a Special Permit application with the New York City Board of Standards and Appeals (BSA) under BSA Calendar Number 2019-18-BZ. UG 3 Schools are not permitted as-of-right within M1-1 zoning districts pursuant to the use provisions of ZR 42-00. Accordingly, the BSA Special Permit pursuant to Section 73-19 of the

Zoning Resolution of the City of New York permits the charter school use at the Projected Development Site. The approved Special Permit will effectuate the conversion and enlargement of the eastern portion of the existing 41,320 square foot warehouse building on the Projected Development Site for occupancy by a UG 3 kindergarten through 6th-grade charter school without residential accommodations. The school, accessed from 83rd Street, will rise to a height of 53'-11" at 4 stories, including a mezzanine. In total, the zoning lot would contain approximately 228,982 gsf. To date, plans for the school have been filed and approved with the New York City Department of Buildings, and construction has begun. If the proposed rezoning is approved, the BSA Special Permit will be relinquished by the applicant as the proposed school would be permitted as-of-right in the new zoning district. The remaining lots within the rezoning area, Block 1536, Lots 79, p/o 75, p/o 85, and p/o 7503, are not expected to redevelop as a result of the Proposed Actions.

Block 1536, Lot 223 (proposed school building site)

The January 2020 RAP proposes the remediation of New York State Department of Environmental Conservation Spill # 1906766; the excavation, transportation and off-site disposal of soil in accordance with all applicable federal, state and local regulations; stockpiled soil will be covered with polyethylene sheeting; dust control; air monitoring; installation of a vapor barrier system consisting of 20-mil SilverBlack SR beneath the foundation slab of the new development; and installation of an active sub-slab depressurization system (SSDS). The January 2020 CHASP addresses worker and community health and safety during construction. It should be noted that the RAP and CHASP were reviewed by DEP under CEQR # 20BSA002Q.

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

Block 1536, Lot 223 (proposed school building site)

- DEP finds the January 2020 RAP and CHASP for the proposed project acceptable. DCP should instruct the applicant that at the completion of the project, a Professional Engineer (P.E.) certified Remedial Closure Report should be submitted for DEP review and approval for the proposed project. The P.E. certified Remedial Closure Report should indicate that all remedial requirements have been properly implemented (i.e., transportation/disposal manifests for removal and disposal of soil in accordance with applicable local, state, and federal laws and regulations; installation of vapor barrier; installation of active SSDS, etc.).

Block 1536, Lot 80 (proposed residential development site)

- DEP concurs with the EAS that a RAP will be prepared for DEP review to reflect the proposed residential on-site development. DCP should instruct the applicant that the RAP should delineate the requirements for items including: transportation and disposal of soils; soil stockpiling; dust control; air monitoring; dewatering; removal/closure of underground storage tanks and/or aboveground storage tanks if encountered; engineering controls; capping with concrete/asphalt and/or imported clean fill, etc.

- DCP should instruct that applicant that a vapor barrier (minimum thickness of 20-mil) should be incorporated into the design plan of the proposed project. The manufacturer's specifications with thickness information of the proposed vapor barrier should be included in the RAP.

- DCP should inform the applicant that in addition to the proposed vapor barrier, an active sub-slab depressurization system (SSDS) should be incorporated into the design plan of the proposed project. Design diagrams and specifications of the proposed active SSDS should be included in the RAP.

- DCP should instruct the applicant that for all areas, which will be landscaped or covered with grass (not capped), a minimum of two feet of DEP approved clean fill/top soil must be imported from an approved facility/source and graded across all landscaped/grass covered areas of the sites not capped with concrete/asphalt. The clean fill/top soil must be segregated at the source/facility, have qualified environmental personnel collect representative samples at a frequency of one (1) sample for every 250 cubic yards, analyze the samples for Target Compound List volatile organic compounds by United States Environmental Protection Agency (EPA) Method 8260, semivolatile organic compounds by EPA Method 8270, pesticides by EPA Method 8081, polychlorinated biphenyls by EPA Method 8082, and Target Analyte List metals by a New York State Department of Health Environmental Laboratory Approval Program certified laboratory, compared to New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Environmental Remediation Programs. Upon completion of the investigation activities, the applicant should submit a detailed clean fill report for DEP review and approval prior to importation and placement on-site. The report should include, at a minimum, an executive summary, narrative of the field activities, laboratory data, and comparison of soil analytical results (i.e., NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs).

- DCP should instruct the applicant to submit a site-specific Construction Health and Safety Plan (CHASP) on the basis of possible exposure of both on-site personnel and the surrounding community to contaminants from the proposed project. The CHASP should identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that will be utilized to mitigate concerns.

- DCP should instruct the applicant that a Community Air Monitoring Plan should be developed and implemented in accordance with the NYSDEC Division of Environmental Remediation DER-10, Appendix 1A (New York State Department of Health Generic Community Air Monitoring Plan) and described in the RAP and CHASP.

- DCP should instruct the applicant that soil disturbance should not occur without DEP's written approval of the RAP and CHASP.

Future correspondence and submittals related to this project should include the following CEQR # **21DCP113Q**. 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
R. Lucas
M. Wimbish
O. Abinader – DCP
S. Shellooe – DCP

Appendix C: Air Quality Backup

equity environmental engineering

Via Email:
Gkelpin@DEP.NYC.gov
June 28, 2019

Ms. Gerry Kelpin, Director
New York City Department of Environmental Protection
Bureau of Air Resources
5947 Junction Boulevard
Flushing, New York I 1373-5108

RE: Air Permit Search
45-20 83rd Street
Queens, New York
Block 1536 / Lot 223

Dear Gerry:

We are requesting your help in obtaining the copies of industrial air permits for properties surrounding the site referenced above. We have identified potential industrial sites located at the following locations:

Industrial/Manufacturing and Commercial within 400 feet of the Affected Area					
Key	**Block**	**Lot**	**Address**	**Current Use**	**Permit Search Results**
1	1536	210	45-01 82 STREET	Commercial / Office	No Records Found
2	1536	223	45-20 83 STREET	Manufacturing / Industrial	PA075687
3	1533	45	82-20 45 AVENUE	Commercial / Office	No Records Found
4	1561	34	80-20 45 AVENUE	Commercial / Office	No Records Found
5	1535	107	82-79 BROADWAY	Commercial / Office	No Records Found
6	1535	95	82-62 BROADWAY	Commercial / Office	No Records Found
7	1518	88	82-66 BROADWAY	Commercial / Office	CA042576 - Cancelled
8	1561	1	82-55 BROADWAY	Commercial / Office	PA001997, CA048587, PA016687-Cancelled
9	1544	29	82-67 BROADWAY	Commercial / Office	No Records Found
10	1536	130	83-04 BROADWAY	Commercial / Office	No Records Found
11	1536	223	79-55 ALBION AVENUE	Commercial / Office	No Records Found

Could you please confirm the results of the following industrial permit search, and let us know if there are any active air emissions permits for these locations, and if so, provide the detail sheet on the type of industrial permit?

If you have any questions please contact me at 973-527-7451 X 104 or email me at gene.bove@equityenvironmental.com Thank you for your help.

Sincerely,

Gene Bove
Project Scientist
Equity Environmental Engineering



500 International Drive, Suite 150; Mt. Olive, NJ 07828
973-527-7451
973-858-0280 fax
www.equityenvironmental.com

Appendix D: Noise Backup Data and Calibration Certificates

Certificate of Conformity and Calibration

Instrument Type:-	**CEL-633C**
Serial Number	4278006
Firmware revision	V006-01
Microphone Type:-	**CEL-251**
Serial Number	02467
Preamplifier Type:-	**CEL-495**
Serial Number	003570
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:-	26 °C	**Test Engineer:-**	Stephen Potten
	42 %RH	**Date of Issue:-**	January 22, 2018
	1011 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.

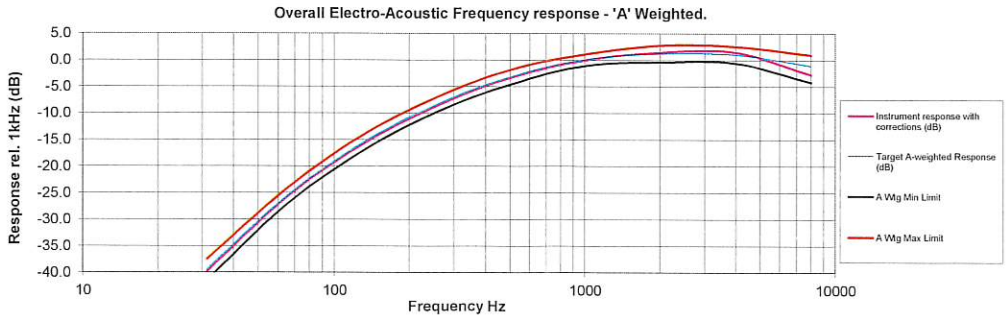
Test Summary:-

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.



Casella CEL (U.K.)
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Buffalo, NY 14221

Toll Free: (800) 366 2966
TEL: (716) 276-3040 Fax: (716) 276-3043
E-mail: info@casellausa.com
Web: www.casellausa.com

Certificate of Conformity and Calibration



Instrument Model:-	**CEL-633C**		
Serial Number	1274486		
Firmware revision	V006-03		
Microphone Type:-	**CEL-251**	**Preamplifier Type:-**	**CEL-495**
Serial Number	2467	Serial Number	003570
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:-	24.3 °C	**Test Engineer:-**	Malcolm Neale
	52.4 %RH	**Date of Issue:-**	July 11, 2019
	1007 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.

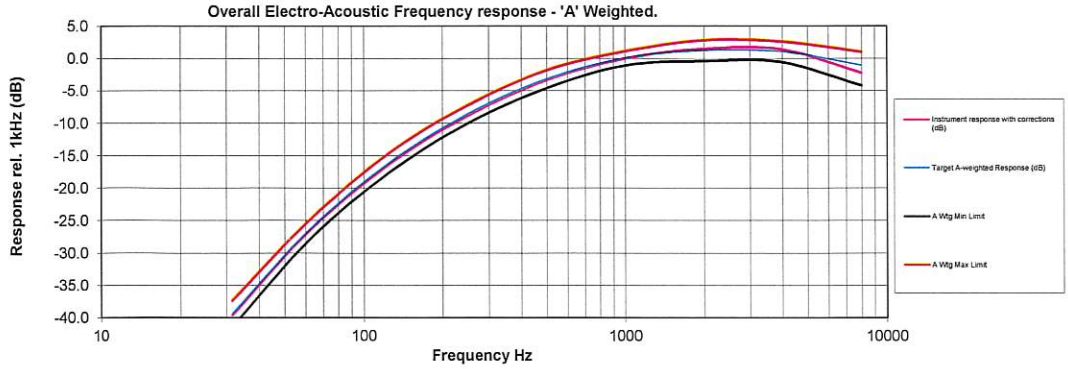
Test Summary:-

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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Casella Australia
Ideal Industries (Aust) PTY. LTD
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Tested to CEL-63X test sheet TP444 revision 01-00

CASELLA

Certificate of Conformity and Calibration

Customer:	Equity Environmental
Instrument:	CEL-120/1
Serial Number:	3574248
Job Number:	19468
Date of Issue:	11-Jul-2019
Engineer:	M Neale

Traceable Equipment:

Reference Calibrator	EQ11205
DVM type Fluke 45	EQ00318

Test Conditions:

Ambient Temperature	24.1	°C
Ambient Humidity	52.7	%RH
Ambient Pressure	1007	mBar

Results:

	Level 1	Level 2	Frequency
Initial Reading	113.92 dB	93.93 dB	1.0000 kHz
Final Reading	114.00 dB	93.99 dB	1.0000 kHz

Uncertainty:

Level	±	0.15	dB
Frequency	±	0.5	Hz

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 9000:2015 quality procedures.
The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%.
This certificate may not be reproduced other than in full, except with prior written approval of the issuing laboratory.

Casella UK
Regent House, Wolseley Road,
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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.

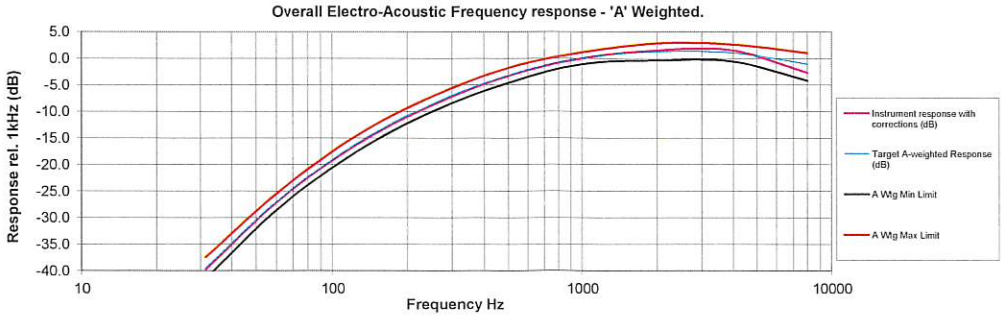
Test Summary:-

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

Certificate of Conformity and Calibration



Instrument Model:-	**CEL-633C**		
Serial Number	1488256		
Firmware revision	V006-03		
Microphone Type:-	**CEL-251**	**Preamplifier Type:-**	**CEL-495**
Serial Number	3700	Serial Number	003409
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:-	24.4 °C	**Test Engineer:-**	Malcolm Neale
	52.4 %RH	**Date of Issue:-**	July 11, 2019
	1006.5 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.

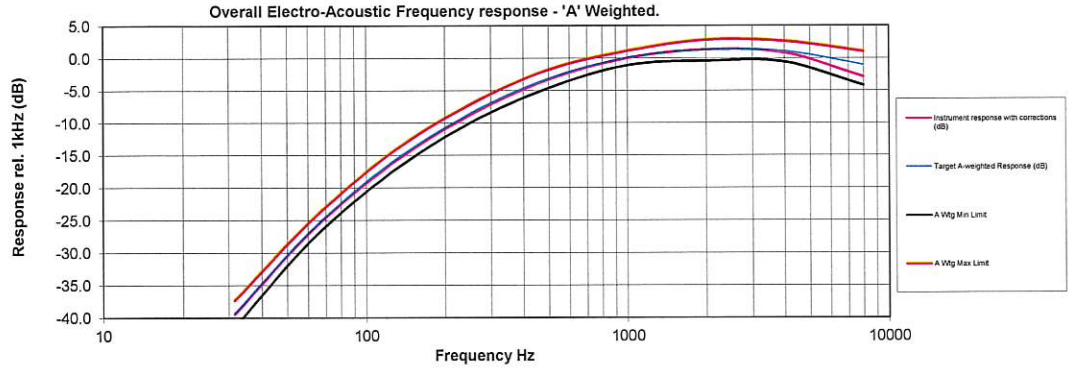
Test Summary:-

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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Tested to CEL-63X test sheet TP444 revision 01-00

CASELLA

Certificate of Conformity and Calibration

Customer:	Equity Environmental
Instrument:	CEL-120/1
Serial Number:	2045304
Job Number:	19468
Date of Issue:	11-Jul-2019
Engineer:	M Neale

Traceable Equipment:		
	Reference Calibrator	EQ11205
	DVM type Fluke 45	EQ00318

Test Conditions:

Ambient Temperature	24.1	°C
Ambient Humidity	53.8	%RH
Ambient Pressure	1007	mBar

Results:

	Level 1	Level 2	Frequency
Initial Reading	114.12 dB	94.06 dB	1.0000 kHz
Final Reading	114.00 dB	93.99 dB	1.0000 kHz

Uncertainty:

Level	±	0.15	dB
Frequency	±	0.5	Hz

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 9000:2015 quality procedures.
The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%.
This certificate may not be reproduced other than in full, except with prior written approval of the issuing laboratory.

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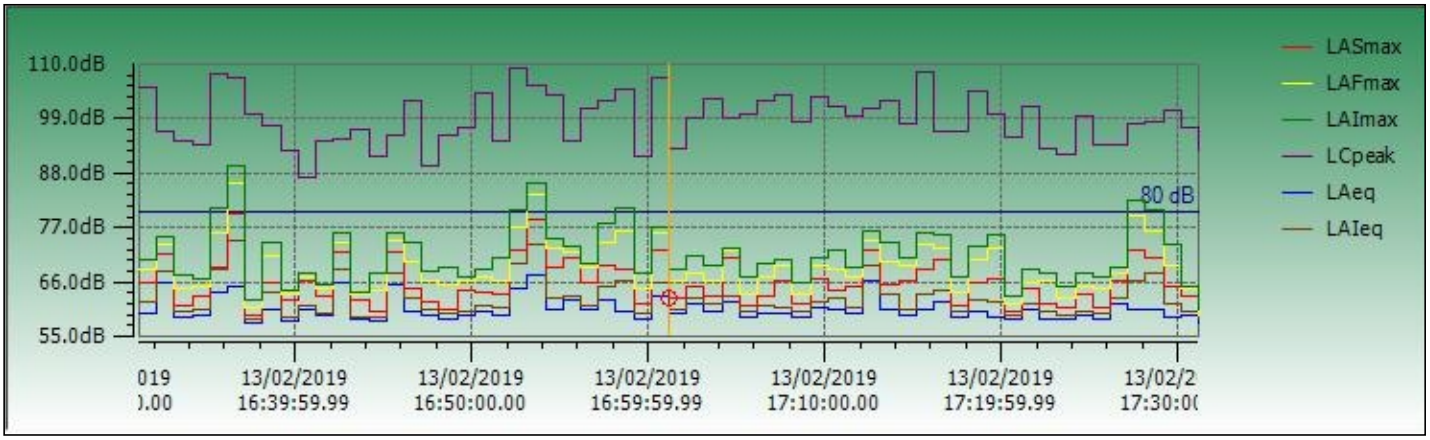
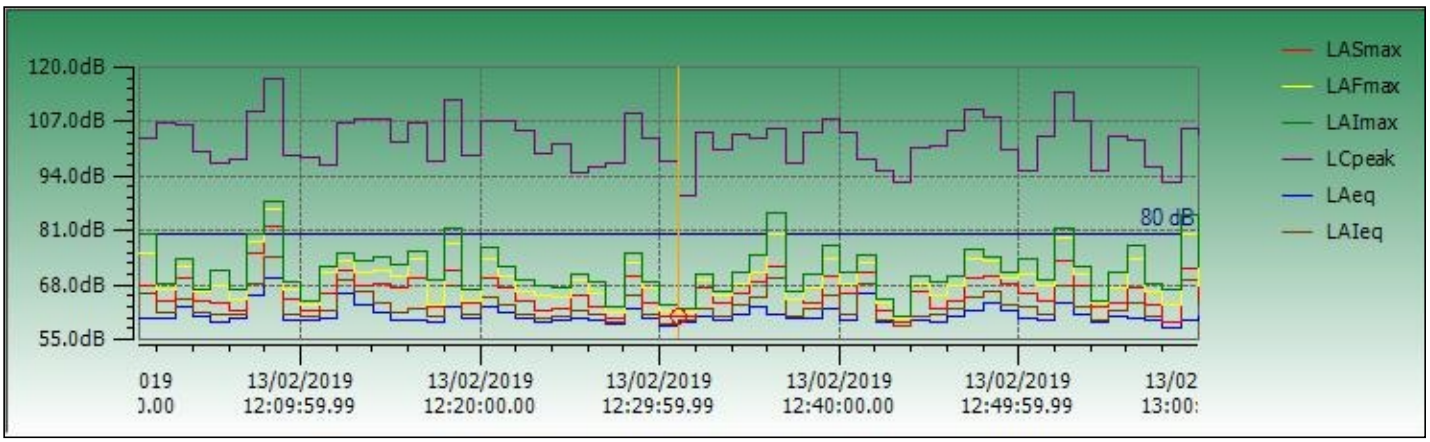
Instrument Model	CEL-633C		
LAeq	61.3 dB	Battery Low	No
LCpeak with Time	109.2 dB (2/13/2019 4:52:23 PM)	Duration	01:00:02 HH:MM:SS
Lepd(Projected)	61.3 dB	End Date & Time	2/13/2019 5:31:13 PM
Lex8h(Projected)	61.3 dB	Overload	No
LAFmax with Time	85.9 dB (2/13/2019 4:36:27 PM)	Pause Duration	00:00:00 HH:MM:SS
LAImax with Time	89.5 dB (2/13/2019 4:36:27 PM)	Response	Random
LAFmin with Time	56.6 dB (2/13/2019 4:44:45 PM)	Run Number	185
LAImin with Time	56.8 dB (2/13/2019 4:59:45 PM)	Serial Number	4278006
LZeq	87.8 dB	Start Date & Time	2/13/2019 4:31:11 PM
LCeq	77.8 dB	Site	Unallocated
LCeq-LAeq	16.5 dB	Location	Unallocated
LAleq	64.8 dB	Person	Unallocated
LAE	96.9 dB	Process	Unallocated
Calibration (Before) Date	2/13/2019 4:27:43 PM	Result	Cumulative
Calibration (Before) SPL	114 dB	LAF 50%	59 dB
Calibration (After) Date	2/13/2019 5:33:48 PM	LAF 90%	57.5 dB
Calibration Drift	0.3 dB	LAF 95%	57.5 dB
LAF 10%	62.5 dB		
Notes			



Instrument Model	CEL-633C		
LAeq	61.5 dB	Battery Low	Yes
LCpeak with Time	117.4 dB (2/13/2019 12:08:01 PM)	Duration	01:00:00 HH:MM:SS
Lepd(Projected)	61.5 dB	End Date & Time	2/13/2019 1:01:01 PM
Lex8h(Projected)	61.5 dB	Overload	No
LAFmax with Time	86.2 dB (2/13/2019 12:08:01 PM)	Pause Duration	00:00:00 HH:MM:SS
LAImax with Time	87.8 dB (2/13/2019 12:08:01 PM)	Response	Random
LAFmin with Time	55.3 dB (2/13/2019 12:58:50 PM)	Run Number	183

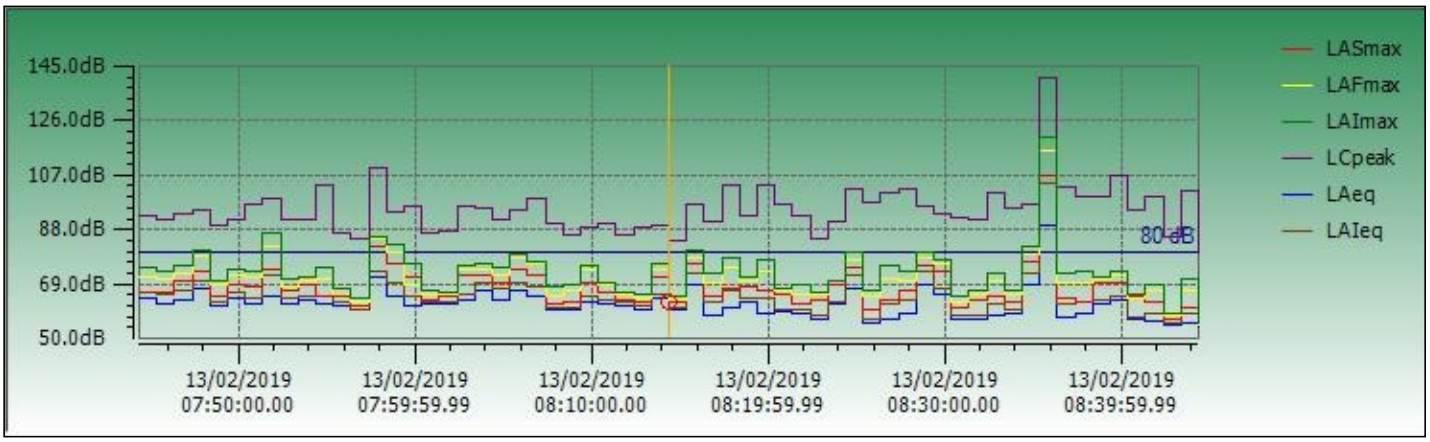
LAImin with Time	55.8 dB (2/13/2019 12:58:50 PM)	Serial Number	4278006
LZeq	91.5 dB	Start Date & Time	2/13/2019 12:01:01 PM
LCeq	81.5 dB	Site	Unallocated
LCeq-LAeq	20 dB	Location	Unallocated
LAIeq	64.6 dB	Person	Unallocated
LAE	97.1 dB	Process	Unallocated
Calibration (Before) Date	2/13/2019 11:55:47 AM	Result	Cumulative
Calibration (Before) SPL	114 dB	LAF 50%	59.5 dB
Calibration (After) Date	2/13/2019 1:10:40 PM	LAF 90%	58 dB
Calibration Drift	-0.1 dB	LAF 95%	58 dB
LAF 10%	63 dB		
Notes			



Instrument Model	**CEL-633C**		
LAeq	72.2 dB	Battery Low	No
LCpeak with Time	141.2 dB (2/13/2019 8:35:58 AM)	Duration	01:00:04 HH:MM:SS
Lepd(Projected)	72.2 dB	End Date & Time	2/13/2019 8:44:27 AM
Lex8h(Projected)	72.2 dB	Overload	No
LAFmax with Time	115.7 dB (2/13/2019 8:35:58 AM)	Pause Duration	00:00:00 HH:MM:SS
LAImax with Time	120.4 dB (2/13/2019 8:35:58 AM)	Response	Random
LAFmin with Time	52.1 dB (2/13/2019 8:24:33 AM)	Run Number	182
LAImin with Time	52.5 dB (2/13/2019 8:24:34 AM)	Serial Number	4278006
LZeq	85.1 dB	Start Date & Time	2/13/2019 7:44:23 AM
LCeq	79.6 dB	Site	Unallocated
LCeq-LAeq	7.4 dB	Location	Unallocated
LAIeq	86.7 dB	Person	Unallocated
LAE	107.8 dB	Process	Unallocated
Calibration (Before) Date	2/13/2019 7:43:53 AM	Result	Cumulative
Calibration (Before) SPL	114 dB	LAF 50%	60 dB
Calibration (After) Date	2/13/2019 8:50:20 AM	LAF 90%	55 dB

Calibration Drift	0.0 dB	LAF 95%	54 dB
LAF 10%	65 dB		

Notes



Instrument Model	CEL-633C		
LAeq	65.5 dB	Battery Low	No
LCpeak with Time	100.9 dB (2/13/2019 8:40:46 AM)	Duration	01:00:03 HH:MM:SS
Lepd(Projected)	65.5 dB	End Date & Time	2/13/2019 8:42:59 AM
Lex8h(Projected)	65.5 dB	Overload	No
LAFmax with Time	82.8 dB (2/13/2019 8:02:46 AM)	Pause Duration	00:00:00 HH:MM:SS
LAImax with Time	83.9 dB (2/13/2019 8:15:00 AM)	Response	Random
LAFmin with Time	57.7 dB (2/13/2019 7:44:51 AM)	Run Number	9
LAImin with Time	57.9 dB (2/13/2019 7:44:49 AM)	Serial Number	2670911
LZeq	79.9 dB	Start Date & Time	2/13/2019 7:42:56 AM
LCeq	74.3 dB	Site	Unallocated
LCeq-LAeq	8.8 dB	Location	Unallocated
LAleq	67.4 dB	Person	Unallocated
LAE	101.1 dB	Process	Unallocated
Calibration (Before) Date	2/13/2019 7:41:59 AM	Result	Cumulative
Calibration (Before) SPL	114 dB	LAF 50%	61 dB
Calibration (After) Date	2/13/2019 8:43:20 AM	LAF 90%	59.5 dB
Calibration Drift	-0.2 dB	LAF 95%	59 dB
LAF 10%	67.5 dB		
Notes			

Instrument Model	CEL-633C		
LAeq	70.1 dB	Battery Low	No
LCpeak with Time	112.2 dB (2/13/2019 12:29:20 PM)	Duration	01:00:09 HH:MM:SS
Lepd(Projected)	70.1 dB	End Date & Time	2/13/2019 1:00:12 PM
Lex8h(Projected)	70.1 dB	Overload	No
LAFmax with Time	95.5 dB (2/13/2019 12:29:28 PM)	Pause Duration	00:00:00 HH:MM:SS
LAImax with Time	97.5 dB (2/13/2019 12:29:28 PM)	Response	Random
LAFmin with Time	64.3 dB (2/13/2019 12:52:22 PM)	Run Number	10
LAImin with Time	64.6 dB (2/13/2019 12:52:22 PM)	Serial Number	2670911
LZeq	85.5 dB	Start Date & Time	2/13/2019 12:00:03 PM
LCeq	78.7 dB	Site	Unallocated
LCeq-LAeq	8.6 dB	Location	Unallocated
LAleq	72.6 dB	Person	Unallocated
LAE	105.6 dB	Process	Unallocated
Calibration (Before) Date	2/13/2019 11:49:41 AM	Result	Cumulative
Calibration (Before) SPL	114 dB	LAF 50%	69 dB
Calibration (After) Date	2/13/2019 4:24:08 PM	LAF 90%	67 dB
Calibration Drift	-0.1 dB	LAF 95%	67 dB
LAF 10%	71 dB		

Notes

Instrument Model	CEL-633C		
LAeq	69.9 dB	Battery Low	No
LCpeak with Time	104.8 dB (2/13/2019 5:30:05 PM)	Duration	01:00:02 HH:MM:SS
Lepd(Projected)	69.9 dB	End Date & Time	2/13/2019 5:31:20 PM
Lex8h(Projected)	69.9 dB	Overload	No
LAFmax with Time	83.5 dB (2/13/2019 4:42:05 PM)	Pause Duration	00:00:00 HH:MM:SS
LAImax with Time	84.7 dB (2/13/2019 4:42:05 PM)	Response	Random
LAFmin with Time	67.2 dB (2/13/2019 4:31:18 PM)	Run Number	11
LAImin with Time	67.7 dB (2/13/2019 5:30:32 PM)	Serial Number	2670911
LZeq	81.5 dB	Start Date & Time	2/13/2019 4:31:18 PM
LCeq	77.8 dB	Site	Unallocated
LCeq-LAeq	7.9 dB	Location	Unallocated
LAleq	70.8 dB	Person	Unallocated
LAE	105.5 dB	Process	Unallocated
Calibration (Before) Date	2/13/2019 4:24:08 PM	Result	Cumulative
Calibration (Before) SPL	114 dB	LAF 50%	69.5 dB
Calibration (After) Date	2/13/2019 5:36:19 PM	LAF 90%	68.5 dB
Calibration Drift	0.2 dB	LAF 95%	68.5 dB
LAF 10%	70 dB		

Notes

Start Date & Time	LAeq	LAFmin	LAF 50%	LAFmax	LAF 10%	LAF 90%	Notes
2/13/2019 10:41	64.0 dB	53.3 dB	57.0 dB	88.3 dB	60.0 dB	55.5 dB	
2/13/2019 11:41	64.2 dB	53.3 dB	57.0 dB	87.5 dB	60.0 dB	55.5 dB	
2/13/2019 12:41	63.2 dB	52.4 dB	56.5 dB	88.4 dB	58.5 dB	55.0 dB	
2/13/2019 13:41	63.6 dB	53.3 dB	57.0 dB	85.6 dB	60.0 dB	55.5 dB	
2/13/2019 14:41	**61.6 dB**	**52.0 dB**	56.0 dB	84.1 dB	59.0 dB	54.5 dB	
2/13/2019 15:41	66.9 dB	52.4 dB	56.5 dB	89.8 dB	61.0 dB	54.5 dB	
2/13/2019 16:41	66.0 dB	52.9 dB	57.0 dB	87.0 dB	60.0 dB	55.5 dB	
2/13/2019 17:41	66.9 dB	52.8 dB	56.5 dB	85.8 dB	60.0 dB	55.0 dB	
2/13/2019 18:41	66.9 dB	**51.8 dB**	55.5 dB	90.2 dB	59.5 dB	54.0 dB	
2/13/2019 19:41	64.8 dB	51.6 dB	55.5 dB	89.2 dB	59.0 dB	54.0 dB	
2/13/2019 20:41	64.1 dB	51.6 dB	55.0 dB	87.3 dB	57.5 dB	53.5 dB	
2/13/2019 21:41	63.4 dB	50.5 dB	54.5 dB	88.7 dB	57.0 dB	53.0 dB	
2/13/2019 22:41	64.5 dB	48.5 dB	52.5 dB	89.3 dB	57.0 dB	51.0 dB	
2/13/2019 23:41	61.5 dB	46.9 dB	51.5 dB	84.3 dB	54.5 dB	49.5 dB	
2/14/2019 0:41	61.4 dB	46.7 dB	50.5 dB	86.8 dB	53.5 dB	49.0 dB	
2/14/2019 1:41	57.3 dB	45.6 dB	49.5 dB	83.6 dB	51.5 dB	48.0 dB	
2/14/2019 2:41	58.8 dB	45.7 dB	49.5 dB	86.5 dB	52.5 dB	48.0 dB	
2/14/2019 3:41	60.8 dB	46.8 dB	50.0 dB	83.5 dB	52.0 dB	49.0 dB	
2/14/2019 4:41	58.6 dB	47.6 dB	51.0 dB	87.9 dB	54.0 dB	50.0 dB	
2/14/2019 5:41	65.1 dB	49.5 dB	53.5 dB	89.2 dB	56.0 dB	51.5 dB	
2/14/2019 6:41	66.1 dB	51.0 dB	55.0 dB	87.7 dB	59.0 dB	53.5 dB	
2/14/2019 7:41	67.6 dB	**51.2 dB**	55.5 dB	87.0 dB	60.5 dB	54.0 dB	
2/14/2019 8:41	66.8 dB	51.8 dB	55.5 dB	88.1 dB	58.5 dB	54.0 dB	
2/14/2019 9:41	64.7 dB	52.2 dB	56.0 dB	88.1 dB	59.0 dB	55.0 dB	

45-20 83rd St

2/13/19

Location: 45-20 83rd St. Queens, NY
Date: Tuesday February 13th, 2019
Weather: 38°F. gusts of strong wind
Field Staff: John Vrabel & Amber Kartalyan
Scope of Work: Noise Monitoring at three locations (see below) and Air toxics investigation
Location 1: 82nd Street frontage of site (AM, MD, PM) - Casella 63X SN 4278006 & calibrator SN 3574248
Location 2: 83rd Street frontage of site (AM, MD, PM) - casella 63X SN 2670911 & calibrator SN 2383985
Location 3: 24-hour reading on roof of existing warehouse building
Depart from office: 5:00AM
Arrived onsite: 7:20 AM

7:43 AM Cal Passed at 114 DB → LOCATION 1 (AK: field staff)
Started reading at 7:43
8:43 AM ended AM reading
8:58 AM calibrated Casella 63X (SN 4278006)
Passed at 114 DB
11:56 AM calibrated Casella 63X (SN 4278006)
passed at 114 dB
12:00 pm started midday reading
note: Heavy winds during MD period
1:00 PM stopped MD reading
2:50 PM – 5:30 PM PM reading

45-20 83rd St

2/13/19

Location 1 Traffic Counts

	AM	MD	PM
SUV	31	20	26
Bus	3	0	0
Truck	2	2	2
Train	10	4	8
Car	16	18	22

Location 2 (JV: Field Staff)

7:41 AM calibrated casella 63X (SN 2670911) Passed 114 DB
7:43 AM started AM monitoring
8:43 AM ended AM monitoring
12:00 PM started MD monitoring
1:00 PM ended MD monitoring
4:30 PM started PM Monitoring
8:30 PM ended PM Monitoring

Location 2 Traffic Counts

	AM	MD	PM
Car	23	18 AK	18
SUV	44	28	27
Bus	2	0	0
Truck	4	8	9
Train	12	43 AK	8

45-20 83rd St.

2/13/19

Air toxics Investigation:

Site ID 1: 45-01 83rd St BBL 1536/201

Site ID 2: Project site (vacant warehouse)
45-20 83rd St BBL 1536/223
- Roll gates down, appears vacant, warehouse

Site ID 3: 82-20 45 Ave BBL 1536/210
Eating Establisments

Site ID 4: 80-20 45th Ave BBL - 1533/195
counseling/Psychotherapy center
walgreens, Bakery, convenience

Site ID 5:
Store, hair salon, pharmacy, restaurant
82-79 Broadway BBL 1561/34

Site ID 6: 82-62 Broadway BBL
1535/107 Bank

Site ID 7: 82-66 Broadway BBL
1535/195, Supermarket

Site ID 8: 82-55 Broadway
1518/88 Bank, grocery store, eating/drinking establishment

Site ID 9: 82-67 Broadway
1561-1 liquor store, deli, eating establishment

Site ID 10: 83-01 Broadway
BBL 1544/29 restaurants

Adjacent

45-20 83rd St.

2/13/19

Site ID 11: 79-55 Albion Ave
BBL 1536/130 grocery store

45-20 83rd St.

Location 3 (TV: field staff)

10:45 AM set up Location 3 24-hour noise meter
TV to pick up meter 2/14/19

5:45 PM - TV & AK left site

Casella CEL Ltd.

Report On CEL-63X

Instrument Model	**CEL-633C**			
Serial Number	1274486	LAF 10%	61 dB	Result
LASmax	81.3 dB	LAF 50%	56 dB	
LASmin	52.6 dB	LAF 90%	54 dB	
Start Date & Time	10/2/2019 12:00:06 PM	Calibration (Before) Date	10/2/2019 11:47:00 AM	
Duration	01:00:52 HH:MM:SS	Calibration (After) Date	10/2/2019 1:05:28 PM	
LAeq	59.9 dB	Calibration Drift	0.0 dB	
End Date & Time	10/2/2019 1:00:58 PM	Battery Low	No	
Notes				

Instrument Model	CEL-633C			
Serial Number	1274486	LAF 10%	66 dB	Result
LASmax	85.6 dB	LAF 50%	57 dB	
LASmin	52.9 dB	LAF 90%	54.5 dB	
Start Date & Time	10/2/2019 7:37:09 AM	Calibration (Before) Date	10/2/2019 7:18:54 AM	
Duration	01:00:01 HH:MM:SS	Calibration (After) Date	10/2/2019 8:44:39 AM	
LAeq	63.3 dB	Calibration Drift	0.2 dB	
End Date & Time	10/2/2019 8:37:10 AM	Battery Low	No	
Notes				

Instrument Model	CEL-633C			
Serial Number	1274486	LAF 10%	60 dB	Result
LASmax	78.4 dB	LAF 50%	53.5 dB	
LASmin	49.8 dB	LAF 90%	51.5 dB	
Start Date & Time	10/2/2019 4:34:24 PM	Calibration (Before) Date	10/2/2019 4:26:56 PM	
Duration	01:00:01 HH:MM:SS	Calibration (After) Date	10/2/2019 5:39:41 PM	
LAeq	59.2 dB	Calibration Drift	0.1 dB	
End Date & Time	10/2/2019 5:34:25 PM	Battery Low	No	
Notes				

Casella CEL Ltd.

Report On CEL-63X

Instrument Model	**CEL-633C**			
Serial Number	1488256	LAF 10%	68 dB	Result
LASmax	80.6 dB	LAF 50%	64 dB	
LASmin	53 dB	LAF 90%	58 dB	
Start Date & Time	10/2/2019 4:30:37 PM	Calibration (Before) Date	10/2/2019 4:26:48 PM	
Duration	01:00:02 HH:MM:SS	Calibration (After) Date	10/2/2019 5:31:38 PM	
LAeq	65.6 dB	Calibration Drift	0.3 dB	
End Date & Time	10/2/2019 5:30:39 PM	Battery Low	No	
Notes				

Instrument Model	CEL-633C			
Serial Number	1488256	LAF 10%	66.5 dB	Result
LASmax	87.3 dB	LAF 50%	61 dB	
LASmin	57.3 dB	LAF 90%	58.5 dB	
Start Date & Time	10/2/2019 7:35:31 AM	Calibration (Before) Date	10/2/2019 7:19:38 AM	
Duration	01:00:16 HH:MM:SS	Calibration (After) Date	10/2/2019 8:43:04 AM	
LAeq	65.8 dB	Calibration Drift	-0.1 dB	
End Date & Time	10/2/2019 8:35:47 AM	Battery Low	No	
Notes				

Instrument Model	**CEL-633C**			
Serial Number	1488256	LAF 10%	71 dB	Result
LASmax	85.3 dB	LAF 50%	69.5 dB	
LASmin	67.8 dB	LAF 90%	69 dB	
Start Date & Time	10/2/2019 11:59:59 AM	Calibration (Before) Date	10/2/2019 11:46:23 AM	
Duration	01:00:16 HH:MM:SS	Calibration (After) Date	10/2/2019 1:01:08 PM	
LAeq	70.1 dB	Calibration Drift	0.1 dB	
End Date & Time	10/2/2019 1:00:15 PM	Battery Low	No	
Notes				

Noise Job Field Sheet

Name of Project: 45-20 83rd Street

Project Address: 45-20 83rd Street, Queens

Equity Project Number: 2018112

Date(s) of Field Work: 10/2/19

Personnel: Amber Kartalyan and Neil Leitner

Noise Monitoring Scope of Work:

1) **Noise monitoring (Two Street Level 1 Hour Readings)**
   - Location 1 (47th Ave Building Frontage)
   - Location 2 (83rd Street Building Frontage)

I. Start of Noise Monitoring Day

Departure Time: 5:20 AM Arrival Time: 7:15 AM

Weather Conditions (temp, wind speed, precipitation): 75 degrees Fahrenheit, mild winds, no precipitation.

Meter Type: Casella CEL-63X Meter Serial #: 1274486 Meter Location: 47th Ave Street Frntg.
Meter Type: Casella CEL-63X Meter Serial #: 1482256 Meter Location: 83rd Street Frntg.

Calibrator Serial #: 2045304 Meters used on: 1274486
Calibrator Serial #: 3574248 Meters used on: 1488256

Were Photos Taken of Each Location? Yes

II. Morning Noise Monitoring Session 7:30 AM – 8:30 AM

Before Measurement:

Meter Serial #: 1274486 Time: 7:19 AM Calibration Passed at 114 dB? Yes
Meter Serial #: 1482256 Time: 7:19 AM Calibration Passed at 114 dB? Yes

After Measurement:

Meter Serial #: 1274486 Time: 8:37 AM Calibration Passed at 114 dB? Yes
Meter Serial #: 1482256 Time: 8:35 AM Calibration Passed at 114 dB? Yes

Location #	Start Time	End Time
1	7:37 AM	8:37 AM
2	7:35 AM	8:35 AM

Location #	Car	SUV	Medium Truck	Heavy Truck	Bus	Train
1	21	27	1	2	3	12
2	21	32	5	3	3	12

Noise Source: please note any loud noises here and time (sirens, garbage truck, etc):
Loading and unloading at the grocery store on the east side of 83rd Street .

III. Midday Noise Monitoring Session 12:00 PM – 1:30 PM

Before Measurement:

Meter Serial #: 1274486 Time: 11:43 AM Calibration Passed at 114 dB? Yes
Meter Serial #: 1482256 Time: 11:43 AM Calibration Passed at 114 dB? Yes

After Measurement:

Meter Serial #: 1274486 Time: 1:05 PM Calibration Passed at 114 dB? Yes
Meter Serial #: 1482256 Time: 1:01 PM Calibration Passed at 114 dB? Yes

Location #	Start Time	End Time
1	12:00 PM	1:00 PM
2	12:00 PM	1:00 PM

Location #	Car	SUV	Medium Truck	Heavy Truck	Bus	Train
1	15	20	2	2	1	4
2	19	32	7	2	0	4

Noise Source: please note any loud noises here and time (sirens, garbage truck, etc):
Loading and unloading at the grocery store on the east side of 83rd Street .

IV. Evening Noise Monitoring Session 5:00 PM – 6:00 PM

Before Measurement:

Meter Serial #: 1274486 Time: 4:20 PM Calibration Passed at 114 dB? Yes
Meter Serial #: 1482256 Time: 4:20 PM Calibration Passed at 114 dB? Yes

After Measurement:

Meter Serial #: 1274486 Time: 5:36 PM Calibration Passed at 114 dB? Yes
Meter Serial #: 1482256 Time: 5:31 PM Calibration Passed at 114 dB? Yes

Location #	Start Time	End Time
1	4:34 PM	5:34 PM
2	4:30 PM	5:30 PM

Location #	Car	SUV	Medium Truck	Heavy Truck	Bus	Train
1	33	41	1	0	0	9
2	14	28	1	0	0	9

Noise Source: please note any loud noises here and time (sirens, garbage truck, etc):
N/A

Appendix E: BSA Special Permit Resolution

Note.—This resolution is final but subject to formal revision before publication in the Bulletin. Please notify the General Counsel of any typographical or other formal errors so that corrections may be made before the Bulletin is published.

BOARD OF STANDARDS AND APPEALS

MEETING OF: **June 29, 2020**
CALENDAR NO.: **2019-184-BZ**
PREMISES: **45-20 83rd Street, Queens**
Block 1536, Lot 223

ACTION OF BOARD — Application granted on condition.

THE VOTE —
Affirmative: Chair Perlmutter, Vice-Chair Chanda, Commissioner Ottley-Brown, Commissioner Sheta, and Commissioner Scibetta.....5
Negative:.....0

THE RESOLUTION —

The decision of the Department of Buildings ("DOB"), dated June 14, 2019, acting on Alteration Type I Application No. 420665818, reads in pertinent part:

> "The proposed Use Group 3 school, is not permitted within an M1-1 zoning district, contrary to ZR 42-10 and therefore requires a special permit from the Board of Standards and Appeals pursuant to ZR 73-19".

This is an application under Z.R. §§ 73-19 and 73-03 to permit, in an M1-1 zoning district, the operation of a school, contrary to Z.R. § 42-00. This application is brought on behalf of The Renaissance Charter School (the "School"), a kindergarten-through-sixth-grade charter school.

A public hearing was held on this application on November 26, 2019, after due notice by publication in The City Record, with continued hearings on February 4, 2020, March 3, 2020, June 2, 2020, and June 15, 2020, and then to decision on June 29, 2020. Vice-Chair Chanda and Commissioner Ottley-Brown performed inspections of the Premises and surrounding neighborhood.

The Premises are located at the terminus of 83rd Street and Witney Avenue, within an M1-1 zoning district, in Queens. With approximately 116 feet of frontage along 83rd Street, 338 feet of depth, and 44,437 square feet of lot area, the Premises are occupied by an existing one-story, vacant, warehouse building (approximately 41,320 square feet of floor area).

The applicant proposes to enlarge the existing building to a 63,264 square foot, four-story plus mezzanine UG 3 school building with a total FAR of 1.42.

As a threshold matter, the Board notes that the Premises are within the boundaries of a designated area in which the subject special permit is available.

As to whether the School qualifies as a school for purposes of Z.R. § 73-19, the applicant states that the School meets the Z.R. § 12-10 definition of "school" because it provides full-time day instruction and a course of study that meets the requirements of Sections 3204, 3205 and 3210 of the New York State Education Law. Further, the applicant submitted the School's Charter and notes that the School's academic school year mirrors the public school year with a minimum of 190 days of full-time instruction, with classes held from 8:20 a.m. through 3:10 p.m., by competent teachers with a curriculum that offers English language arts, math, science, social studies, Spanish, arts, and project-based and experiential learning.

With respect to Z.R. § 73-19(a), an applicant must demonstrate its inability to obtain a site for the development of a school within the neighborhood to be served, and with a size sufficient to meet the programmatic needs of the School, within a district where school use is permitted as of right. The applicant represents that, to pursue the School's programmatic needs, a site for the development of the School requires the ability for new construction to meet the specifications of the School which include a full gymnasium and outdoor space, a location in close proximity to an existing Renaissance Charter School (located approximately one mile away), and economic considerations including a favorable rent and security deposit. Thus, the applicant has demonstrated that its stated requirements related to size and configuration are justified by the School's programmatic needs. The applicant represents that the School has conducted an exhaustive search for potential expansion sites and that the School several sites but that none of the sites were viable due to inadequate size, lack of gymnasium, financial infeasibility in relation to development of existing occupied sites, and lacks of lease options. Thus, the applicant maintains that the site search establishes that there is no practical possibility of obtaining a site of adequate size in a nearby zoning district where a school would be permitted as of right. Accordingly, the Board finds that the requirements of Z.R. § 73-19(a) are met.

Z.R. § 73-19(b) requires an applicant to demonstrate that the proposed school is located no more than 400 feet from the boundary of a district in which such a school is permitted as of right. The applicant states that the School is directly across 83rd Street from an R7A zoning district boundary line and is rear adjacent to an R6B zoning district boundary line, and notes that school uses are permitted as of right in R7A and R6B zoning districts. The applicant submitted a radius diagram which reflects that the Premises are located within 400 feet of

R7A and R6B zoning districts. Accordingly, the Board finds that the requirements of Z.R. § 73-19(b) are met.

Z.R. § 73-19(c) requires an applicant to demonstrate how it will achieve adequate separation from noise, traffic, and other adverse effects of the surrounding non-residential district. The applicant submitted evidence that the predominant noise sources in the area of the Premises are vehicular traffic and rail movements, the proposed school would not double vehicular traffic on nearby roadways, and would not result in a perceptible increase in vehicular noise. The applicant conducted noise-level analysis to determine the level of building attenuation necessary to ensure that interior noise levels would fall within an acceptable range, and to determine if the proposed rooftop recreation area and third-floor terrace associated with the Premises would result in adverse impacts to surrounding receptors. The analysis determined that, pursuant to the passenger car equivalent noise screening, the School would not increase such existing noise values by greater than 100% and does not warrant further analysis. Further, noise impacts on the adjacent eight-story residential building located within a direct line-of-sight to the to the north of the Premises would not occur from either of the two proposed outdoor recreation areas for student use—a 5,110 square foot rooftop recreation area, located above the mezzanine level of the building and a terrace located along the northern portion of the third floor roof, with the implementation of a ten-foot high acoustical sound barrier/absorption panel fence with a noise reduction coefficient rating (NRC) of 1.0 to be installed along the western portion of the third-floor terrace. Additionally, to ensure acceptable interior noise levels within the school building, a composite window-wall attenuation of 28 dB(A) would be required on all building facades of the school building to achieve an acceptable interior noise level of 45 dB(A), and an alternate means of ventilation would be provided to maintain an interior noise level of 45 dB(A) with a closed window condition. Thus, the Board finds that the requirements of Z.R. § 73-19(c) are met.

Z.R. § 73-19(d) requires an applicant to demonstrate how the movement of traffic through the street on which the School will be located can be controlled so as to protect children traveling to and from the School. The applicant represents that data was gathered from the existing Renaissance Charter School from emergency contact sheets and a survey of afterschool student yellow bus ridership for the applicable grade levels and, in response to Department of Transportation ("DOT") School Safety comments, prepared a separate School Operations and Access Safety Plan. The applicant proposes safety measures for the School, which include a combination of geometric modifications, pavement markings, signage modifications, and traffic signal timing changes. Specifically, the applicant proposes an eight-foot sidewalk along the south side of Whitney Avenue between 83rd Street and Broadway at the request of DOT School Safety; to

facilitate school crossings, an enhanced crosswalk is proposed across 83rd Street north of Whitney Avenue leading to ADA-compliant pedestrian ramps on the west and east sidewalks of 83rd Street; ADA-compliant pedestrian ramps would be provided at the southwest and southeast corners of 83rd Street and 45th Avenue, and all four corners of Broadway and Whitney Avenue; an appropriate traffic control would be installed at the intersection of Whitney Avenue and 83rd Street; "No Standing Anytime" areas are proposed along the east side of 83rd Street between 45th Avenue and Whitney Avenue, and the north and south sides of Whitney Avenue between Broadway and 83rd Street to aid vehicle turning maneuvers; 80 feet of "No Standing School Days" signage would be requested from 7 a.m. to 4 p.m. along the north side of Whitney Avenue to permit yellow school bus drop offs and pick-ups, and 110 feet of "No Standing School Days" signage would be requested from 7 a.m. to 4 p.m. along the west side of 83rd Street in front of the School for private vehicle drop-offs and pick-ups; based on the results of completed Vehicular Level of Service, the eastbound approach at 45th Avenue and Broadway would be restriped to include one ten-foot left/through lane and one ten-foot right-turn only lane between 83rd Street and Broadway; the centerline would be shifted north by two feet; parking would be removed on the north and south curb lanes along 45th Avenue between 83rd Street and Broadway; additionally, the westbound approach at Whitney Avenue and Broadway would be restriped to include one ten-foot left-turn only lane and one ten-foot through/right lane between 83rd Street and Broadway; Parking would be removed on the north curb lane along Whitney Avenue between Macnish Street and Broadway; and, signal timing modifications are proposed at the intersection of 45th Avenue and Broadway based on the results of the completed Vehicular Level of Service analysis.

With respect to the arrival and dismissal of students, the applicant proposes the addition of personnel to implement school safety measures including school crossing guards for the intersection of 83rd Street and 45th Avenue and at the intersection of 83rd Street and Whitney Avenue; school safety officers should be located at the southeast corner of 83rd Street and 45th Avenue to direct students across the southern portion of the intersection and away from the east side of 83rd Street; during school dismissal, a school safety officer should be located at the northeast corner of 83rd Street and Whitney Avenue to direct students traveling east through the intersection of 83rd Street and Whitney Avenue; and, staff at the school entrance to serve as escorts and greeters to direct students dropped off by car or bus to the main entrance—caregivers would be prohibited from parking and entering the building when using the No Standing School Days zones.

By letter dated March 3, 2020, the DOT School Safety states that it has no objection to this application and asks that the applicant provide DOT a draft of the Builders Pavement Plan for review as soon

as it is available and prior to the formal submission of the Plan to the Department of Buildings by the applicant and notify DOT School Safety near the end of construction so that they can determine if additional traffic improvements or parking regulation changes are necessary.

Therefore, the Board finds that the requirements of Z.R. § 73-19(d) are met.

In response to Board questions regarding potential negative impact from the Long Island Railroad ("LIRR") to the School, the applicant submitted an engineer's statement attesting that, as part of initial site assessments of the existing conditions and structure, they did not witness any evidence of vibrational impacts anywhere in the property. The LIRR track is approximately 35 feet away from the property line and is at a substantially higher elevation. The energy from the train's vibration traveling in the ground is substantially absorbed by the soil before reaching the building because of the distance as well as the densely compacted soil below the tracks. The new foundation plan incorporates 124, 7.625″, 80-ton capacity piles, drilled to a depth of 65 feet in compliance with the requirements of the latest NYC Building Code for seismic design. The above-noted distance factor from the tracks and a diligently planned foundation and structural design should ensure that no negative impact from any vibrations would be imposed on the building or the school use within it. The school building was properly designed and constructed to account for vibrations from adjacent LIRR and to avoid any negative impact on the school building or the school process.

The Board finds that, under the conditions and safeguards imposed, any hazard or disadvantage to the community at large due to the proposed special permit use is outweighed by the advantages to be derived by the community and finds no adverse effect on the privacy, quiet, light and air in the neighborhood.

The proposed special permit use will not interfere with any pending public improvement project.

The project is classified as an unlisted action pursuant to Section 617.2 of 6 NYCRR. The Board has conducted an environmental review of the proposed action and has documented relevant information about the project in the Final Environmental Assessment Statement ("EAS") CEQR No. 20BSA002Q, dated June 17, 2020. The EAS documents show that the project as proposed would not have significant adverse impacts on land use, zoning, and public policy; socioeconomic conditions; community facilities and services; open space; shadows; historic resources; urban design and visual resources; neighborhood character; natural resources; waterfront revitalization program; infrastructure; hazardous materials; solid waste and sanitation services; energy; traffic and parking; transit and pedestrians; air quality; noise; or public health. No other significant effects upon the

environment that would require an Environmental Impact Statement are foreseeable. The Board has determined that the proposed action will not have a significant adverse impact on the environment.

By letter dated December 17, 2018, the Landmarks Preservation Commission represents that the proposed project would not result in any potential for significant adverse impacts on historic or cultural resources.

By correspondence dated August 16, 2019, the Department of Parks and Recreation states that it has no comments about shadows.

By letter dated February 7, 2020, the Department of Environmental Protection ("DEP"), Bureau of Sustainability states, in pertinent part, that it has reviewed the January 2020 Site Investigation Report (Phase II) and Remedial Action Plan ("RAP") and Construction Health and Safety Plan ("CHASP"). The January 2020 RAP proposes the remediation of NYSDEC Spill# 1906766; the excavation, transportation and off-site disposal of soil in accordance with all applicable federal, state and local regulations; stockpiled soil will be. covered with polyethylene sheeting; dust control; air monitoring; installation of a vapor barrier system consisting of 20-mil SilverBlack SR vapor barrier beneath the foundation slab of the new development (during Phase II only); and installation of an active sub-slab depressurization system ("SSDS") during Phase 1 and 2. The January 2020 CHASP addresses worker and community health and safety during construction. Based upon our review of the submitted documentation, we have the following comments and recommendations to BSA: DEP finds the January 2020 RAP and CHASP for the proposed project acceptable. BSA should instruct the applicant that at the completion of the project, a Professional Engineer ("P.E.") certified Remedial Closure Report should be submitted for DEP review and approval for the proposed project. The P.E. certified Remedial Closure Report should indicate that all remedial requirements have been properly implemented (i.e., installation of vapor barrier; transportation/disposal manifests for removal and disposal of soil in accordance with NYSDEC regulations; installation of SSDS, etc.).

By letter dated May 27, 2020, DEP states that, with respect to air quality, the proposed project has two industrial sources within 400 feet: one, formerly paper and print processing, now vacant; the second site is formerly a dry-cleaning facility. A field investigation was conducted to ensure that there would be no potential nonpermitted industrial source emissions. The results of the air quality assessment performed according to City Environmental Quality Review Technical Manual have concluded that the project will not result in any potential for significant adverse impacts related to air quality. With respect to noise, DEP states that based on the results of mobile source analyses performed, project-generated vehicular traffic will not double on roadways and will therefore not increase vehicular noise. Noise

measurements, at the rooftop level of the warehouse building within direct line-of-sight of the LIRR, shows no noise attenuation was required. (Note that the initial noise measurements were invalid due to high wind conditions. Therefore, the assessment was based on supplemental measurements.) The VRF (Variable Refrigerant Flow) and ERV (Energy Recovery Ventilation) HVAC system for the proposed project will comply with the NYC Noise Codes and will not result in any new stationary source of noise. The stationary analysis of the proposed outdoor recreational spaces (playgrounds on the third and fourth floor terrace areas) determines that noise outdoor recreational spaces on the proposed school building will result in an L_{eq} of 72.9 dB(A), therefore a window-wall attenuation of 28 dB(A) will be required to achieve 45 dB(A) interior noise levels. The results of the noise assessment performed according to the City Environmental Quality Review Technical Manual have concluded that the project will not result in any potential for significant adverse impacts related to noise.

By letter dated June 12, 2020, the Department of Transportation ("DOT") states that, in order to verify the need for the proposed improvement measures identified in the EAS, additional safety measures, and to determine the extent to which future volume projections presented in the EAS, the applicant has committed to conducting a transportation monitoring program ("TMP") which will include the following locations: 45th Avenue and Broadway; 45th Avenue and 82nd Street; 45th Avenue and 83rd Street; Broadway and Whitney Avenue; and Whitney Avenue and 83rd Street. The TMP will include trip generation, modal split and origin/destination surveys; traffic and pedestrian data collection; level of service analyses utilizing Synchro including progression and queuing analyses; traffic control study, topographic survey if necessary, and parking accumulation assessment. The TMP will be performed six months after the first year of school occupancy and after full occupancy. Prior to undertaking any TMP the applicant will prepare and submit a scope of work for DOT review and approval. The applicant will submit a report summarizing the finding of each TMP as well as all necessary materials for DOT's review and approval. The applicant will also request school crossing guards from the New York Police Department for the intersection of 83rd Street and 45th Avenue, and 83rd Street and Whitney Avenue during school arrival and dismissal peak hours. In the absence of crossing guards, school safety officers will be assigned at both locations at the applicant's expense. The applicant has also committed to coordinating the following improvements with DOT prior to the opening of the School: construct a new sidewalk on the south side of Whitney Avenue between 83rd Street and Broadway; submit an application for the installation of an enhanced crosswalk across 83rd Street just north of Whitney Avenue with ADA-compliant pedestrian ramps to facilitate school crossings. If approved by DOT, the applicant

will install the enhanced crosswalk prior to school opening; an appropriate traffic control will be studied and installed at 83rd Street and Whitney Avenue; modification to curbside parking regulations to facilitate vehicle maneuvers and school pick-up and drop-off activities on 83rd Street and Whitney Avenue; and installation of ADA-compliant pedestrian ramps at the southwest and southeast corners at 83rd Street and 45th Avenue, and all four corners of Broadway and Whitney Avenue. The applicant will be responsible for all costs associated with the crossing guards, design and installation of the proposed project-related improvements, TMP, and any subsequent measures recommended by the TMP as per DOT' s direction. DOT will continue to participate in the review process related to proposed geometric reconfiguration, reconstruction of sidewalk/pedestrian ramps, stop control, enhanced crosswalk and construction drawings.

No other significant effects upon the environment that would require an Environmental Impact Statement are foreseeable. the Board has determined that the proposed action will not have a significant adverse impact on the environment.

The applicant represents that an approved interior fire alarm system shall be installed in the entire school, which complies with Chapter 9 of the 2014 NYC Building Code and NYC Fire Code and special inspection requirements of Chapter 17 of the NYC Building Code. Further, the entire space will have an automatic sprinkler system that complies with Chapter 9 of the 2014 NYC Building Code and NYC Fire Code. Spaces will be monitored by a central supervising station in accordance with Chapter 9 of the NYC Building Code.

The Board finds that the evidence in the record supports the findings required to be made under Z.R. §§ 73-19 and 73-03 and that the applicant has substantiated a basis to warrant exercise of discretion.

Therefore, it is Resolved, that the Board of Standards and Appeals does hereby *issue* a Negative Declaration prepared in accordance with Article 8 of the New York State Environmental Conservation Law and 6 NYCRR Part 617, the Rules of Procedure for City Environmental Quality Review and Executive Order No. 91 of 1997, as amended, and makes each and every one of the required findings under Z.R. §§ 73-19 and 73-03 to *permit*, in an M1-1 zoning district, the operation of a school, contrary to Z.R. § 42-00; *on condition* that all work, site conditions and operations shall conform to drawings filed with this application marked "Received June 8, 2020"- twenty-one (21) sheets; and on *further condition*:

THAT sound attenuation shall be provided as follows: exterior walls and windows shall provide a minimum composite window-wall attenuation of 28 dB(A) on all facades; to maintain an acceptable interior noise level of 45 dB(A) with a closed-window condition, an alternative means of ventilation shall be provided;

THAT a vapor barrier and sub slab depressurization system (SSDS) shall be installed and soil removal and disposal shall be conducted in accordance with NYSDEC regulations;

THAT a remedial closure report shall be submitted to DEP for review and approval prior to completion of the project;

THAT a ten-foot high acoustical sound barrier/absorption panel fence with a noise reduction coefficient rating (NRC) of 1.0 will be installed along the western portion of the third-floor terrace;

THAT all transportation measures as described in the Final EAS Chapter 16: Transportation Analysis and DOT Post-Approval Commitment Letter shall be implemented with final approval of measures to be determined by DOT;

THAT the School shall provide DOT School Safety a draft of the Builders Pavement Plan for review as soon as it is available and prior to the formal submission of the Plan to the Department of Buildings by the applicant and notify DOT School Safety near the end of construction so that they can determine if additional traffic improvements or parking regulation changes are necessary;

THAT the above conditions shall appear on the certificate of occupancy;

THAT a certificate of occupancy, also indicating this approval and calendar number ("BSA Cal. No. 2019-184-BZ") shall be obtained within four years and an additional six months, in light of the current state of emergency declared to exist within the City of New York resulting from an outbreak of novel coronavirus disease, by February 7, 2025;

THAT this approval is limited to the relief granted by the Board in response to objections cited and filed by the Department of Buildings;

THAT the approved drawings shall be considered approved only for the portions related to the specific relief granted; and

THAT the Department of Buildings must ensure compliance with all other applicable provisions of the Zoning Resolution, the Administrative Code and any other relevant laws under its jurisdiction irrespective of drawings or configurations not related to the relief granted.

Adopted by the Board of Standards and Appeals, June 29, 2020.

CERTIFICATION

This copy of the Resolution
dated June 29, 2020
is hereby filed by
the Board of Standards and Appeals
dated August 7, 2020



Carlo Costanza
Executive Director